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NS Annual report 2021

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The NS Annual Report 2021 is published in Dutch and English. In the event of discrepancies between the versions, the Dutch version prevails.

Reading guide

The NS Annual Report consists of a management report and the financial statements. Among other things, the management report includes the foreword and a chapter on NS and COVID-19, and the sections Trends, developments and strategy, Our activities and performance in the Netherlands, Our activities and performance abroad, and Our impact. In addition, you will find information about NS Group, including the Report by the Supervisory Board, Risk management, and Dialogue with our stakeholders.

Sustainable mobility

Based on five themes, NS demonstrates how it contributes to sustainable mobility in the Netherlands. If applicable, there is a little icon at the beginning of each chapter showing the theme to which the performance has contributed.

	Topic	Explanation
	Sustainable mobility	The result of the following sustainable pillars
	Zero-emission enterprise	Energy consumption for facilities and traction zero-emission in 2040.
	Circular enterprise	By 2030, we will have achieved circular procurement, maximised material (re)use and eliminated waste from offices, workplaces and trains.
	Green enterprise	In 2050, NS will contribute positively to biodiversity, health, climate change and adaptation.
	For everyone	NS will have a suitable range of accessible chain services by 2040, and a fully accessible train journey by 2045.
	By everyone	NS is and remains a reflection of Dutch society.

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About NS

In Brief



Train journeys per working day **528,707**

Average number in 2019:
1,139,776



18,897 employees
in the Netherlands



VIRM2/3 modernisation project launched

99% of old train parts get a second lease of life in a new train



Accessible Sprinter trains

All Sprinters equipped with accessible facilities



3.4 million rides by public transport bicycles

(2020: 3.1 million)



Reporting unsafe situations via Whatsapp of sms

2,548 WhatsApp/SMS reports from passengers reached NS control centre (10% of total)



F1 in Zandvoort

Train service between Amsterdam and Zandvoort every five minutes



All stations equipped with AEDs

NS and ProRail contribute to nationwide AED network



Night trains to the Alps

NightJet to Vienna/Innsbruck and Zürich starts service



European Year of Rail

Climate train to COP26 in Glasgow



Revenue of **€ 6,486 million**

(2020: € 6,601 million)



Investments of **€ 554 million**

(2020: € 548 million)



Net profit of **€ 500 million**

(2020: net loss of € 2,581 million)



Abellio revenue of **€ 3,672 million**

(2020: € 3,844 million)

Foreword by the CEO

For NS, 2021 was another difficult year, both from an operational and a financial perspective. This applies in particular to our employees. We have nevertheless proved to be united and to be enormously resilient as an organisation. Despite the many setbacks, we managed once again to keep our trains running in 2021. We owe this to the unfailing commitment of all our colleagues. Together, we have kept the Netherlands accessible, in a sustainable manner. I am extremely proud of that.

With effect from April, after months of lockdown we were finally able to scale up our train services. People were keen to go out again and travel, and soon rediscovered the benefits of the train. Satisfaction with NS stations continued the upward trend. All the greater was the disillusion when a new curfew and partial lockdown were announced in late 2021. Those measures made it clear that the pandemic was far from over. In the period ahead, NS will continue to be confronted with lower passenger numbers and difficult financial conditions. Despite the issues awaiting NS in the near future, the long-term outlook is promising. The country is facing major challenges in the fields of housing and the climate. For example, one million new homes will need to be built. This also calls for an infrastructure for sustainable mobility. In the past year we travelled to Glasgow in the Climate Train. One thing that struck me during the climate summit there was that more energy went into discussing problems than in discussing solutions. There was more talk about polluters than about front runners. Everybody is talking about carbon emissions, while NS has run climate neutral train services for years, thanks in part to wind energy. And everybody is talking about waste, while NS is already 99% circular thanks to our VIRM overhaul project. The train has always been a solution. Of course we will need to gain further momentum, by providing even better and more frequent connections between cities and regions. In 2021 we showed that we are able to do so. For example, since the new timetable came into effect we have run Intercity trains on the Rotterdam-Schiphol-Arnhem route every 10 minutes, providing extra flexibility for passengers. Another example is the F1 Grand Prix in Zandvoort: in close collaboration with ProRail, in a single weekend we transported nearly 90,000 visitors in ultra-high-frequency trains (every 5 minutes) between Amsterdam and Zandvoort. This required the deployment of 300 additional staff. A world-class achievement and a significant logistic challenge.

Careful action

A large proportion of our staff worked in the front line during the COVID-19 crisis. They were always ready to serve, despite the uncertainty about how long this crisis was going to last. The protests in Eindhoven were quite frightening, also for our colleagues. Due to the low passenger numbers, the presence of tramps, loitering youths etc. was more conspicuous than usual. This affected the safety perception among passengers and staff alike. We also noticed that not all passengers comply with the COVID-19 measures, such as wearing a face mask. We will continue to call them to account over this, even though it occasionally results in aggression on the part of the passenger. Our office staff have had to work from home for much of the year, which demanded a great deal of flexibility on their part. It was a challenge for us all to keep our spirits up. The Executive Board made over a hundred summer visits to talk with staff about NS and their work. After all, we need each other to be successful. We are aware that changes and procedures sometimes take a great deal of time. But we really want to be careful. For example, the procedure for Individual Compensation for Victims of WWII Transports by NS was finalised in 2021.

Regaining passengers

Our aim is to persuade 1.4 million passengers to board our trains every working day. This figure is higher than ever before. Not all of these will be the same passengers we transported two or three years ago. People have rearranged their lives since then. This is resulting in new mobility needs and changes in the distribution of passengers over the day and the week. New spatial developments in our cities, including the creation of low-traffic city centres, are reinforcing these trends. We are preparing for this by ensuring a wide range of services, a high-quality timetable, top-class stations and facilities, and convenient personalised journeys from door to door.

Internationally, on routes of up to 700 kilometres, rail has great potential to develop into a sustainable travel alternative. Thalys services have been in operation between Paris and the Netherlands for 25 years. Following completion of HSL South, Thalys became a competitive alternative to air travel. Before the COVID-19 crisis, around three quarters of passengers to and from Paris opted for the train. The House of Representatives is currently discussing a research report on regulation of the market for international connections. In 2022, the government will decide on how international passenger transport is to be regulated. NS is keen to keep contributing to sustainable international railway transport in Europe.

NightJet Vienna/Innsbruck and NightJet Zürich started services in 2021, highlighting the opportunities out there for the train. For this to be a success, however, we will have to make it easier to book international tickets and improve the rail infrastructure. During the 2021 European Year of Rail, a special train called the 'Connecting Europe Express' travelled across Europe. In concert with the other European transport companies we used this tour to promote a strong, innovative and safe international transport network. We will continue this effort. NS has joined forces with other mobility partners in the Mobility Alliance, calling for an audacious and ambitious investment programme. The new Dutch government's coalition agreement presented in late 2021 contains some promising sections in this regard.

Safety remains our top priority. Last year the investigation report was published on the tragic accident near Hooghalen, in which one of our colleagues died. In response, together with ProRail we immediately implemented additional measures to further increase safety at and around uncontrolled level crossings. Ultimately, all level crossings of this type will have to be closed to make sure the rail system is truly safe.

An agile organisation

In order to keep the Netherlands accessible in a sustainable manner, NS needs to meet passengers' wishes and respond quickly to changes and opportunities in its environment. This means we will have to become more agile and flexible, and organise the company and our work in keeping with today's requirements. This calls for an even richer diversity of people and views in terms of age, experience, background, gender, sexual orientation and character. We also need to become more effective as a company, by reducing the number of support staff departments and management layers. Up to and including 2024, 2000 jobs will go at NS – all via a process of natural wastage and accompanied by an employment guarantee. We will also modernise our IT systems and accelerate the digitalisation process. We have made considerable progress on these points over the past year. There is an urgent need for new people in specific job categories. However, we are facing acute shortages on the labour market, especially in the supply of engineers and IT specialists, as well as in staff on the trains and retail staff. It is essential, therefore, that we remain attractive to new talent while at the same time ensuring high-quality training, guidance and career options for our existing staff. We are making considerable investments in training facilities to ensure long-term employability for our people. Within NS, too, many colleagues have moved to a different job and now work as train drivers or guards, for instance.

Agility also calls for a change in behaviour: a willingness to change and the courage to speak our minds and call others to account. About what is going well and what is not, and also, crucially, about respect and integrity. Inappropriate behaviour, of whatever type, is unacceptable and will not be tolerated within NS. Not in our trains, not in our stations, not in our workshops, not in our offices. We want everybody to feel safe with NS.

International operations

The operations of our subsidiary Abellio must serve the interests of passengers in the Netherlands, by contributing to higher-quality international and regional cross-border connections and to a positive financial result. Our subsidiary in the United Kingdom, Abellio UK, has survived the COVID-19 crisis reasonably well, thanks in part to the measures taken by the UK government and the efforts of our subsidiary. We were able to close our 2021 UK operations with a profit, even without the one-off adjustment resulting from significantly lower termination fees than the Department for Transport had initially imposed. The COVID-19 crisis did however accelerate a new market regulation system for UK railway transport. While the UK market will remain accessible to private parties, coordination will be strengthened to achieve a more straightforward organisation of the UK rail system, in the interests of passengers. What exactly this is going to look like should become clear in the years ahead. While Abellio UK will continue to play an active role, NS is reconsidering its involvement in the United Kingdom in view of the interests of Dutch passengers. Needless to add, this will be done with the utmost care so as to protect our interests in the United Kingdom.

The restructuring operation in Germany was necessary on account of our loss-making activities there, which can be attributed mostly to unforeseen circumstances. In Germany, Abellio will continue to operate a limited number of franchises, in Lower Saxony and in the central part of the country. Operations in North Rhine-Westphalia and Baden-Württemberg were terminated and transferred at the beginning of this year. This signifies the end of our activities in this German border region which is so important to the Netherlands. However, we certainly have not given up our ambition to operate across the border and will continue existing services to Paris, London, Brussels, Frankfurt and Berlin.

Financial

As in the preceding year, COVID-19 and the loss of passengers due to successive lockdowns and government measures had a significant impact on our income in 2021. Without the availability payment (*beschikbaarheidsvergoeding*) and Temporary Emergency Bridging Measure for Sustained Employment (NOW), we incurred a severe loss of revenue in the Netherlands in 2021 amounting to over €1.3 billion relative to 2019 (pre-COVID-19). We are implementing a cost-savings programme to regain our financial health, keep train fares affordable and continue investments in our anticipated long-term growth. This programme should permanently reduce our costs by a quarter of a billion euros from 2024. So we are well under way, but a great deal of work still needs to be done and we want to do that carefully. Considering the further development of the COVID-19 crisis, the government's recent measures and their effect on passenger numbers, a financial scheme will continue to be required after the end of the current arrangement to maintain the Dutch timetable. At the same time, we want to maintain the high level of performance for our passengers and guarantee the continued safety of rail travel. This calls for a significant effort from all individual colleagues, and from NS as a whole, to mitigate the consequences for our staff by relying on natural wastage, offering retraining programmes and guiding our people to a new job. The years ahead will require a strong commitment from us all to help finalise the current reorganisation process while continuing to provide high levels of customer service.

Ongoing contributions to Dutch society

We will have to learn to live with COVID-19 and organise the country accordingly. For us, it is very important to know what this will look like. After all, if commuters are going to work from home one day a week more than they did in 2019, we may lose 10% of our revenue from transport services in the Netherlands. The man rail network franchise is vital for society as a whole and cannot be scaled down. With a view to the expected growth in passenger numbers by 2030 and our ambitions for cross-border mobility, investments in this network will have to be organised fast to enable us and our partners to prepare for and help build the future.

Also on behalf of my fellow members of the Executive Board, I would like to thank all NS colleagues, employee participation bodies and partners for their outstanding efforts and commitment. Finally, we would like to express our gratitude to the Supervisory Board and our shareholder for their dedication in 2021 and for the trust that they have placed in us.

Marjan Rintel, Chair and CEO



NS and COVID-19 in 2021



Like 2020, the past year was dominated by the COVID-19 crisis. Again we transported significantly fewer passengers than before the pandemic. This also had an impact on the use of our door-to-door services and the shops and services at our stations. Providing a safe journey continued to be a major priority for the public transport sector. We demonstrated our resilience as a company, for example by being flexible in scaling our operations up or down, by running campaigns to regain passengers and finding alternative working methods. Ever since the pandemic struck, one objective has remained as important as ever: keeping the Netherlands accessible in a sustainable manner.



Timetable

During the first months of 2021, the Netherlands was in lockdown and NS operated approximately 90% of its trains. When the measures were relaxed in late April, we scaled up until all trains were operational again by the end of August, including commuter trains (the additional trains we deployed in the time before COVID-19 to absorb the daily rush-hour peak). Effective 20 December, NS temporarily reduced the number of trains in the evening, at night and during peak hours and started evening timetable services two hours earlier than normal. Due to the fact that more and more NS employees stayed at home due to illness or quarantine, NS was forced to temporarily adjust the timetable to 85% of all trains effective 7 February 2022. The lockdown in the Netherlands, the government's continued negative travel advice regarding non-vital international journeys and the measures in force in neighbouring countries also had an impact on international train journeys.

Regaining passengers

One of the ways in which NS is seeking to persuade passengers to return to the train is by adapting the product range. Studies have shown that passengers demand more flexibility and are more cost-conscious than before. To meet this demand, we have implemented several temporary and permanent changes that will make our propositions more flexible. For example, passengers can now temporarily suspend their season tickets. We have also developed several new discount propositions that we can launch as soon as the COVID-19 situation allows. Examples include the early reservation / off-peak-hours (*Vroegboek*) ticket, and the adapted group ticket (which is already available for passengers).

Passenger numbers

The number of passengers in 2021 was 48% of pre-pandemic volumes, when NS transported 1.3 million passengers on working days. The principal cause of this is the lockdown that was imposed in December 2020, when the government asked passengers to travel only when strictly necessary and advised commuters to work from home. After the measures were relaxed in the spring, passenger numbers recovered somewhat, thanks in particular to social and recreational travel. However, the recovery was less robust than expected. Many commuters in particular have not yet resumed travelling by train. Students however did return in our trains from the start of the 2021 academic year.

International journeys

International travel did not begin to recover until just before the summer, and the upward curve flattened again by the end of the year. After the summer there was scope to increase the frequency of Thalys services to an average of ten trains a day, and in the autumn Eurostar scaled up from one to two trains a day. IC Brussels, the regional trains to Liège and Antwerp, ICE and IC Berlin operated a full timetable throughout the year. NightJet to Vienna/ Innsbruck ran services in accordance with the timetable since it was launched in May.

Measures for passengers

In 2021 face masks were obligatory in our trains. For much of the year, the obligation to wear face masks and observe social distancing also applied at the stations, on the platforms and in shops. As in 2020, NS informed passengers about the measures in force via videos at the stations, in our trains and on the NS website, and via audio messages in the trains and at our stations. Wearing a face mask is a responsibility of our passengers and we call them to account over it. In cases where enforcement is necessary, this is a task for our Safety & Service staff and staff on our trains. In 2021 we were increasingly confronted by passengers who refused to comply with the COVID-19 measures.

In view of the increasing passenger numbers on our trains following relaxation of the COVID-19 measures, we launched a campaign in the first quarter of 2021 reminding the public of the need to properly prepare for a train journey. The campaign highlights the crowding indicator in the NS app and the possibility for passengers to register their journey using Treinwijzer in the NS app. Treinwijzer enables passengers to register their journey in advance if they wish, and find out how busy the train is expected to be. Following the relaxation of measures, in late September NS and ProRail began to remove the COVID-19 stickers at the stations. This operation was suspended in November, when the measures were tightened once again. The stickers did not return however at the stations and in the trains where they had already been removed.

During regular cleaning we devote special attention to contact points such as door handles and headrests, both in the trains and at the stations. Train toilets benefit from a more frequent supply of soap and paper towels. We have also installed mobile disinfection stands at several stations and in station shops.

Measures for NS employees

Our top priorities last year, as before, were to transport passengers in a responsible manner and to create safe working conditions for our employees. This was all the more relevant in view of the growing passenger numbers from mid-May. Support for our employees and the availability of sufficient resources to protect them against COVID-19 took centre stage. The flexible deployment of safety personnel contributed to a safe 'reopening' of Dutch society.

From the start of the COVID-19 crisis, NS formulated guidelines for its employees. Supplementing existing manuals, these guidelines describe the perspectives for action required to ensure that all our people can do their work safely.

NS office staff worked from home as much as possible, throughout the year. To support them we offered special home-working and ICT equipment, digital meeting and learning facilities and advice to help them remain physically and mentally healthy.

Riots in protest against COVID-19 measures

During riots in Eindhoven on 24 January, the station building was destroyed and a Jumbo supermarket at the station was looted. Fortunately, our colleagues and passengers were able to get to safety in time. The day's events left a big impression on them. The damage amounted to some €125,000. Windows, doors and shop fronts in particular were badly damaged. By order of the police, Eindhoven station was closed in the afternoon.

With the experiences in Eindhoven still fresh in our minds, we immediately took action when, on 19 November, the first reports emerged about riots in the centre of Rotterdam only a 10 minutes' walk from the railway station. Colleagues and passengers were taken to a safe place and colleagues presenting themselves for duty were briefed. We also suspended all train services, closed off the station and enabled incoming travellers to leave the station safely via the back. Thanks to fast action and effective consultation, we were able to remain in control of the situation at Rotterdam Central Station and Rotterdam Blaak. Passengers did experience inconvenience, however.

Cooperating

From the start of the COVID-19 crisis, NS has always, from a sense of social responsibility, endeavoured to maintain transport services for people in crucial professions and other essential journeys. We collaborate with parties including the Ministry of Infrastructure and Water Management, regional authorities, ProRail, other carriers and consumer associations to keep public transport services running in a responsible manner. Matters discussed over the past year include passenger perception of crowded trains, initiatives to spread passengers (clear communication, Treinwijzer), communication on the further scaling up of train services from May 2021, and the measures that were in place from the summer until the end of the year.

Our internal crisis management organisation (CMO) maintained external contacts with other carriers in OV-NL. The NS Corona Expert Team, part of the CMO, elaborated the measures into scenarios for implementation by the various business units. COVID-19 measures were on the agendas of all consultation platforms in which NS is represented on a regular basis.

- *NOVB+*

In this platform, coordinated by the Ministry of Infrastructure and Water Management, NS collaborates with regional carriers, municipal and regional public transport organisations, passengers' association ROVER, non-central public transport authorities and others. NOBV+ (National Consultation Platform for Public Transport) deals with issues such as scaling down and scaling up train services, measures at the stations and in the trains, face mask requirements, enforcement, bike-on-the-train policy, and adjusted timetables at schools and universities to help students avoid peak hours in public transport. In 2020, the government drew up a 'Protocol for Continued Responsible Travel in Public Transport'.

- *OV-NL*

NS is a member of OV-NL, a Dutch public transport sector association that looks after the interests of carriers. During the COVID-19 crisis, OV-NL serves as an important centre of information for media and other parties, for example on COVID-19 measures and safe travel. The OV-NL Security Working Group focuses mainly on enforcement and regulatory aspects of new measures and scenarios, and the associated coordination policies. In addition, it accommodates structural consultation with the police, the Ministry of Infrastructure and Water Management and, sometimes, the Ministry of Justice and Security. For example, this working group arranged the exemption from obligatory face masks for public transport employees: they can also wear a facial screen.

Survey: less travel after COVID-19 pandemic

NS and Delft University of Technology conducted six NS Panel surveys, starting in April 2020. The September 2021 survey among 18,185 respondents revealed that fewer and fewer passengers expect to resume their former travel behaviour: only 37% of commuters, and 64% of recreational travellers. Nearly a quarter of respondents expect to travel by train less frequently than before the COVID-19 crisis, mainly due to home-working arrangements and increased use of private transport.

Commuters expect to be working from home on 2.2 days a week, on average, after COVID-19. In some sectors, especially government and services, this figure is even higher. Among commuters, Tuesdays and Thursdays look set to become the most popular travel days once things have returned to normal. NS faces the challenge of preventing overcrowding on such peak days. We attach great importance, therefore, to agreements with companies, educational institutions and other organisations on the days of the week most suitable for travelling. One striking finding was that despite passenger numbers rising

from 36% in April to 65% in September (relative to 2019), respondents' scores for crowding levels remained unchanged, with 31% stating they experienced the level as unpleasant. Where crowding was incidental, a high proportion of respondents (87%) decided to take that train after all. This suggests that crowding levels are no reason for passengers to opt for an earlier or later train.

Consequences for station projects and rental

A drop in passenger numbers has an impact on the revenue of businesses at the station and, by extension, on the rental income of NS Stations. The range of retail establishments at the stations has nevertheless remained virtually unchanged, and vacancy figures did not increase thanks to additional agreements on rent levels to reflect lower passenger numbers. Throughout the lockdown, one of our shops remained open at all stations to serve passengers on vital journeys. Scheduled maintenance was brought forward to further improve the overall appearance of our stations.

Financial consequences

NS's income this year is lower than expected and considerably lower than in 2019. Without the availability payment (*beschikbaarheidsvergoeding*) that NS received from the government, we would have incurred a loss on passenger transport of approximately €1 billion in 2021. The availability payment will stop as from September 2022. However, due to the long-term effects of the COVID-19 crisis, the lockdown and further COVID-19 measures it is essential for this payment to remain available if we are to continue operating our timetable. The number of passengers did not increase in 2021 and was approximately 48% relative to 2019, compared with the 59% originally expected. This means lower income for the shops at our stations, as well as lower passenger revenues.

In order to be able to respond successfully to changing passenger needs and help NS regain its financial health, we will need to become a smaller, more effective and more agile company. We aim to improve results, digitise faster and respond more flexibly to changes in our environment. To achieve that, we are transforming NS into a smaller and more agile organisation that will enable smarter and more effective collaboration, strengthen our self-confidence and fuel our willingness to change. We will have to carry out more work with fewer people. 2,000 jobs will disappear over the next few years. This measure, which involves both internal and external staff, is expected, at the beginning of the reorganisation, to bring our head office costs down by 25%. Over the next few years, approximately 2,500 NS employees will retire. However, the jobs that will be lost or changed cannot simply be offset against those that will become available due to retirement, as they do not always concern the same positions.

Consequences for our foreign operations

Our subsidiary companies in the United Kingdom and Germany have also been affected by the COVID-19 pandemic. For more details, read the [chapter on Abellio](#).

The influence of COVID-19 on the annual report

Due to COVID-19, NS once again experienced a year that was different from previous years. This is also reflected in our non-financial results. KPIs such as seat availability and customer satisfaction have acquired a different dimension compared with pre-COVID-19 data. For example, several franchise KPIs have lost all relevance, albeit temporarily, while other results cannot be compared with those from the period up to 2020. This is why we have decided

not to report on a number of results in this annual report, or to report less extensively or differently compared with previous annual reports. Where results have changed significantly, we only provide explanatory notes if the changes are attributable to causes other than COVID-19. By avoiding such repeated references to COVID-19 as the cause of major changes, we have been able to produce a report that is still pleasant to read.

The profile of NS



In its marketing campaigns, NS shines a spotlight on talented young musicians like singer-songwriter Froukje.

NS provides a broad range of services that go beyond train services. The focus in all our activities is on passengers, passengers and passengers. Our approximately 37,000 colleagues in the Netherlands and abroad work hard to achieve this, every day. Together with our partners in public transport, we continuously work to further improve our service and performance levels.

NS in the Netherlands and Europe

Ever since NS was founded – in 1837, as NV Hollandsche IJzeren Spoorweg-Maatschappij (HIJSM) – we have been contributing to mobility and progress in the Netherlands. We play a very significant socio-economic role in our domestic market. Since 2002, NS subsidiary Abellio has been providing rail transport in parts of the United Kingdom and bus services in London, and since 2009 it has also been providing regional rail services in Germany. We also provide international connections in collaboration with our partners NMBS, Deutsche Bahn, ÖBB, SBB, Thalys and Eurostar.

Our organisation

NS consists of several business units, including NS Operations (approximately 13,400 employees, on average, in 2021), Commerce & Development (approx. 700) and NS Stations (approx. 2,700 including retail), plus central and staff departments such as HR, Finance and IT (approx. 2,200). Abroad NS has operations through Abellio UK (approx. 16,000 employees) and Abellio Germany (approx. 1,500).

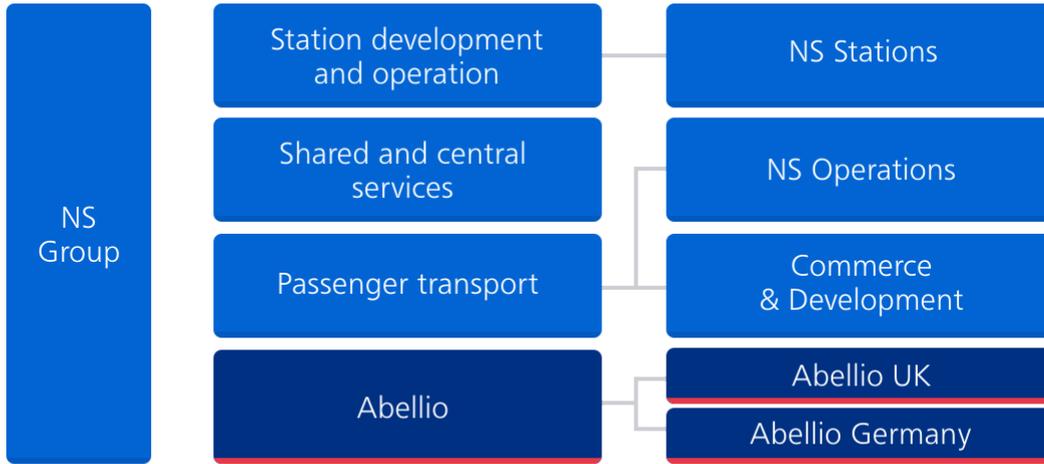
NS Operations is responsible for train transport and train maintenance on the Dutch main rail network, including HSL South. This is where the colleagues work who enable our trains to travel from A to B in the Netherlands and across the border. They include train drivers, guards, mechanics and service staff, as well as the colleagues who, behind the screens, help implement our timetables and manage operations during unexpected events. This business unit also includes NS International.

Commerce & Development focuses on timetables, train formulas, customer service, marketing activities, strategic innovative projects and on making the company more sustainable. This unit is also responsible for ticket and season ticket sales. In addition, it conducts appreciation surveys among passengers and identifies areas for improvement.

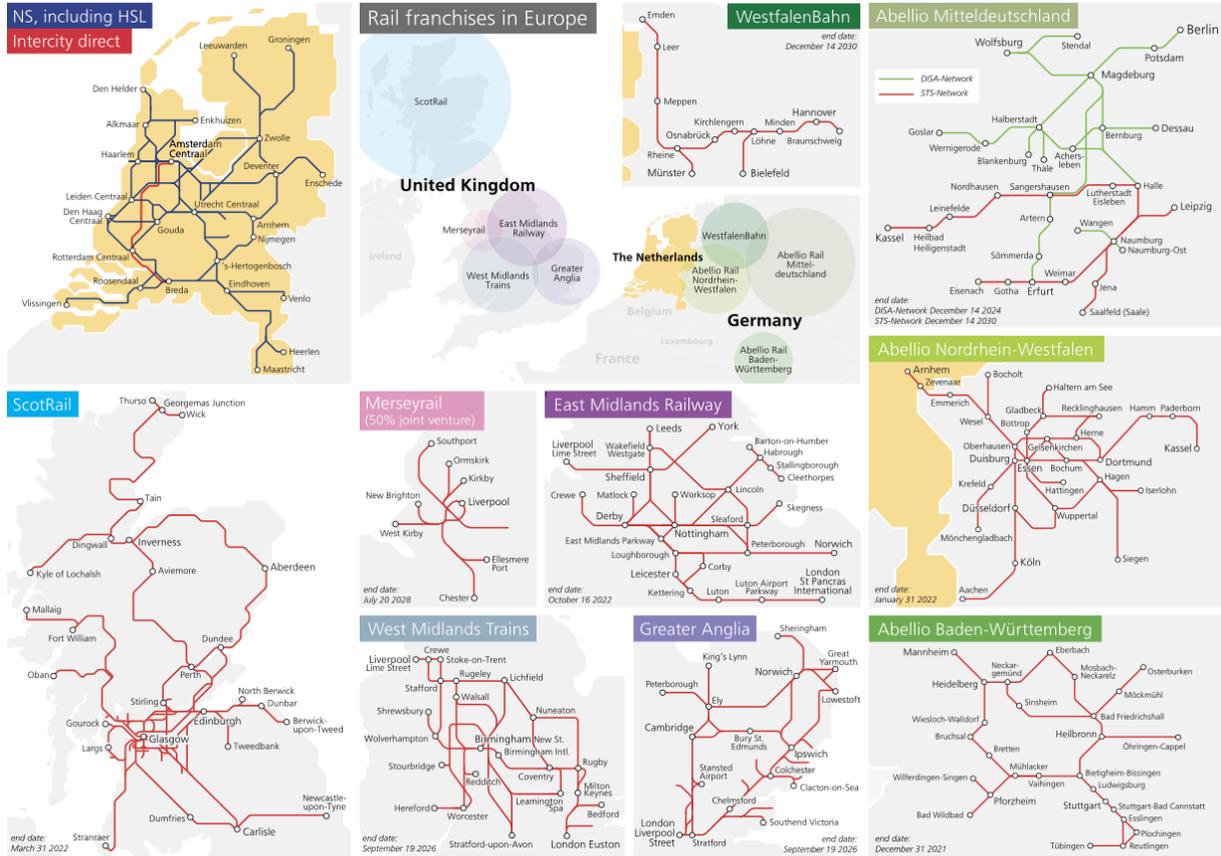
NS Stations works on a high-quality network of 400 large and smaller stations and promotes area development initiatives around the stations. Together with ProRail, public authorities and carriers, NS Stations aims to make passenger journeys and the time spent in and around stations as convenient and pleasurable as possible. Stations are hubs for various forms of mobility, including public transport bicycles (*OV-fiets*) and bicycle parking. In recent years, NS Stations has worked with ProRail and various municipalities to renovate major stations to ensure that stations are 'clean, intact and safe'. In collaboration with local authorities, citizens and social entrepreneurs, we seek effective integration of our facilities in the station environment.

Abellio UK operates rail franchises for parties including DfT and TS in the United Kingdom (Greater Anglia, Merseyrail, ScotRail, West Midlands, East Midlands) and operates bus franchises in London. **Abellio Germany** operates regional rail franchises in Germany. In 2021, Abellio Germany operated nine franchises in four regions. In view of the tightened focus and developments in recent years in the United Kingdom and Germany, NS has reconsidered its international strategy where its foreign operations fail to contribute to the interests of passengers in the Netherlands.

Organisation chart



Rail franchises



Our trains

NS invests in the purchase, overhaul and upgrading of trains. Proven technology, sustainability and convenience for passengers have the highest priority. The SGM model Sprinter trains were decommissioned in 2021, while DDZ trains returned following completion of a study into vibrations on the tracks.

		Number of trains as at 31 December 2021	Number of coaches/carriages	Seating capacity
Sprinter trains:				
	SLT	131	648	34.468
	SNG	171	588	30.843
	FLIRT (excl. TAG)	58	199	11.990
Intercity trains:				
	ICRmh	38	294	23.747
	VIRM	177	866	88.557
	ICMm	133	449	33.791
	DDZ	49	238	23.135
	ICNG	0	(National) 0	79 trains ordered
	(Inflow starting in late 2022)	0	(International) 0	20 trains ordered
Total		757	3.282	246.531

New and upgraded rolling stock

New generation of double-decker trains

In 2020, NS launched a European tendering procedure for a new generation of double-decker trains with improved accessibility and suitable for speeds of up to 160 km/h. NS is interested in a train type that includes both single and double-decker carriages and is able to combine high capacity with excellent accessibility. NS received the bids of several suppliers by the end of 2021. According to current insights, the first trains of this type will be taken into operation in 2027.

They are meant to replace older trains, such as the double-decker trains of the DDZ model, and to meet the need for double-decker trains in the longer term. The basic order is for around 30,000 seats, with options for additional orders.

New Generation Intercity (ICNG)

Serial production of this new Intercity train is in progress and all tests required for admission of ICNG trains to the Dutch railway system were completed in 2021. The first trains for NS Proefbedrijf and training programmes have arrived in the Netherlands and the application for a permit to operate these trains has been submitted.

However, the worldwide impact of COVID-19 has also strongly affected the development and realisation of the New Generation Intercity. Anti-COVID-19 measures, travel restrictions, sickness absence, delays in the supply of software and parts are obstructing progress. This has also caused admissions and training programmes to start later. As a result, operational implementation of ICNG trains for passenger service proved to be infeasible in 2021. NS now expects the first passengers to be able to board in 2022, on the IC direct route between Amsterdam, Rotterdam and Breda.

In addition to the trains already ordered for domestic use, the ICNG contract with Alstom gives NS the possibility to order Intercity trains that are suitable for cross-border routes. For example, NS has already ordered ICNGs that can be used both in the Netherlands and on routes across the border into Belgium.

Upgrading Intercity trains

NS upgraded a total of 80 double-decker train sets (VIRMm1) with 415 carriages in a project that was completed in 2020. In 2021, the Haarlem workshop began upgrading 44 double-decker trains of the VIRM2/3 type. This involves 242 carriages with a total of 24,500 seats. Again, this upgrading operation is based on sustainable principles, involving the recycling or reuse of 99% of the materials of the trains. The trains are fitted with a new climate control system, USB ports in first and second class and receive a new look. The first upgraded trains from this series have been in operation since June 2021. In 2021, we decided to also upgrade the VIRM4 series in mid-2025.

New Sprinter trains

Since late 2021, 170 SNG Sprinter trains from Spanish train manufacturer CAF have been in operation in the Dutch railway system. CAF is expected to deliver all the remaining new Sprinter trains in 2022. These new Sprinters have everything it takes to ensure a pleasant and comfortable journey. They are transparent, open, attractive and energy-efficient, featuring Wi-Fi, wheelchair-accessible toilets, wall sockets, USB connections, leather seats, areas designated for bicycles and a floor-level entrance.

Trends, developments and strategy

Trends and developments



With the 'Hoofdreiscoupe', a simulated train car, NS is offered nursing home residents with dementia entertainment and a chance to relive happy memories.

This chapter describes the demographic, economic, socio-cultural, ecological, technological and political developments that influence NS. For our response to these developments, see the chapter entitled [Our strategy](#).

The COVID-19 pandemic and its effects on our passengers

The measures aimed at curbing the spread of the virus have a huge impact on the travel options and [needs of our passengers](#). If the changes in passenger behaviour prove to be permanent, the long-term consequence for NS will be significant.

Need for clean and sustainable transport

Extreme rainfall and severe flooding in the Netherlands, other parts of Europe and China, heat waves in Canada and the US: these are just some of the examples of climate change we have seen in the past year. According to the 2021 IPCC report, the world is heading for an average rise in temperature of 1.5 °C even faster than expected. There is no shortage of ambitions to address the problem, witness the climate summit in Glasgow, the European Commission's 'Fit for 55' package and the Dutch Climate Agreement. Still, the implementation of the plans to reduce the speed of climate change is slow. One part of the solution is to promote existing forms of clean and sustainable transport, such as the train. The need for this has only grown in recent years.

Population growth and changing composition of the population

According to the Prosperity and Living Environment Foresight Study (*Toekomstverkenning Welvaart en Leefomgeving*, WLO) published by the PLB Netherlands Environmental Assessment Agency and the CPB Netherlands Bureau for Economic Policy Analysis, the Dutch population will see a 5% to 16% growth in the period until 2040. This means that anywhere between 18.5 and 20.3 million people will be living in the Netherlands by 2040. This growth will be accompanied by demographic changes. As the average life expectancy will continue to increase, the share of people over 75 will grow. While the working population is still increasing slightly, it will begin to fall after 2030. At the same time, we will see an increase in socio-economic inequality between the various population groups. These developments also have an impact on the level and composition of demand for mobility. Urban areas will see an increase in demand, and one of the possible effects of the ageing population is a higher share of social-recreational travel.

The growth of the population also poses challenges in terms of housing: we will need to build one million affordable new homes to meet housing demand by 2030. This is accompanied by a challenge in terms of mobility, to ensure that all these new homes are easily accessible. At the same time, we are facing a considerable management and maintenance challenge for our infrastructure. The locations of those new houses and the associated investments in the mobility system will be decisive for how demand for mobility will develop in the future.

The political agenda

In addition to housing construction and mobility needs, the energy transition and measures to make our industry and agriculture more sustainable are laying their own claims on the scarce space and investment capacity in the Netherlands. These issues are strongly interconnected. This is why the new government will have to take firm and integrated policy and investment decisions to address these challenges. Those decisions will also have a significant impact on NS and our environment.

Labour market shortages

Following a dip caused by the COVID-19 pandemic and other factors, the economy is picking up again. In 2021 there were more vacancies than job seekers in the Netherlands; indeed, we are experiencing the most severe shortage in the labour market since 2003. A study by CBS Statistics Netherlands has shown that all sectors of the economy are having difficulties finding staff, with shortages in all labour categories.

Technological developments are changing the mobility market

In 2021, the government and new players on the mobility market showed considerable interest in Mobility as a Service (MaaS) and the rise of shared transport. There is a strong connection between these two developments. The use of various forms of shared transport (such as e-bikes, bicycles, scooters, cars and perhaps, in future, steps) is being facilitated by the growing number of apps that enable users to search, book and pay for such means of transport all at once.

We are also witnessing a multitude of [technological innovations](#) in and around trains that have an impact on NS and our partners in the railway sector. Devices are becoming smarter (Internet of Things) and AI applications, such as virtual and augmented reality, are becoming ever more widespread. Digital twins, i.e. digital representations of an object or system you want to improve, increase both the speed and quality of decision-making. ERTMS and Automatic Train Operation (ATO) potentially create scope for more trains on the tracks, shorter travel times and higher levels of safety.

Our strategy



At the Amsterdam RAI and Haarlem stations, NS is giving artists a podium to display their work in spaces that are temporarily not being used.

Together, we are making the Netherlands accessible in a sustainable manner – for everyone. That is the mission of NS, and the compass for our strategy for 2020-2025 and subsequent years. The strategy, 'Making the Netherlands accessible in a sustainable manner – for everyone', focuses on the transition of NS towards a broadly oriented mobility company.

With our trains and stations serving as the backbone of our business, we ensure smooth and comfortable door-to-door journeys for all our passengers. The success of this transition depends on our effective collaboration with the Ministry of Infrastructure and Water Management, ProRail, other carriers, non-central authorities and other partners. Internally we operate as a single, united NS wherever that is possible. Our strategy enables us to deliver world-class mobility with due regard for our responsibilities towards our local environment. Always accessible, always affordable and always sustainable.

Just after we had adopted our strategy, in 2019, the COVID-19 pandemic broke out, forcing us to adapt the implementation of that strategy. Our priority is to make passengers return to our trains. At the same time, if we are to emerge from this crisis in good financial health, we will need to adapt our organisation to the changed circumstances. This means that we must, as soon as possible, re-establish a financial balance that enables NS to continue investing independently in its future range of services for passengers and society. According to our strategy, in times of crisis and in the future, our world-class operation is the foundation of our business.

Smart ways of attracting passengers in trains and stations

The uncertainties surrounding the COVID-19 pandemic have impacted the freedom of travel, resulting in falling passenger numbers and revenues. We want to give our passengers the confidence that our trains and stations are safe environments. This is why it is important for us to respond to changes in passenger wishes: less crowding, more hygiene, flexibility at all times and control of the journey from door to door.

To achieve all that we have launched a major effort to find *smart* ways of attracting passengers. For example, we have joined forces with policymakers, employers and educational institutions to improve the spread of passengers across peak hours, off-peak hours and days of the week. NS's contribution to this effort is to ensure high-quality travel information, also about crowding levels, for example using *Treinwijzer* and early reservation options.

To emerge from this crisis in good shape, NS will have to become an agile and financially healthy company. This is why we focus on measures that will permanently reduce our costs. In addition, we are working to promote a long-term change in culture and behaviour. A willingness to be more audacious, speak our minds, call colleagues to account and embrace change will help us focus on results and respond to changes more quickly.

Abellio must contribute to Dutch operations

One dominant theme in 2021 was the restructuring of Abellio in Germany. We restructured Abellio's operations in 2021 (continuing into 2022, in part) particularly in Germany, in a joint process with our local clients. It remains our objective to ensure that Abellio's operations contribute to our Dutch operations via cross-border connections and improved links with European cities, in the interest of Dutch passengers, and that they also contribute to the financial result.

Building the future

Despite the low passenger numbers and the effect of that on our financial position, we continue to build for the future. While it may be hard to imagine at this time, from 2026 onwards we expect to be welcoming more passengers than in our peak year 2019. Recent forecasts even assume 18% to 40% growth in the number of passenger kilometres by 2040 (Integrated Mobility Analysis - Ministry of Infrastructure and Water Management).

We team up with our partners to absorb this growth. For example, we have joined forces with other carriers and mobility providers in the Mobility Alliance to create the best mobility system and highlight the required investments and policy frameworks, in collaboration with government bodies. We also help explore ways in which other spatial challenges are connected to NS and our role in society. This is reflected, for instance, in our desire to be part of the solution to the housing construction challenge.

Improving the rail network: nationally and internationally

In the years ahead, we will continue improving our rail network by introducing multiple ultra-frequent services (every 10 minutes) and New Generation Intercity (ICNG) trains. We are also preparing the launch of the Airport Sprinter between Amsterdam CS and Hoofddorp to increase our capacity on one of the busiest routes in the country. In addition to improving the network within the Netherlands, we have [international ambitions](#): we want to increase both the speed and frequency of services between European capitals and add new destinations.

Developing a broad range of mobility options

We are responding to evolving passenger expectations. Our customers increasingly expect us to provide seamless door-to-door journeys with all the associated facilities – from planning and booking the journey and paying the fare, the trip to the station, transfers and arrival at the final destination through to the provision of alternatives when the train is not the ideal option. To meet these wishes we are developing a top-class mobility app that offers passengers the best and most personalised options available. After all, every journey starts with NS.

We will also continue to develop our own range of physical mobility options. This includes investments in the availability of public transport bicycles (*OV-fiets*) both in existing and new locations. We are streamlining the check-in and check-out processes in bicycle parking facilities and making our P+R locations even more user-friendly by installing number plate recognition technology and charging points.

Realising world-class stations

We continue to realise world-class stations. Our stations serve as mobility hubs to facilitate seamless transfers, but also offer excellent facilities where passengers and residents can meet. We are examining options for new facilities at the stations and a range of retail services that is more in line with our passengers' changing needs. We want our stations to be safe, dynamic and meaningful centres of activity in their local communities. This is why we are also involved in area development projects aimed at enhancing the potential of station districts for residential and other functions.

Innovation, digitalisation and data-driven operations

In order to realise optimal digital customer experiences and remain agile in a rapidly evolving world, we aim to accelerate innovation, digitalisation and data-driven work processes. More efficient utilisation of our resources and more effective coordination of supply and demand will enable us to keep the railway system affordable. For more information about our innovations, click [here](#).

Increasing the social impact of NS

Alongside these ambitions, we also want to increase our social impact. NS is an essential link in the Dutch approach to tackle climate change. The more passengers opt for the train, the more carbon emissions we avoid. This contributes to the 'Fit for 55' package of the European Commission. For example, we are increasing the appeal of international rail travel by improving the interoperability of the European core network and by streamlining the booking process for international train tickets. In addition, we are making our own chain more sustainable by adopting zero-emission, green and circular business practices wherever this is possible. However, our impact extends much further than the climate alone. We aspire to be a company of and for the Netherlands as a whole: a business that reflects all parts of society, where everybody feels at home and nobody feels excluded.

How NS adds value to society

Each year, NS provides sustainable mobility to millions of passengers in the Netherlands. In doing so, we contribute to the accessibility and economic development of cities and regions, and to the country's climate goals. In our annual report, we report on the subjects that our internal and external stakeholders feel to be relevant and that enable us to create value for Dutch society. The value creation model, based on guidelines issued by the International Integrated Reporting Council (IIRC), determines the structure of our report. In 2020, we recalibrated our material relevance analysis to bring it more in line with our value creation model. In this chapter we will identify the social, economic and environmental resources we use, how we add value to them and which topics our stakeholders believe are important ('of material relevance') for our organisation.

How NS adds value to society



Input

Income



Trains & stations



Internal & external knowledge



Employees



Dialogue w. partners & stakeholders



Raw materials & energy



IT, materials & offices



Experiences of Abellio



Business model



Mission

Together, we are making the Netherlands accessible in a sustainable manner – for everyone

Ambition

By 2025, together with our partners, we will deliver world-class mobility.

Strategic themes

- ① Smart strategies for attracting passengers in trains and stations & increasing our socio-economic impact
- ② Comprehensive mobility services & world-class stations
- ③ Innovation, digitalisation and data-driven operations
- ④ Reinforcing our foundation for the future & transforming NS into an agile, financially sound company
- ⑤ Faster and more frequent connections with European cities & ensuring Dutch passengers benefit from Abellio's operations abroad

Miscellaneous

- Compliance
- Corporate governance
- Risks

Output

Customer satisfaction



Innovations



Performance of MRN and HSL South



Door-to-door journey



Stations and their environment



Travelling and working in safety



Attractive and inclusive employer



International connections



Financial performance



Performance on sustainability



Impact in NL

Sustainable mobility and travel time



Environment (emissions, land, waste, water, noise)



Safety



Health benefits from more active lifestyle



Employee training, deployability & diversity



Expenditure



Contribution to Paris Agreement on Climate Change, UN Convention on the Rights of Persons with Disabilities and UN Sustainable Development Goals



External environment

Input

To make our business model work as effectively as possible, we depend on key inputs such as people, trains and technology. As a carrier, we would not for instance be able to function without our people and their knowledge. But other inputs are important too, such as energy (e.g. from wind) for powering our trains.

Business model

The main foundation of the value creation model is our business model. Our mission, ambition and underlying core activities serve as the input for our [strategy](#).

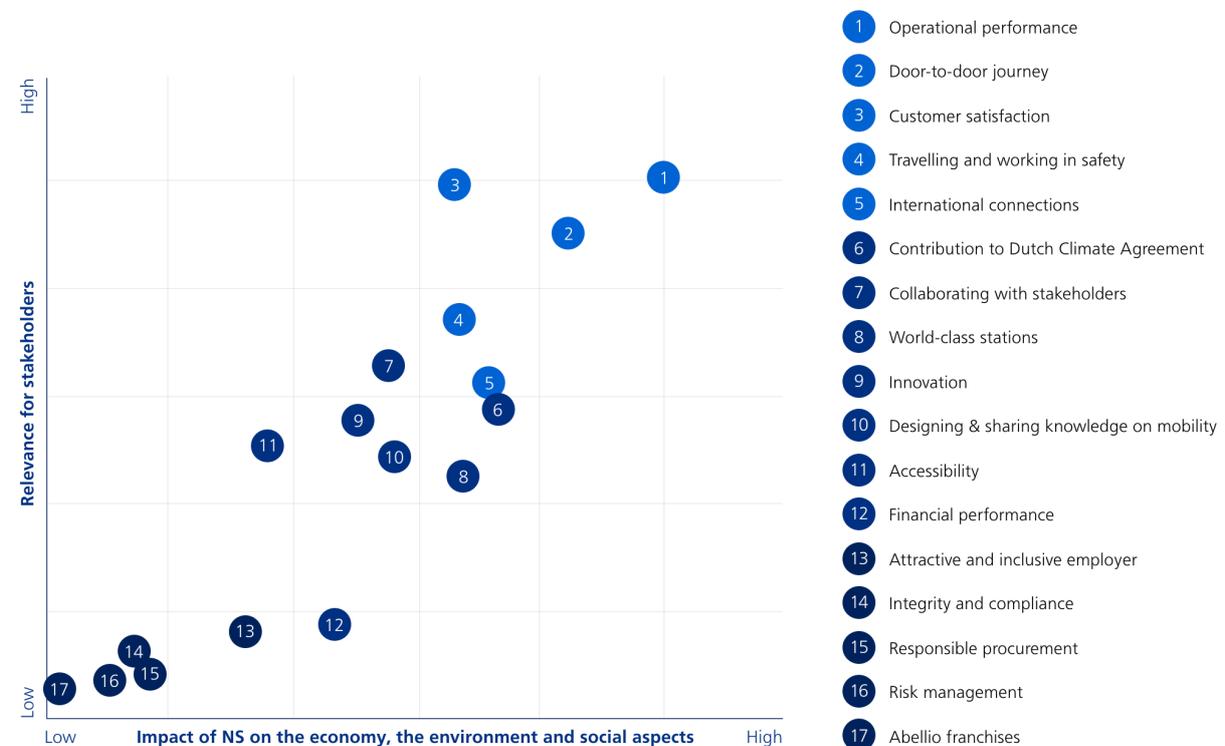
Output

The activities in our business model have a variety of internal and external outcomes. These include our financial results, for example. We also provided an average of 1.3 million train journeys a day (before the COVID-19 outbreak). We have high employee satisfaction scores and by far the majority of our trains run on time.

Our impact

We want to make a considerable impact on our environment, given the fact that sustainable mobility can generate huge economic and social benefits for the Netherlands. At the same time, however, we also have an ecological footprint, as we use space and raw materials. In addition, travelling takes time. If we are to continue facilitating travel in future and keep the Netherlands mobile, it is important for us to understand the effects of our business model on society and to keep using that knowledge as a control parameter. We know, for instance, that the social costs of a train journey are lower than those of a trip by car or plane. We can improve our social return by increasing the share of rail travel in overall mobility growth.

Material relevance matrix



The Y-axis shows the relevance of material topics for NS according to our external stakeholders. The X-axis shows the material topics which, according to NS, offer the best potential for NS to make a positive contribution to the economy, the environment and social aspects in the Netherlands.

We recalibrated our material themes in 2021. For the purpose of this exercise, the management team and the stakeholder and franchise management team indicated whether they had seen any shifts in relevance and impact as a result of developments over the past year. With a view to its broad role in Dutch society, NS attaches importance to all 17 material topics. We do however differentiate in terms of the extent to which we report on our performance on those 17 topics. We report on objectives and results for all high-relevance topics (1-12). As in previous years, for the five low-relevance topics (13-17) we provide, as a minimum, notes on our activities on the topic concerned. For a more extensive explanation of the material relevance matrix, see [Notes to the material themes](#).

Our activities and
achievements in the
Netherlands

Notes to the franchise indicators



NS Train Modernisation has a new production department: 'De Kabelstraat'. Here, employees with occupational disabilities or obstacles to job-market participation make cable bundles for in trains.

NS uses a range of indicators to measure the quality of its services on the main rail network and the high-speed line. Providing responsible and comfortable passenger transport services and a safe working environment for our employees were top priorities for our services in 2021, also in response to the government's request to that effect. As in 2020, due to COVID-19 performance figures for 2021 are very different from normal levels and cannot be meaningfully compared with those for other years.

New performance indicators

This annual report includes our first performance results on the indicators 'User-friendly travel information' and 'Number of crowded peak-hour trains'. These have replaced the indicators 'Information on the train' and 'Top 10 most crowded trains'. The new definition of the indicator for travel information more accurately reflects how passengers actually experience the travel information provided. We decided to replace the 'Top 10 most crowded trains' indicator because of its focus on crowded trains on just two routes: Amsterdam Sloterdijk-Haarlem and The Hague-Leiden-Schiphol. The new indicator covers all crowded trains in the Netherlands. This provides a picture of all passengers in crowded trains, both in trains that are always busy and in trains that had insufficient capacity at peak hours.

Performance	Realisation in 2021	Realisation in 2020	Realisation in 2019	Minimum value for 2021
Overall customer satisfaction score for main rail network *	-	-	-	7.3
Overall customer satisfaction score for HSL-South services*	-	-	-	7.2
Customer satisfaction with personal safety*	-	-	-	7.7
Punctuality for passengers (with a 5-minute margin) on the main rail network	94.4%	93.5%	92.6%	88.9%
Punctuality for passengers (with a 15-minute margin) on the main rail network	98.1%	97.9%	97.7%	96.7%
Punctuality for passengers (with a 5-minute margin) on HSL South	89.2%	85.2%	83.4%	82.1%
Quality of connections to other carriers	96.5%	96.7%	96.0%	94.0%
Seat availability at peak times (main rail network)	99.6%	97.3%	94.9%	94.3%
Seat availability at peak times (HSL South)	99.9%	98.1%	97.1%	91.2%
Number of crowded trains at peak times per working week**	4	-	-	110
User-friendly travel information **	79.9%	-	-	65.0%

* Effective 2021, we register customer scores using the Public Transport Customer Barometer. However, due to the measures to curb COVID-19, during most of 2021 no measurements could be taken. The available figures will be published in March 2022.

** Where a new performance indicator applies effective 1 January 2021, no comparative figures for 2019 and 2020 have been included.

Main rail network franchise for 2015-2024

The State Secretary for Infrastructure and Water Management awarded the rail transport franchise for the main rail network to NS in December 2014. The franchise runs from 1 January 2015 for a term of ten years. NS also prepares an annual transport plan for the year ahead. In the transport plan, we link our aims and objectives to specific actions and performance indicators for the coming year. The definitions of the KPIs and the descriptions of the measurement and calculation methods used can be found in the 2021 [Transport Franchise Definitions](#).

Customer satisfaction



Attracting birds and insects makes stations and the areas surrounding them greener and boosts biodiversity.

Three core needs of passengers must be satisfied: planning control, the freedom to make one's own choices, and a feeling of being appreciated as a customer. We meet these core needs by providing high-value and personalised services.

Our sustainable spearheads

Equal travel opportunities for all



Inclusive travel information



Energy-efficient operation



Customer satisfaction with the main rail network and the high-speed line

Since 2021, we have measured general customer satisfaction levels using the Public Transport Customer Barometer (OVKB). In 2021, fieldwork for the OVKB was carried out only during eight weeks in the last quarter of the year. As a result, no annual figures are available. The figure for the last quarter of 2021 will be published on [CROW.nl](https://www.crow.nl) on 21 March 2022.

Customer service and social media interaction

Customers are satisfied with our Customer Service department. In 2021, 84% of customers gave this department a score of 7 out of 10 or higher; the same figure as in 2020. In 2021, due to the fall in passenger volumes the number of contacts per channel decreased compared with the years before the COVID-19 outbreak.

Number of contacts per month	Social media	Email	Chat	Telephone
	35,966	9,917	49,240	133,023

Accessibility

It is NS's ambition to ensure that travel options for people with a disability are equivalent to those we provide for others. This includes independent travel options where possible, and assisted travel options where necessary. In 2021, we equipped the last SLT Sprinter trains with retractable steps and wheelchair-accessible toilets. As a result, the entire Sprinter fleet was fully accessible by the end of 2021 – three years earlier than required under the franchise agreement. We also launched a project to boost communication about NS services for people with a disability.

Travel information

In 2021, in collaboration with the organisation for people with a hearing impairment, NS started a pilot named 'Catch the voice train'. This involves the display of information about delays on the screens in trains that are stranded as a result of a collision or defect, supplementary to the audio announcements.

Travel assistance

In 2021 the number of stations that offer travel assistance for passengers with a disability increased by 25. In total, 193 (78%) of all stations served by NS trains now offer travel assistance.

Tele-interpreter service (Teletolk) for passengers with a hearing impairment

In the spring of 2021, in a joint effort with KBO-PCOB and other interest groups, NS asked passengers with a hearing impairment how they experienced contacts with NS Customer Service. The survey showed that a number of these passengers would benefit from a tele-interpreter service. NS has now added this solution, which enables passengers with a hearing impairment to call for assistance.

Innovations

Innovation is important as it can help us realise our ambitions in times of great challenges such as COVID-19, the energy transition and shortages on the labour market. Innovation contributes to our strategic themes, such as increasing our socio-economic impact, consolidating the basics, developing a broad range of mobility options and finding smart ways of attracting passengers in trains and stations. The perception of NS as an innovative company is part of our [reputation score](#). Following years of consistent increase, the perception score fell slightly in 2021.

Meeting customer wishes using NS Go

In 2021 NS launched NS Go, as part of our strategy to retain our ability to meet our customers' wishes in the long term. Via the platform we facilitate door-to-door journeys and develop a broad range of mobility options. We pursue a sustainable, flexible and smart mobility policy to help our business customers respond to the rapid changes in business mobility. Via a single platform, our customers' employees gain access to flexible mobility options. This enables them to travel from door to door in the way that suits them best and with carriers of their own choice. Using NS Go, customers have maximum control to make their own management decisions regarding costs and sustainability.

Exploring new technologies

To consolidate the basics, NS is exploring the opportunities offered by new technologies, processes and methods. This includes the Automatic Train Operation (ATO) system, smart external cleaning techniques for trains and energy-efficient train operation. For example, digital twins and digital representations enable us to make more effective choices in train operations and respond more flexibly to changing passenger behaviour.

Automatic Train Operation

In the Automatic Train Operation (ATO) programme, NS is examining the potential contributions of automatic train operation for the company in terms of railway capacity, operational processes, safety and sustainability. We are studying this in collaboration with the railway sector and train drivers. This improves our insight into the interplay between people (train drivers) and machines (ATO). NS is conducting several different experiments to examine the technical possibilities offered by ATO as well as its limitations. Since the first journey of a train equipped with ATO in late 2019, NS has covered more than 9,000 kilometres using this system. In 2022, NS wants to study the impact of ATO in the shunting process, for example on getting trains in position and on combining and separating trains without passengers remotely. ATO can help us to increase rail capacity and, as such, to deploy more trains to operate the timetable.

External train cleaning

NS tests innovative materials and techniques, such as dirt-resistant coatings, to slow down the accumulation of dirt on trains and cabin windscreens. By preventing such accumulations and making it easier to remove them, these innovations can significantly reduce water and energy consumption. Another crucial benefit is that this contributes to clean trains for our passengers.

PhD research into energy-efficient train operation

In collaboration with Delft University of Technology, NS is examining the potential of energy-efficient train operation techniques. This will enhance or socio-economic impact. The research has shown, among other things, that coasting techniques may yield a significant reduction of both energy consumption and carbon emissions. We translate coasting techniques into specific instructions and algorithms which we can use in speed advisory systems for our drivers. The Swiss railway company SBB is going to use the algorithms developed by NS for their research into energy-efficient train operation.

Preparing for expected growth in passenger numbers

NS wants to ensure it is prepared for the expected growth in passenger numbers, and to continue to offer safe journeys at peak times. In this context, during the Formula 1 weekend in Zandvoort last September NS ran a pilot with drones and artificial intelligence (AI), with due regard for the legal frameworks set by the GDPR. The purpose was to map out the flows of traffic from the racetrack to the train station with AI and use this data to produce better estimates of flows and congestion, waiting times and safety for large groups of people. So far we have been unable to measure passenger flows in outdoor settings, as it is impossible or too expensive to install the sensors required for that. Drones may provide a solution.

Innovations such as ATO, external train cleaning and the use of drones and AI all contribute to smart strategies for attracting passengers in trains and stations.

Performance on the main rail network and the high-speed line



During the elections for the House of Representatives in March, passengers could cast their votes at various stations in the Netherlands.

Solid performance is the basis for customer satisfaction and healthy financial results. Crucially, these enable us to keep train fares affordable and to make the necessary investments to accommodate the growth in mobility.

Our sustainable spearheads

Optimising capacity utilisation



The train as the sustainable alternative for distances up to 700 kilometres



Making trains more attractive through timetable improvements



Punctuality

In 2021, as in 2020, passenger volumes were far below pre-COVID-19 figures. In the first half of 2021, NS operated an adapted timetable. Up until May this equalled 90% of the regular timetable. In June we ran 98% of the timetable; after that we resumed the full timetable until operations were scaled down again in December. Due to the tightening of COVID-19 measures, we scrapped evening, night-time and peak-hour train services with few passengers.

Since fewer people travelled on the trains, we were able to reduce stopping times, speed up the departure process and make up for delays faster. In addition, the share of short journeys – which are less susceptible to delays – increased. This also helped to increase average punctuality figures for the main railway network. Punctuality for passengers (to 5 minutes) on the main rail network was 94.4% in 2021 (2020: 93.5%). Punctuality for passengers (to 15 minutes) on the main rail network was 98.1% in 2021 (2020: 97.9%). At several points in time, the scores on punctuality for passengers on the main rail network were adversely influenced by extreme weather conditions, such as during the wintry weather in February, a storm in March and flooding in July and August. In addition, we were confronted with disruptions in the telecommunications network in May and September. Staff shortages at ProRail's rail traffic control centre resulted in prolonged cancellations of trains, even though this did not appreciably affect the figure for the year as a whole. According to ProRail, the staffing issues will be resolved by mid-2023. Until that time, trains may still have to be cancelled. We are engaged in talks with ProRail to avoid repetition of the problem.

Punctuality for passengers on the high-speed line

Punctuality for passengers (to 5 minutes) on HSL South was 89.2% in 2021 (2020: 85.2%). Shorter stopping times due to lower passenger numbers (especially at peak hours) had a positive effect on punctuality, also on the high-speed line. In addition, during the first five or more months of the year there were fewer trains on the high-speed line: two IC direct trains per hour on HSL South instead of the usual four. For 2021 as a whole, the numbers of daily Eurostar and Thalys journeys were also lower than they normally are. This also had a positive effect on the punctuality of domestic high-speed trains. The biggest negative impact on punctuality for passenger scores was caused by snowfall and its subsequent effects in February. Temporary negative effects were seen in connection with incidents such as a fire alarm in the tunnel near Rotterdam-North in April, a fire alarm in the Schiphol Tunnel in July and a telephony outage at ProRail in September.

Performance Indicator	Realisation in 2021	Realisation in 2020	Minimum value for 2021
Punctuality for passengers (with a 5-minute margin) on the main rail network	94.4%	93.5%	88.9%
Punctuality for passengers (with a 15-minute margin) on the main rail network	98.1%	97.9%	96.7%
Punctuality for passengers (with a 5-minute margin) on HSL South	89.2%	85.2%	82.1%

Seat availability

In 2021, NS deployed trains with ample capacity so as to enable safe and responsible transport. As a result, seat availability during peak hours on the main rail network and on the high-speed line reached almost 100% in August. During the COVID-19 period, we developed and rapidly implemented a process that enables us to make weekly passenger volume forecasts geared to current conditions and factor in maintenance or repair works, for instance. From September, passenger numbers began to recover as students and commuters returned in our trains, and passengers sometimes had to stand during their journey, as before. Seat availability at peak times was 99.6% (2020: 97.3%) on the main rail network and 99.9% (2020: 98.1%) on HSL South.

Number of crowded trains at peak times per working week

This new indicator measures the number of trains with crowding levels above the 'full' standard on the main rail network at peak times per working week. The figure for 2021 was 4. This means that all regular seats are occupied and that four passengers per square metre are standing on the balconies. This situation was rare in 2021, due to the low passenger numbers and ample deployment of trains.

Performance Indicator	Realisation in 2021	Realisation in 2020	Minimum value for 2021
Seat availability at peak times (main rail network)	99.6%	97.3%	94.3%
Seat availability on HSL at peak times	99.9%	98.1%	91.2%
Number of crowded trains at peak times per working week ¹	4	-	110

1 New indicator in 2021, no result measured for 2020.

Travel information

NS wants to give passengers more control over their door-to-door journeys and more freedom of choice, irrespective of the means of transport or the carrier. High-quality travel information plays a key role in this, especially when an unexpected event changes the scheduled course of the journey. Travel information has to be correct, frequent, in time, consistent and up to date so that each passenger can make good choices both before and during the journey. 'User-friendly travel information' is a new performance indicator that shows the extent to which we have provided passengers with correct and timely information about platform changes, delays and train cancellations, and whether we have provided timely advice on alternative routes in the case of serious delays. In 2021, the score for this indicator was 79.9%.

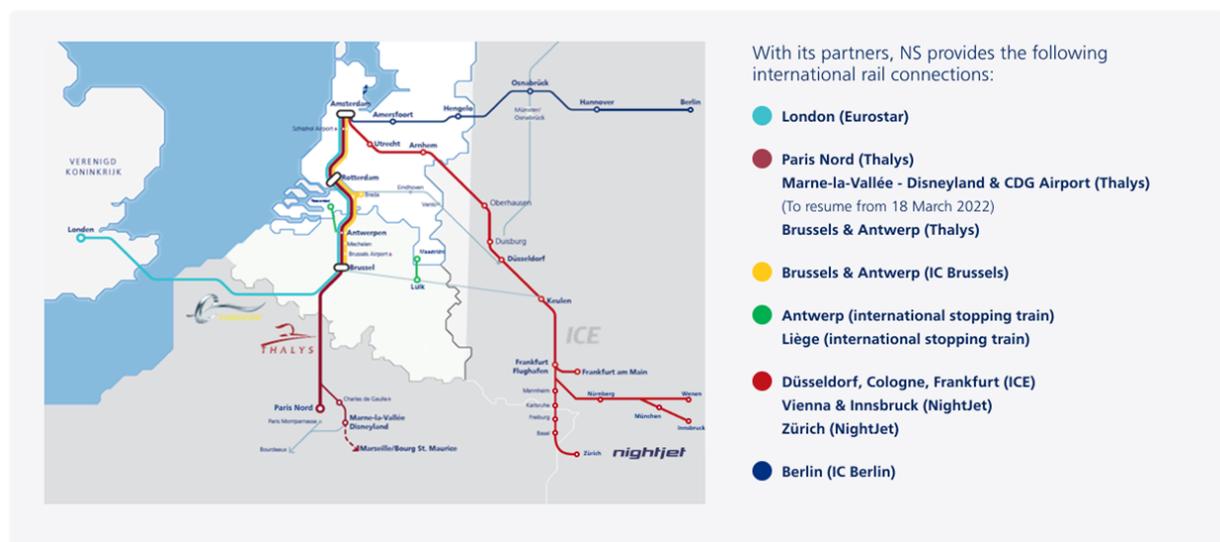
In the past year we made several improvements to travel information. Adaptations to the system now enable us to provide information faster at all stations if no automated logistics information is yet available. In addition, since June 2021 we have created public announcements using text-to-speech software, allowing us to inform passengers even faster than before. In the NS app, we are improving information about bus, tram and underground services and enable passengers to sign up for notifications in case of disruptions on particular routes or journeys. We have entered into agreements with ProRail on ensuring more consistent performance of journey information displays. We have started a series of follow-up experiments with a 'minute-counter' and boarding info on station displays to help

passengers find the best position on the platform and speed up the boarding process. Since August, the on-board information screens in many Intercity and Sprinter trains show graphics with information about delays, enabling passengers to see at a glance whether they should expect any disruption on their route so that they lose less time in finding an alternative route.

Performance Indicator	Realisation in 2021	Realisation in 2020	Minimum value for 2021
User-friendly travel information	79.9%	-	65.0%

International connections

NS International has partnered with NMBS, Deutsche Bahn, ÖBB, SBB, Thalys and Eurostar, connecting the Netherlands with major cities and regions in Belgium, Germany, France, Austria, the United Kingdom and Switzerland. Our aim is to make the train the logical preferred option for distances of up to approx. 700 km and the night train the obvious sustainable option for journeys in excess of 700 km. This benefits both the environment and the economy, as trains produce relatively low carbon emissions per passenger and excellent accessibility by rail encourages investment and attracts businesses to the Netherlands. We are working to achieve those ambitions by ensuring fast connections for Dutch passengers to high-speed rail networks in neighbouring countries, by increasing frequencies and reducing travel times, by adding new destinations and by making it easier for passengers to choose the train for international journeys.



Connecting to high-speed rail networks in neighbouring countries

In 2021 we met with several regional, national and European parties to discuss the need to improve the Amsterdam–Duisburg route by expanding the infrastructure and reducing travel times. The result of these efforts is that this route is now part of the EU's 'corridor approach' pilot to introduce improvements.

Increasing the frequency and travel speed

In the past year, NS started several test programmes for the ICNG, which is suitable for Belgium. We will continue these tests in 2022, to ensure we can increase the frequency and reduce travel times of services to Belgium in the longer term.

New destinations

Thanks to the launch of two night train connections in 2021, we have added several new destinations to our network: the Nightjet to Vienna/Innsbruck and the Nightjet to Zürich (which began on 25 May and 12 December respectively). The study into possibilities for an Intercity connection between the Randstad conurbation and the German city of Aachen in 2025 is ongoing.

Facilitating international train journeys

Since early 2021, passengers who booked their tickets with NS International receive personalised and real-time travel information before their journey. In addition, they now also receive travel notifications throughout their train journey via the NS International app. We have also added locations in Italy, France and the Czech Republic to the destinations that passengers can book via our website. In addition, we have launched a pilot on extending the booking period for Eurostar and IC Brussels. Customers can now book their tickets up to one year in advance. The pilot runs until well into 2022.

European Year of Rail

The European Commission proclaimed 2021 the European Year of Rail to stress the contribution of rail transport to the climate targets of the European Green Deal. In this connection, the Netherlands had the honour of welcoming the Connecting Europe Express last October. This is an initiative of DG Move and CER, a community of all major transport companies in Europa, including NS. Together with its partners, NS had compiled an extensive discussion programme for all European stakeholders, with a particular focus on two themes: how to collectively ensure that the Netherlands is connected as soon as possible to the German high-speed network, and how to design more user-friendly booking options for train journeys.

Climate Train to Glasgow

More than 500 passengers travelled from the Netherlands to COP26 in Glasgow, Scotland in a special Climate Train, a collaboration between Avanti West Coast, Eurostar, NS, ProRail and Youth for Sustainable Travel. On the occasion of this special Climate Train journey, the partners signed a statement for COP26 in which they commit to remain the most sustainable type of transport and called for further support for international rail connections so as to accelerate the growth of sustainable travel. This initiative was undertaken within the context of the European Year of Rail.

Market exploration for international rail connections

In 2021, the Ministry of Infrastructure and Water Management conducted a market exploration to study the extent to which international connections that are currently part of the main rail network franchise can be expected to be operated under 'open access' conditions from 2025. The report was sent to the House of Representatives at the end of 2021. The former state secretary will leave it to the new government (Rutte IV) to determine the further strategy for the international rail dossier.

Collaboration in the context of scheduled and unscheduled withdrawals

The Dutch railway system requires a considerable amount of maintenance, which inevitably results in train withdrawals. NS and ProRail have made agreements regarding the permissible amount of inconvenience due to maintenance. However, these agreements have come under pressure, as the amount of work for railway construction and maintenance is increasing and can no longer be carried out solely at times when passenger numbers are low, such as in the evenings and at night. In addition, ProRail wishes to utilise the available capacity of contractors as effectively and cost-efficiently as possible by spreading the work. In order to prevent disproportional inconvenience to NS passengers as a result of this imminent increase in train withdrawals, we took a range of measures in 2021:

- We have developed scenarios as part of our effort to limit inconvenience caused by major works on the Schiphol Tunnel from 2023.
- We have also examined the possibilities for single-track works and single-track train operation. However, as this would result in higher safety risks it is unlikely to become the preferred option.
- Together with ProRail we also explored the possibilities for a supply-oriented division of works, which has resulted in adaptations to the schedule for withdrawals in 2022.
- Finally, in a joint initiative with ProRail, other carriers, interest groups and franchising authorities we have developed a calculation model to convert inconvenience (travel minutes) into euros. In effect, the model enables us to quantify inconvenience, making it possible to weigh additional travel minutes against lowest cost options as input for decisions on withdrawals.

Timetable for 2021-2022

In the first half of 2021, NS implemented several improvements to the timetable. One example is the optimisation of transfer points Tiel and Baarn. We also reduced the travel time of Intercity trains between Leeuwarden and Zwolle and, in September, extended the Leeuwarden-Meppel route to Zwolle. In the weekends of April, May and September, NS operated extra beach shuttle trains to Zandvoort to enable customers to enjoy the fine weather.

With effect from the 2022 timetable, which was launched on 12 December 2021, the frequency of daytime Intercity services between Rotterdam-The Hague-Schiphol and Schiphol-Nijmegen has been raised to six trains per hour. There are now also six Sprinter services per hour between Rotterdam and Dordrecht – the first ultra-high-frequency Sprinter in the Netherlands. These expansions were introduced following extensive testing to guarantee a smooth launch of these ultra-high-frequency trains at the start of the new timetable.

Some other notable improvements:

- Between Driebergen-Zeist and Breukelen, Sprinter frequency has been raised from two to four trains per hour.
- Faster connection between the provinces of Zeeland / Noord-Brabant and the Randstad conurbation. One of the two hourly Intercity trains now offers a faster service as it only calls at the larger stations (Vlissingen, Middelburg, Goes) on working days, reducing travel time by about 15 minutes.
- New Sprinter connection between Vlissingen and Roosendaal. As a result, there are now at least two trains per hour at every station in the province of Zeeland.

- The Intercity trains between Alkmaar and Haarlem will operate in both directions in the morning and evening peaks.
- The Sprinter train between Leiden CS and Alphen a/d Rijn will, for most of the day, continue to Woerden and Utrecht. In combination with the Intercity connection, therefore, there are now four trains per hour between Leiden and Utrecht.
- Launch of daily night train from Amsterdam to Zürich and vice versa.

Dutch Grand Prix

The Dutch Grand Prix, which was held from 3 to 5 September, attracted huge crowds of racing fans to Zandvoort. Many of them came by train. By operating a train service between Amsterdam and Zandvoort every five minutes during this weekend, we were able to transport 90,000 passengers to and from the races. We also deployed more trains in other parts of the country, while adapting the timetable on less busy routes. Every day of the races, 300 additional NS colleagues were at work to assist passengers.

Door-to-door journey



Through 'Station Strolls', NS is promoting going for a walk in your own area. These walking routes begin and end at a station and are available for download free of charge.

Passengers usually set out by bicycle, sometimes on foot, or by car or another form of public transport. The end station is seldom their final destination. We want to offer passengers facilities that meet their need for a seamless and reliable door-to-door journey, in cooperation with our partners.

Our sustainable spearheads

Investing in additional transport on the train



Continue to innovate in areas such as public transport bicycles



Extend storage space



Quality of NS connections to other carriers

In 2021, the score for the quality of NS connections to other carriers was 96.5% (2020: 96.7%). This performance indicator is strongly related to the arrival punctuality of NS trains. Factors including the wintry weather in February and the telephony outage in ProRail's system affected train services and, by extension, the quality of connections.

	Realisation in 2021	Realisation in 2020	Minimum value for 2021
Quality of connections to other carriers	96.5%	96.7%	94.00%

Travelling without barriers

To keep rail travel attractive, we are investing in forms of transport that complement the train. In this way we contribute to maximum convenience from door to door.

Bicycle parking

Around 39% of rail passengers cycle to the station. We offer supervised parking facilities for 196,400 bicycles, unsupervised facilities for more than 305,000 bicycles and 11,400 bicycle lockers at stations. In collaboration with municipalities and the Ministry of Infrastructure and Water Management, ProRail and NS Stations are developing facilities where passengers can park their bikes easily and without hassle. Our offer includes free storage for every first 24-hour period (at 77 parking facilities), digital pointers to free parking spaces, the option of paying with the OV-chipkaart, and a uniform design. In 2021, we opened new bicycle parking facilities at the stations of Gouda (2,000 spaces) and Tilburg Zuid (4,000 spaces).

Roll-out of new check-in and check-out zones

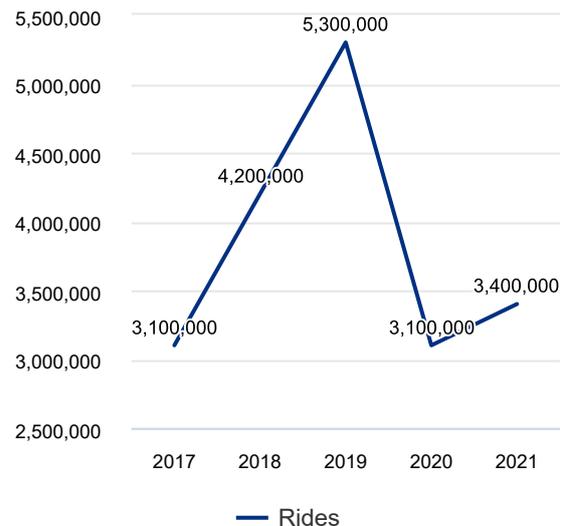
NS has started the roll-out of new check-in and check-out zones at supervised bicycle parking facilities. Of the ten locations scheduled for 2021, Amsterdam Amstel, Amsterdam Zuid (Strawinksyiaan) and Tilburg Zuid were realised in that year. The special bicycle tag or the OV-chipkaart allows passengers to check in and check out automatically and park their bicycles faster and with less hassle. Staff at the parking facility have more time to serve passengers. We intend to introduce this system at ten more locations in the country in 2022. The bicycle tags were developed in collaboration with the municipality of Amsterdam, and passengers can also use them in two bicycle parking facilities run by the city.

Fiets & Service

Fiets & Service is a service format for bicycle repairs, parts and accessories. There are 32 Fiets & Service repair points in all, at 28 stations; the same figure as in 2020.

OV-fiets

In 2021, passengers made 3.4 million rides (2020: 3.1 million) on public transport bicycles (OV-fiets). In all, over 22,000 public transport bicycles are available at 295 locations throughout the country. The customer satisfaction score with OV-fiets has remained unchanged at 8.1 (2020: 8.1). We will continue consultations with public authorities and ProRail on the space required for OV-fiets in bicycle parking facilities.



In 2021, public transport bicycles at the stations of Apeldoorn and Den Bosch were equipped with the new OV-fiets smart lock. The rental period starts the moment the bicycle is unlocked, and ends the moment the user returns the bicycle to the facility and locks it. NS originally intended to equip all OV-fiets distribution points with the new lock in 2021. However, this has now been postponed to 2022 and 2023. The development of a new OV-fiets distribution point for unstaffed rental locations is in full swing. We will launch the European tendering procedure at the beginning of 2022. Since January 2021, NS itself has been in control of the management and maintenance of OV-fiets, operating five OV-fiets workshops.

Car parking

Over 6% of rail passengers travel to the station by car and park there. In 2021, we expanded or improved the P+R locations at 6 stations. In addition, we implemented an easy-access numberplate recognition system at 42 regulated P+R locations. The other 12 regulated locations will be converted in 2022, one year later than scheduled. We installed counter cameras at 7 free parking locations in order to be able to inform passengers about the number of available spaces.

NS Zonetaxi

NS Zonetaxi services were available for passengers at a total of 329 stations in 2021. However, NS Zonetaxi was terminated at the end of 2021. We are now developing a new taxi service instead. Unlike NS Zonetaxi, the new taxi service will be available at every station and passengers will be charged per kilometre (instead of paying a rate per zone).

Ease of payment in public transport

NS participates in the OV payment programme launched by the NOVB (National Public Transport Council). The programme, named OVpay, was set up to offer easier and additional payment options for public transport passengers. In future, passengers will be able to check in and check out using their bank cards, credit cards, mobile phones, smartwatches etc. as well as their regular OV-chipkaart (public transport smart card). We will gradually introduce various different payment methods (after having tested them with passengers):

- Travelling using a bank card (contactless bank card and credit card payment: plastic, mobile and smartwatch). In 2021 systems, processes and the organisation were prepared for the phased launch of this service in 2022.
- New OV-chipkaart (plastic, mobile and smartwatch). 2021 saw the launch of preparations for a pilot with the new OV-chipkaart for use on mobile phones. We intend to introduce the new OV-chipkaart in phases starting in late 2022.
- Rail travel based on GPS positioning, with passengers' smartphones logging travel and carrier details. We are testing the feasibility of this travel concept, which allows for a single check-in and check-out process during a journey with multiple carriers.

Stations and their environment



NS and ProRail are installing AEDs at all Dutch train stations. This will help to realise a nationwide network of AEDs.

World-class stations are crucial assets in NS's strategy. Stations are important links in sustainable mobility and in the urban development challenge facing the Netherlands.

Our sustainable spearheads

Developing station areas to stimulate public transport use 

Preventing retail food waste 

Less plastic waste, reduction of energy consumption 

Railway stations and the surrounding areas are safe and meaningful places in our society. High-quality stations, station areas and facilities are important components of the public transport system in the Netherlands. They help us persuade passengers to travel by train.

In 2021, as in previous years, NS contributed to the development and realisation of renovation and new construction projects for various stations in collaboration with ProRail, and teamed up with partners for area development projects. Together we are improving the quality level of (basic) facilities and services at our stations in the Netherlands. NS Stations works for all passenger transport providers in the Netherlands.

NS supports daily operations at all stations in the country by keeping them clean, intact and safe. In addition, we focus on the provision of services (such as bicycle and car parking, toilets and waiting areas/facilities) and commercial operation (rental of retail spaces and operating our own retail facilities). In doing so, we especially target the additional facilities that make the time passengers spend on our trains and at our stations more enjoyable, with due regard for the size of the station and the number of passengers.

Stations undergoing renovations

In 2021, together with ProRail and municipalities we reopened several renovated stations. Stations currently undergoing renovations are those in Middelburg, Groningen and Kampen, among others. Stations opened in 2021 include the following:

- Amsterdam Amstel has a new floor plan following a restoration project. The Tickets & Service shop has been relocated to reveal Peter Alma's wall painting in its full splendour. This metamorphosis is part of the large-scale redevelopment of the station area undertaken by the municipality of Amsterdam, Vervoerregio Amsterdam, GVB, ProRail and NS.
- Following more than two and a half years of restoration work, Maastricht central station has been restored to its former glory, with more light, more space and the return of historical elements. The old 'Visitation Hall' is now a public space once again.
- Delft Campus: the first energy-neutral station in the Netherlands was taken into operation in December.
- Following years of vacancy, the monumental station building in Winterswijk (which dates from 1878) has regained its former splendour.
- Castricum: the accessibility of the station has been improved and facilities have been added, including a spacious bicycle parking facility, a new Kiosk and new lifts.

Station area development

By developing station areas we are stimulating the use of public transport and reducing pressure on other infrastructure. The focus in station area development is on urban functions such as living, working, recreation and education. By making its land available, NS is contributing to the major sustainability and housing construction challenges facing the Netherlands. Some current projects:

- The Cartesius Triangle in Utrecht is being redeveloped into an urban district with 2,800 homes and space for recreation and nature.
- A project for the Tweede Daalsedijk district in Utrecht includes the construction of 1,000 homes.
- The EKP-Noord site in the railway zone of Den Bosch will be transformed into a dynamic and creative district combining residential, work and educational functions, including an art academy and more than 800 homes. This is a collaborative project of the municipality, PostNL, NS Stations and property developer SDK.
- For Zwolle Spoorzone, NS is developing a 12-hectare site into a new station area with 80,000 m² for houses and 100,000 m² for offices, education, culture and cafés/restaurants.
- Nieuwe Kern, a district between Duivendrecht station, the Johan Cruijff Arena, the A2 motorway and Amstel Business Park, is being redeveloped into an area accommodating 5,000 homes, 250,000 m² of businesses, cafés/restaurants and offices, and a city park comparable in size to Amsterdam's Vondelpark.
- In 2021, in partnership with local residents, NS developed a plan for a 50,000-70,000 m² mixed urban programme for land to the east of Laan van NOI in The Hague.

Building over the tracks

Building over and alongside the tracks near the station helps cities grow while remaining accessible. In response to growing interest, NS and ProRail are now mapping out all initiatives for building projects of this nature. In addition, we are participating in various different studies, for example into the area around Utrecht CS that was completed in 2021. The responsible alderman concluded that building over the tracks is too complicated and also too expensive in Utrecht. The studies for The Hague and Amsterdam Sloterdijk are still in progress.

The station experience

For NS, it is important to ensure that passengers experience the station as a pleasant environment. In 2021, passenger scores for our stations remained high: 80% gave a score of 7 out of 10 or higher (2020: 79%). The score for our larger stations (with more than 10,000 passengers getting on and off the trains every working day) was even higher, at 83% (2020: 82%), but the small stations also received quite positive scores 74% (2020: 73%). Up until the end of the third quarter the stations were relatively quiet, so quiet indeed in the first quarter that surveys could only be held at the bigger stations. Passenger numbers started picking up again in the fourth quarter, and we expect that passenger perception of our stations will return to the original pre-COVID-19 trend.

	2021	2020	2019	2018	2017
Customer satisfaction with stations	80%	79%	77%	76%	73%

Clean stations

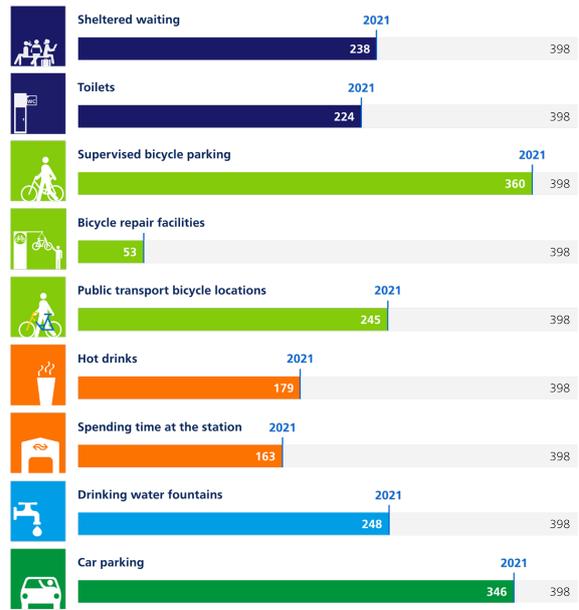
In 2021, we tested various innovations that could help us improve the cleanliness of our stations. Examples include the use of ozonated water for cleaning, a scrubber robot and more data-driven working methods, including waste bins equipped with sensors and a feedback system in unstaffed toilets. Following a European tendering procedure, Asito and ICS Groep have been selected as the new cleaning services providers NS stations with effect from 1 July 2022.

Station facilities and services

In 2021, we invested in facilities to enhance hospitality levels at our smaller stations, such as toilets and improved car and bicycle parking facilities. We are looking for suitable solutions for vacant premises at the stations to improve the atmosphere and personal safety while retaining the distinctive character of the property concerned and taking proper care of our heritage.

Station type	Number	Boarding and disembarking per day	Provisions
Cathedral			
(Amsterdam Centraal The Hague Centraal Utrecht Centraal Rotterdam Centraal Amsterdam Airport Schiphol Leiden Centraal)	6	>75,000	
Mega			
(including Arnhem Centraal Eindhoven Centraal Zwolle Groningen Dordrecht)	21	25,000-75,000	
Plus			
(including Enschede Leeuwarden Roermond Duivendrecht Ede-Wageningen)	27	10,000-25,000	
Basic*			
(including Baarn, Geldermalsen Kampen)	231	1,000-10,000	
Stop*			
(Harlingen Haven, Heerlen de Kissel, Santpoort Zuid)	113	<1,000	

* The station types Basic and Stop include stations with and stations without a station building. At stations with a station building, a range of facilities can be realised. This is not possible at the stations without a station building. Another factor that determines the availability of facilities (or of specific facilities) is the number of passengers getting on and off the trains.



Toilets

Toilets are among the essential basic facilities at our stations. Our ambition was to provide 90% of all passengers high-quality toilet facilities in 2023, but we already achieved that target in 2021. Since 2016 we have realised more than 119 new toilets, while lessees offer toilets at more than 40 stations.

Continuing the development of social and local engagement

NS Stations, ProRail and Bureau Spoorbouwmeester have launched several initiatives to promote the social integration of stations, ranging from social entrepreneurship to citizen participation. NS wants to develop stations that are not just places where passengers get on or off a train. A station is a gateway to the local community. In 2021, 19 initiatives were added to the total. At Breda station, young people can go to 'Breday' if they have questions about work, training, study or money. Feanwâlden station saw the opening of De Ferbining (The Connection), a catering establishment run by people with limited opportunities on the labour market. The station building at Kampen now includes a classroom for Painting specialisation students of the Cipab school for general secondary vocational education who are going to restore or reconstruct the building. For an overview of all initiatives, visit www.onsstation.nl.

AEDs at the stations

In 2021, ProRail and NS installed AEDs at all stations. By expanding the availability of AEDs, we contribute to the creation of a national AED network. This will increase the chance of survival of people who suffer a heart attack at or around the station.

Retail at the station

New and adapted formulas

Last year saw the launch of several new formulas: Relay at Breda station (the first of a total of seven stations), and Backwerk and IJscuypje (at Amsterdam CS and Rotterdam CS). NS opened LUCA's by Julia's at Zwolle and Den Bosch. Eight AH to go outlets were converted to the latest retail format, and 13 Kiosk outlets were converted to the new concept for this chain.

Rail Catering ended

After more than 14 years, NS has decided to terminate the Rail Catering service in our trains. The availability of shops at the stations means that demand for this service among our passengers has declined. Rail catering staff have already started work in NS's shops at the stations.

Responsible range of products

NS Stations aims to make it easier for customers to make responsible food choices at our stations. The share of products that are regarded as 'healthier choices' ranges from 31% at the vending machines and 32% at Kiosk to 53% at Julia's. The share of vegetable products is 43% at Kiosk and 61% at Julia's. AH to go terminated tobacco sales effective 1 January 2021. Kiosk and Stationshuiskamer had already stopped selling tobacco in 2020. In this way we are all contributing to a smoke-free generation.

Sustainable retail

NS is pursuing various different strategies to make retail more sustainable. Some examples:

- All AH to go outlets are partnering with Too Good To Go to prevent food waste.
- The 35% discount sticker on products with a limited shelf-life has enabled us to prevent more than 85,000 items from being thrown out with the rubbish.
- We achieved an 18% reduction in the use of plastic lids on coffee cups by no longer proactively offering them.
- AH to go has also reduced carbon emissions thanks to the choice for a different coolant for new refrigerating systems.
- LED lighting, electrical sliding doors and reduced use of air curtains all help to reduce energy consumption.

Collaboration with our partners

In 2021, the government decided that the roles, responsibilities and ownership arrangements regarding the stations will remain unchanged. In a renewed partnership, ProRail and NS Stations will continue developing, realising and managing world-class stations. The Ministry of Infrastructure and Water Management has launched the Station Agenda, a document in which NS Stations, ProRail, the Ministry itself and other stakeholders are developing a 'station vision' for 2040 and the associated agreements.

Travelling and working in safety



In an NS commercial in summer 2021, Ben Forte sang his song 'This what I needed' and evoked the positive feeling that we are once again free to travel wherever we want.

Our sustainable spearheads

Providing a safe travel and working environment



Countering aggression and vandalism



Investing in railway safety and the overall safety culture



Personal safety

NS provides a safe environment where passengers and employees feel comfortable. We do so in collaboration with the government, other carriers, the police and other organisations. In addition, we make sure to keep our properties, trains and buildings clean, intact and safe, which helps to promote a sense of personal safety.

To make sure that people feel safe in the proximity of others we have taken a range of measures, including supervision, visible and invisible security staff, removing hangouts from view and targeted information via public announcements to promote personal safety. We have installed cameras and deployed Safety & Service staff and private security guards at stations where passengers feel unsafe and where crime and nuisance were a reality. Due to the low passenger numbers at the beginning of the year, the presence of tramps, loitering youths etc. was more conspicuous than usual. Passengers sent 2,548 WhatsApp or text messages via 06-13181318 to report an unsafe atmosphere or nuisance in NS trains. This represents 10% of the total number of such reports received by the NS control centre. In 2021 we also increasingly noticed that not all passengers were complying with the COVID-19 measures, such as wearing a face mask. We will continue to request compliance, even though it occasionally results in aggression on the part of the passenger. During large-scale events such as the Dutch Grand Prix, we took crowd control measures to streamline passenger flows and manage the associated risks.

Protecting properties and resources

NS aims to ensure that properties and premises are well protected against damage, vandalism and unauthorised access. NS collaborates with the police in the fight against graffiti. Trains in shunting yards are particularly vulnerable to graffiti. Various new techniques are being tested at these locations to detect the culprits, such as detectors and sensors that register where and when they access the site and are able to detect the sound and odour of the spray cans. This has already brought down the graffiti surface area to an average of 700 m² per day, which is around 30% less than in 2020.

Terrorism

Since December 2019, the immediate threat as determined by the National Coordinator for Counterterrorism and Security (NCTV) has remained significant: a terrorist attack is conceivable. In addition to terrorism, extreme violence resulting from other motives (extremism, psychiatric disorders or organised crime) is another increasing risk. In 2021 there have been no major incidents within NS; however, now that passenger numbers are recovering, we have also registered an increase in the number of disruptions due to suspicious situations. The opportunities for more large-scale operational drills were limited in 2021 due to the COVID-19 measures. NS focused in particular on efforts to secure the lessons learnt from incidents and drills in the past.

Incidents involving aggression

Incidents involving aggression have a considerable impact on the people who witness them. That is why NS encourages staff to report all such incidents. In all, 744 incidents of category A aggression (the most serious type) against staff were reported in the past year – 12.6% more than in 2020 (661). The incidents involved some form of threat (277), and physical violence was recorded in 191 incidents. There were also cases of aggressive resistance (125), spitting (124), threatening with a weapon (25) and indecent assault (2). It appears that the increase in the number of incidents is associated with the growth in passenger numbers and the indirect consequences of the COVID-19 measures. In 71 incidents of category A, the direct cause was a passenger being asked to observe a COVID-19 measure (2020: 83 incidents).

The number of category A incidents involving aggression on our trains increased: from 197 in 2020 to 243 in 2021 (+23%). The number of incidents in this category at the stations increased by 7.6% (to 461, compared with 496 in 2021). Of our uniformed staff, 755 were involved in some form of physical aggression (2020: 714).

The number of cases involving injury increased by 8.8%: in 2021, 186 injuries as a result of aggression against staff were recorded (2020: 171). These were mostly minor injuries (87%). In 172 cases, this involved uniformed NS staff (2020: 162), of whom 123 were Safety & Service staff (2020: 119).

Occupational safety

NS reports on all types of occupational accidents involving injury expressed in the number of lost-time accidents per 1 million hours worked: the Total Recordable Rate (TRR). The TRR for 2021 was 4.0 (2020: 3.4). This was just above the target for the year, 3.8. Following the evaluation, a range of measures have been scheduled for 2022. Important efforts in this regard include accident investigations, the reporting and handling of dangerous situations as control parameters, and the RI&E process. The management and the Executive Board conduct so-called safety walks, centring around discussions on safety on the shop floor. We monitor these efforts on a dashboard and evaluate them periodically. In 2021, in support of these efforts we had a safety programme in place that was focused on reducing the number of incidents related to machine and electrical safety. Progress on the five principal safety risks (TOP 5) and all current actions to reduce those risks are discussed by the Executive Board periodically.

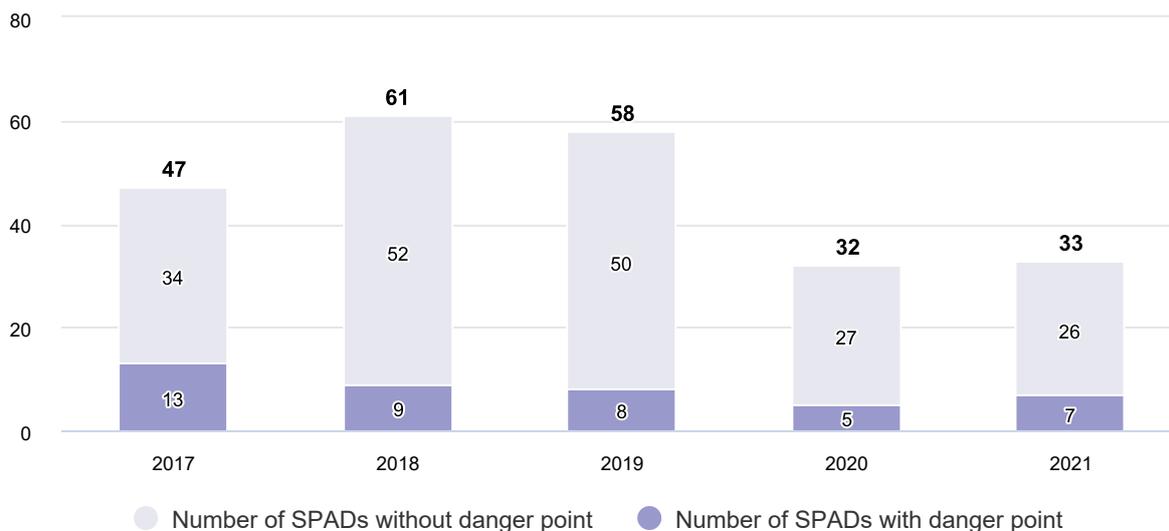
Railway safety

In 2021 there were 17 collisions, of which 16 at a level crossing. This involved 6 fatalities, of whom 5 at a level crossing. In response to a fatal rail accident at a level crossing near Hooghalen in 2020, NS and ProRail conducted an investigation. They published their joint conclusions and recommendations last year. NS has since begun adapting the colouring of the front of its SNG Sprinter trains, has formulated supplementary requirements regarding the collision resistance of the driver's cabin and is also examining escape routes for drivers. It remains NS's ambition to close all uncontrolled level crossings; we will continue our dialogue on this issue with the Ministry of Infrastructure and Water Management, ProRail and others.

The investigation into the accident near Hooghalen in 2020 has revealed that in certain conditions, heavy or long vehicles do not have enough time to cross a non-actively protected level crossing (NABO). This is why 25 of these NABOs will be closed and another 4 will be protected.

Signals passed at danger (SPAD)

In 2021, a total of 33 SPAD (signal passed at danger) incidents were registered. This is comparable to the number in 2020 (32) but much lower than in 2018, when 61 SPAD incidents were recorded. In 7 cases the train reached a danger point, such as a switch (2020: 5). NS's target is 0 danger point SPADs. Once again, this result can probably be attributed to a combination of measures, such as the stricter braking criterion (technical enforcement of more powerful braking when approaching a red signal) for VIRM and ICM trains, ORBIT (a system that warns drivers when they are approaching a red signal too fast) and TimTim/RTA (route information), and factors such as reduced pressure on the transport process as a result of an adapted timetable.



DDZ back in service

On 3 December 2020, NS decommissioned all 49 DDZ trains for an indefinite period of time. This decision was based on a study in response to reports from employees on our trains on operational instability of DZZ rolling stock when run at higher speed. A technical investigation revealed that the braking system of DDZ trains causes wear and tear and deformation of the wheels. To prevent this from happening, we adapted both the braking system and maintenance practices and set up a monitoring system. The new braking system was extensively tested in the second half of 2021. Based on the insights gained from these tests, an integrated risk analysis of the measures to be implemented and regulatory compliance tests by external authorities, NS decided to redeploy the DDZ from the end of 2021 in phases.

Safety is an integral part of major changes

When implementing innovations, renovations and changes NS always maps out the risks involved for railway safety, and takes and monitors control measures. The main risks in terms of railway safety are collisions, fire, derailment and passengers falling under a train or being squeezed between a train and a platform. In the context of major changes, safety and the Human Factors (HF) discipline are integrated into the development process from an early stage, in terms of costs and lead times. NS incorporates HF in the design and development of innovations and in the design and implementation of HF-related policies. In addition, HF is applied in designing the interaction between people and technology within the framework of Automatic Train Operation (ATO) and in initiatives such as the Technically Controlled

Departure Process (TGV). Another example is ERTMS, the programme that NS worked on in 2021. We assess the impact of these programmes on the safety of the transport system in order to make sure the safety level at least remains equal. In addition, HF has been taken into account in the requirements for new rolling stock and the assessment of user processes for ERTMS.

ORBIT

The ORBIT system warns train drivers when they are approaching a red signal at too high a speed. As such, the system can prevent signal passed at danger (SPAD) incidents. Since mid-2018, all Intercity trains have been equipped with ORBIT. In 2021, we finalised the installation of ORBIT in the last rolling stock series, Flirt and SNG. This means that all Intercity and Sprinter trains on the main rail network now have ORBIT. NS also conducted an exploratory study into the use of ORBIT data to detect weaknesses in the system and demonstrate its effectiveness. This has improved our insight into the circumstances that potentially result in SPADs. The data analysis has also revealed that both ORBIT and the stricter braking criterion have had a positive effect on railway safety.

Adapting the braking criterion

Back in 2017, NS decided in principle to impose a stricter braking criterion for IC rolling stock. In 2021, we successfully converted our VIRM trains. The conversion of ICM trains is on schedule: we have completed the conversion of the ICM-3 and ICM-4, and will start conversion of the ICM-1 and ICM-2 in 2022. We have also started converting our DDZ trains. In addition, in 2020 we decided to also apply a stricter braking criterion for our Sprinter trains. We expect to initiate this in 2022, starting with SLT-type Sprinters.

STM ATB

In 2021, the Ministry of Infrastructure and Water Management, NS and ProRail discussed the issue of an added functionality in STM ATB, a solution that uses transponders between the rails to gather and transmit train data. This technical solution substantially improves rail safety at relatively low costs. The addition of this functionality is of huge importance to NS in its efforts to curb risks as much as possible. The Ministry is now assessing this in the relevant policy context with a view to adding the functionality concerned. Talks between NS, ProRail and the Ministry are ongoing.

Safety culture

NS aspires to further develop its proactive safety culture and join forces to create a safe working environment. We do so by listening to each other, being open about safety levels and being aware of the risks involved in our work and our working environment. During the national Safety Week in October, we highlighted the importance of safety and a safety culture. We also conducted our third safety culture measurement in 2021. The results show that the safety culture is becoming more and more proactive. Both within separate teams and within NS as a whole, agreements are being made on targeted campaigns to further develop and strengthen our safety culture.

Cybersecurity

In order to fend off increasing cyber challenges, NS is continuing its efforts to further develop a mature IT (information technology) and OT (operational technology) cybersecurity organisation. In 2021, the Information Security Management System (ISMS) was updated in response to changes in the threats facing us. In addition, we conducted company-wide risk analyses of IT and OT processes and of high-risk incidents. We also began preparing the implementation of the Networks and Information Systems (Security) Act in 2022. Implementing our cybersecurity road map has also helped us introduce the necessary measures to mitigate the risks and prepare for current threats.

In 2021, NS took part in a large-scale cyber exercise organised by the National Cyber Security Centre and the National Coordinator for Counterterrorism and Security (NCTV). This exercise involved the national government and organisations in vital infrastructure joining forces on the basis of a crisis scenario. Drills such as these make it possible to act faster and more effectively in times of a real digital crisis.

Attractive and inclusive employer



The theme of the 2021 Children's Book Week was 'Becoming what you want to be'. NS guards, train drivers and members of Safety & Service staff visited primary schools to read to children.

Crucially, NS needs skilled and healthy employees to put its strategy into practice. Over the past year, our employees were confronted with a range of new challenges. The transformation of NS has far-reaching effects on our employees. We found new ways of remaining inspired in remote working contexts, retaining our professional expertise, developing talent and leadership and encouraging the inflow of new talented people so as to emerge from the crisis as a strong and agile organisation.

Our sustainable spearheads

Providing equal opportunities to all employees



Creating sustainable jobs for colleagues with disabilities



Inflow and outflow of employees with a migration background



Our employees

- Number of employees in the Netherlands at year-end 2021: 18,897 (17,071 FTE) (2020: 19,305 and 17,461 respectively).
- Share of women: 31% (2020: 31%)
- 71% full-time and 29% part-time employees (2020: 71% and 29%)
- 91% on an open-ended contract and 9% on a temporary contract (2020: 93% and 7%).
- Average age: 45 (2020: 45)
- Flexible layer: 5.3% hired personnel (2020: 4.7%)

NS as an employer

NS is one of the largest employers in the Netherlands. We aspire to remain one of the most attractive employers in the country. In 2020, we came 14th in the top 15 of Intelligence Group's ranking of favourite employers (2020: 15th).

Recruitment

Over the past year, NS recruited 3,729 new employees, of whom approximately 3,190 were offered a permanent contract. 37% of all vacancies were filled by internal candidates (2020: 43%). In 2021, NS had a flexible layer of hired personnel that represented 5.3% of the workforce (2020: 4.7%).

In 2021, we filled 2,074 vacancies for people with vocational qualifications and 1,080 vacancies for graduates of applied sciences and research universities (2020: 1,155 and 879), including 266 guards, 467 train drivers and 84 Safety & Service staff. In 2021, we also hired 13 trainees and 12 operational management trainees. The hiring desk filled 593 temporary positions with hired professionals. We offered work placements for 524 students. Selection interviews were conducted in digital form in 2021, as in the previous year.

All new employees are offered an onboarding programme, including the online '100% NS Day', which introduces them to the company and its people.

Diversity and inclusiveness

NS believes it is essential to work with a rich diversity of people and views in terms of age, experience, background, gender, sexual orientation and character. We offer a business environment in which everybody is welcome. At NS, we ensure equal opportunities for all employees to develop their talents to the full, as part of our effort to create an open, safe and inclusive environment. We strive to reflect society at all levels; to that end we encourage programmes to attract and retain female employees, employees with a migration background and employees with occupational disabilities. We also expect our suppliers to support these goals, as reflected in our [Supplier Code of Conduct](#).

Women at the top

At year-end 2021, women filled 36% of senior management positions at NS (2020: 37%). At that moment, 50% of the members of the Supervisory Board were female and the Executive Board had two female members (40%).

Equal pay

A study in 2021 reconfirmed that there is no pay gap between men and women at NS. Factors such as the number of contact hours and age were taken into account in the study.

Staff with occupational disabilities

In 2021, there were 131 people in 'social responsibility jobs' at NS (2020: 119), of whom 108 had an employment contract at the end of December. As people worked from home for much of the year and due to the labour market shortages, it proved quite a challenge at some points in time to attract and properly guide colleagues with an occupational disability. At the end of 2021, 18 job vacancies had not yet been filled. In early 2021 we launched a new approach to attract and guide colleagues with an occupational disability for technical jobs. This also involved the opening of a special production department, 'De Kabelstraat', at the Haarlem maintenance centre. This department is part of the regular production process. Employees receive special guidance and are offered opportunities to develop their talents and build a career. We also apply the 'special talents' concept in our retail formulas. Our two internal job coaches provide personalised guidance programmes for employees and their managers.

Staff with a migration background

In 2021, we continued stimulating the inflow and promotion of employees with a migration background, for example by running a new recruitment campaign with role models, installing a diversity committee, rolling out procedures for anonymous application and unprejudiced selection, and organising workshops to raise awareness. We have also intensified our collaboration with Agora Network and the ECHO Foundation, for example by launching a mentoring programme. These efforts have resulted in a larger share for members of this group of employees in all sections of the organisation, although we are still short of the desired level.

In collaboration with the UAF foundation, we gave four asylum permit holders the opportunity to gain work experience with NS. In addition, ten NS employees acted as mentors for ten UAF clients to help them improve their chances on the labour market. We are also encouraging the intake of migrants in regular job vacancies and traineeships through intensive cooperation with UAF, the Dutch Council for Refugees and municipalities.

Learning at NS

In a rapidly evolving work environment, NS is encouraging its employees to join further training programmes and keep developing themselves both within and outside their own jobs. This will also enhance their long-term employability. At our NS Learning Centre we train new employees ourselves or facilitate their training via our Regional Training Centre (ROC) partners. In addition, we ensure that the professional expertise of all colleagues remains up to date and help them acquire new knowledge and behaviours. To this end we apply various learning strategies, both in classroom and in digital formats, whichever is the most effective. In 2021, NS invested over €17 million in these training programmes and other educational interventions. Over the past year, training programmes (in the Netherlands or abroad) could not go ahead or only in a much reduced version.

Focus on professional expertise

In 2021, we continued and further intensified our collaboration with several schools for senior secondary vocational education. We recruited 50 new train drivers via the train driver programmes at the Amsterdam ROC, Twente ROC and the Shipping and Transport College (STC). In addition, 141 ROC and STC students did their work placements at NS as part of their train driver vocational training programme.

In collaboration with MBO Amersfoort, 9 new students started training to become main guards at NS. Within NS 186 main guards, 65 Safety & Service employees and 190 train drivers successfully completed their internal basic training programmes.

Rolling stock technology and TechniekFabriek

At the end of 2021, 41 students (24 first-year and 17 second-year students) were doing a two-year apprenticeship in Mechatronics at TechniekFabriek (the 'technology factory'), the institute for general secondary vocational education for current and prospective train mechanics. Last year, 15 students from TechniekFabriek moved on to a job within NS. We also launched a partnership with the Randstad employment agency for the joint training of technical talents.

Retail training

NS also runs its own senior secondary vocational education programme known as Stations Retail. This tailored programme trains employees in combining speed and quality of service, which is essential in view of the fact that passengers generally spend little time at the station. In October, 27 students were awarded their diplomas. In September 2021, 30 new students embarked on their 'Principal Seller' or 'Retail Manager' training programmes.

Careers

NS enables employees to control their own careers. In 2021, 357 colleagues completed a career orientation programme (2020: 394). We provide information about career opportunities and support through the Careers Platform, including ZIN Loopbaan Coaching, a new self-scanning tool for 21st century skills and a Careers Map that allows employees to explore suitable new positions based on their current roles.

In the event of organisational developments that have consequences for staff, NS ensures they receive guidance from an early stage in finding new employment within or outside NS. We do this to prevent redundancies. Within Retail, we introduced a Career Coaching pilot in 2021 to identify needs among our employees and the career-related questions they have.

In 2021, 1,438 employees came under the anticipatory job mobility measure. Of this group, 410 employees took part in a guidance programme offered by NS. In total, 457 employees were able to find employment within NS or elsewhere during their anticipatory job mobility period.

Over half of all redundant employees found another job within the period in which they received guidance. NS also provides guidance for its employees in connection with re-integration and outplacement. A large proportion of re-integrating employees eventually return to NS either in their own (possibly adapted) job or in another capacity.

Employee participation and industrial relations

Consultations with employee participation bodies in 2021 were dominated by the various change programmes resulting from the transformation. Of course they also dealt with the regular annual advisory and consent procedures in which the employee participation bodies are involved.

In February 2021, NS and the trade unions agreed on a new CLA which also covers the Social Plan, pension arrangements and an employment guarantee. The term of the new CLA runs from 1 April 2020 to 1 July 2022. The Social Plan and the employment guarantee will remain in effect until 1 January 2025.

Employee participation elections for the 2021-2024 period were held in September. To make sure that the employee participation bodies are well equipped to perform their duties, their members attended introductory training programmes in October.

On 22 September 2021, employees of Service Stations and Train Managers of IC Brussels downed tools in response to a call to that effect by the trade unions. Talks between NS and the unions resulted in an agreement later in the autumn.

Work perception

Since late 2020, NS has conducted monthly surveys to gauge work perception among a sample of NS employees under the title 'Continu luisteren' (Non-stop Listening). In the work perception survey, the employees' average score for their work at NS is 7.3 (out of 10). These monthly surveys provide us with regular insight into work perception levels among our employees, enabling us to take remedial action faster, if necessary. 'Continu luisteren' supplements the employee engagement survey, which is held once every two years.

A vigorous organisation, and absenteeism

The sickness absence rate at NS was 6.9% in 2021 (2020: 6.6%). Even when adjusted for COVID-19, sickness absence at NS shows a rising trend. This is the result of higher absenteeism due to psychosocial issues, and the fact that an ageing population will necessarily result in more long-term absenteeism.

Over the past year, NS also focused on increasing employee vitality. Measurements will give us a better understanding of the mental and physical health of our people, and of the underlying factors at play. These insights will serve as a basis for targeted actions to make the organisation more vigorous and prevent absenteeism. At NS, the frequency of people reporting sick is below the national average. However, the number of people that do *not* report sick at least once a year is also below the national average. Long-term absenteeism due to illness is high. The new occupational health and safety office Arbo Unie, supported by specially appointed case managers and managerial staff, will provide more intensive guidance, and at an earlier stage, in cases of actual or threatened long-term absenteeism.

Leadership at NS

We aim to further improve results, digitise faster and respond faster and more flexibly to changes in our environment. To achieve these objectives, NS needs to become a more agile mobility company. This is why the focus in our transformation is on cost savings, improved result-oriented strategies and long-term behavioural change. Our leaders play a crucial role in realising this transformation, so it is important to inspire them, connect them, strengthen them and support them in leading the change process. For this reason, in 2021 we developed the 2021-2025 leadership strategy and organised three leadership sessions, each of which focused on current issues, the state of the transformation process and leadership – at the individual, team and organisational level. The transformation leaders move the process forward, acting as drivers, figureheads and ambassadors of transformational change.

In 2021, we continued our strong focus on promoting the current leaders and preparing the leaders of the future. In doing so, we aim to increase diversity in senior leadership positions and in our succession planning strategy. We have already identified potential successors for staff in key positions for the short and long term, and we conduct succession planning reviews three times a year. The current shortages on the labour market have made us all the more aware of the need to retain our leaders.

Leadership development

Employees who aspire to and qualify for managerial positions can count on support and a range of in-company leadership development programmes. For example, we started a management programme this year with a new group of 28 candidates, helping them to get started in key positions successfully.

Long-term behavioural change

One crucial success factor in the transition to a smaller and more agile organisation is the realisation of a collective change in behaviour. In this connection, NS intends to encourage three specific types of behaviour: showing audacity, speaking our minds and calling others to account, and embracing change. This is why our leaders, supported by change consultants, are creating a context that invites employees to show these behaviours. For that purpose, all business units have developed a plan of action that will cover several years.

Performance on sustainability



The Upcycle Shop at Utrecht CS sells new products that give old NS materials a second lease of life. Examples include an overnight bag made from public transit bike tyres or serving trays crafted from old journey information displays.

NS is the most prominent social provider of sustainable mobility and intends to retain that position. To that end we pursue a zero-emission, circular and green business strategy. In addition, we are working to make our product truly accessible and make NS a truly diverse and inclusive organisation. We aim to contribute to the Paris Agreement on Climate Change (CO₂ reduction), the UN Convention on the Rights of Persons with Disabilities, the UN Sustainable Development Goals and the European Green Deal.

Public transport as a sustainable choice



NS provides climate-neutral transport options which include travel by train, OV-fiets public transport bicycles and train replacement bus services. By doing so, we enable passengers to make sustainable travel choices and contribute to the realisation of the ambitions laid down in the various climate agreements. Initiatives to help more passengers and colleagues make sustainable choices include the following:

- supporting the Anders Reizen Coalition and encouraging employers to promote sustainable modes of transport among their employees;
- adapting our own internal policies regarding air travel and banning all flights to destinations within a radius of 700 km;
- abandoning the lease car policy for new colleagues and replacing the rest of our fleet with electric cars;
- making it easier for passengers to book international train tickets.

Climate-neutral transport

NS is one of the largest electricity consumers in the Netherlands. We use 90% of that energy for running the trains and 10% for operating our stations, offices and workshops. Since 2017, we have provided climate-neutral rail transport by purchasing as much new green electricity from wind farms for our trains as we consume, over the year as a whole.

In addition, in 2019 we launched an initiative to make our train replacement bus services climate neutral using renewable fuels made from waste and residual flows. In 2021 we also managed to eliminate a small backlog that had arisen in 2019 following start-up problems and had not been fully compensated due to the huge impact of COVID-19 on touring car services.

Carbon emissions

At the start of the franchise in 2014, we emitted 77 kilotonnes (scope 1) and 487 kilotonnes (scope 2) of CO₂. Largely by means of a green power purchasing policy, we have been able to reduce these emissions to zero in recent years. Since the start of the franchise we have cumulatively avoided 3.3 megatonnes of carbon emissions in this way. While we are proud of this achievement, we also aspire to reduce our emissions in scope 3. To realise this ambition, in 2021 NS signed up to the Science Based Targets initiative. The reduction targets we plan to submit within this context will be approved in 2023 at the latest.

The table below presents CO₂ emissions in scope 1 and scope 2 caused by running trains and train replacement bus services per passenger-kilometre. The top part shows that our emissions are zero. We are able to report zero carbon emissions here thanks to the purchase of green power and renewable fuel. This is how we are able to provide climate neutral transport on an annual basis. The bottom part shows our emissions if all our trains run on grey electricity and our buses on fossil diesel. The increase visible in the bottom part for 2020 and 2021 relative to 2019 is caused by the fact that our trains carried fewer passengers.

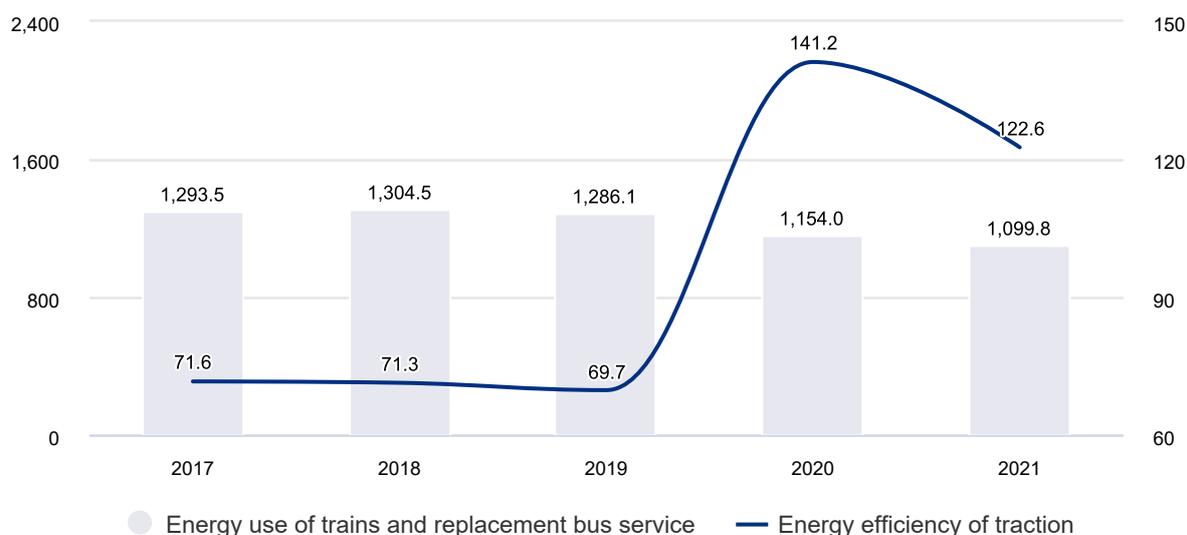
	2017	2018	2019	2020	2021
Grams of CO₂ emissions per passenger kilometre					
Including effect of purchase of renewable energy	1	0.4	0.3	0	0
Of which scope 1 (Fuel for buses)	0.4	0.4	0.3	0	0
Of which scope 2 (Electricity for trains)	0.5	0	0	0	0
Grams of CO₂ emissions per passenger kilometre.					
Excluding effect of purchase of renewable energy	38.8	39.7	38.6	79.2	72.3
Of which scope 1 (Fuel for buses)	0.4	0.4	0.3	0.6	0.5
Of which scope 2 (Electricity for trains)	38.4	39.3	38.2	78.5	71.9
Passenger kilometres in the Netherlands (in billions)	18,277	18,535	18,896	8,258	8,630

We already purchase as much green power for our buildings as we consume. In addition, all the gas we have purchased since 2020 comes from green sources. This means that in 2021, NS buildings no longer generated any direct emissions (scope 1). Indirect carbon emissions (scope 2) as a result of the consumption of heat in our buildings amounted to 0.3 kilotonnes (2020: 0.4 kilotonnes).

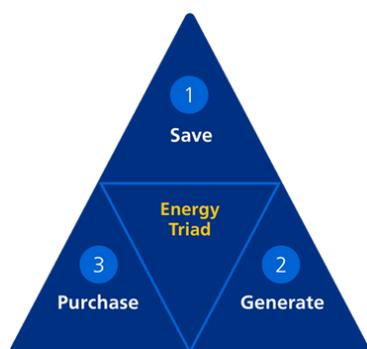
Energy consumption

NS consumes electricity (1,144 GWh), HVO (hydrotreated vegetable oil) diesel (1.6 million litres), heat (20.6 TJ) and gas (5.9 million m³) for trains, buses, stations, workshops and offices. This works out at a total of 1,215 GWh of energy. With our thermal storage system, we generate the equivalent of 21 GWh of heat and cold at six stations.

At NS, we use the term 'energy efficiency of traction' to refer to the energy consumption of our trains per passenger-kilometre. The diagram below presents the energy efficiency of traction plus the total energy consumption of our trains (including train replacement bus services). Passenger numbers have not yet returned to their pre-COVID-19 levels. This is why we consumed more energy per passenger-kilometre in 2019. In 2021, energy consumption per passenger-kilometre was 122.6 Wh.



Zero-emission enterprise



NS has offered climate-neutral transport services since 2020. Our next ambition is to achieve zero-emission operations by 2040. We will realise that ambition once we are able to use green energy at any moment without depending on energy from fossil sources at times when there is no wind. To that end, we save energy wherever we can, use our own lands and buildings to generate sustainable energy as much as possible and purchase our energy from zero-emission sources.

Saving energy

Over the past few years, NS has taken measures to become more energy efficient.

- We apply energy efficiency as a key criterion in the replacement and renovation of trains, for example by making climate control systems on the trains more energy-efficient.
- Capacity utilisation rates of our trains and buildings were high in pre-COVID-19 times. We are working hard to restore these levels.
- Together with lessees at our stations, we are taking a range of energy-saving measures, such as more energy-efficient equipment and doors to close off cold storage sections.
- Technical tools to help train drivers adopt energy-efficient driving practices.
- We are conducting studies and developing road maps to reduce energy consumption by buildings and trains.

Sustainable generation of energy and 'greening' our real estate

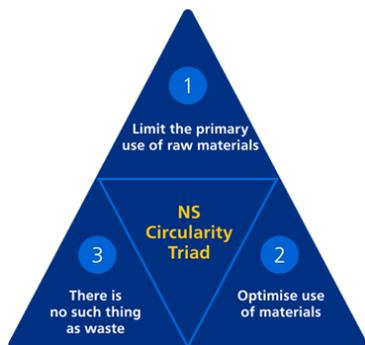
NS uses its buildings and lands for the generation of sustainable energy. For example, in Amsterdam we have made land available for the Nieuwe Hemweg wind farm. This facility, which has been operational since July 2021, generates an output that can sustain over 10,000 households. We are now also making our stations, workshops, offices and other real estate 'Paris proof', i.e. minimising their energy consumption per square metre in order to make them comply with the Paris Agreement on Climate Change.

Purchasing zero-emission energy

In 2021, NS started preparations for a new traction energy contract that is to take effect in 2025. We held market exploration talks and organised a stakeholder dialogue in collaboration with several NGOs.

The new contract is one of the biggest energy contracts in the Netherlands, equalling 1% of the total Dutch energy consumption. The current contract with Eneco, which commenced in 2017, qualified as future-oriented at the time due to NS's requirement that the sustainable power should be generated by wind farms that had not yet been built (the additionality principle). However, when there is no wind our trains still run on back-up capacity from fossil sources. At present, we depend on this back-up capacity for approximately 40% of the number of hours concerned. In partnership with Eneco, NS examined ways to reduce this percentage using demand-side management, generation management and storage. In a pilot project it was determined that an optimum mix of wind and solar energy would reduce NS's dependence on fossil back-up capacity to approximately 30% of the hours concerned, compared with 40% based on wind-only sources.

Circular enterprise



NS aspires to achieve full circularity in 2030 in terms of procurement, maximum reuse of materials and zero waste in offices and workshops and from trains.

Limiting the use of primary raw materials

Applying circularity principles in design and procurement will enable us to become even smarter in the use of materials and in reducing the use of primary raw materials. In relevant tendering procedures for materials, we include circularity as a criterion in the selection and award phase. This year, NS has taken steps to improve its insight into the circularity of all materials that enter the organisation. We use the CTI measurement method for this purpose, which was developed by the World Business Council of Sustainable Development (WBCSD). In collaboration with suppliers, we collect information about incoming materials to measure their circularity and favour circular purchasing based on used, recycled or easily renewable raw materials. In 2021, NS measured 49,000 tonnes (66%) of incoming materials. Of this amount, 91% was found to be circular. This percentage can be largely attributed to the construction of the shunting yard in Arnhem, a project that involved large-scale use of circular materials, such as used sleepers and ballast. In 2022, we will scale up the circularity measurements of purchased materials and integrate them into our standard purchasing processes.

Optimum use of materials

We take good care of our materials by focusing on effective maintenance and timely repairs so as to extend their service life. After twenty years of service, our double-decker trains are upgraded so that they can serve another twenty years. In 2021, the follow-up for VIRM1 trains has begun with the upgrading of 44 double-decker trains of the VIRM2/3 model. In this project we upgrade 85% of 20-year-old train components and reintegrate them in our trains for another twenty years of service. Of all materials, we put 13% to new uses elsewhere. In total, 99% of each VIRM2/3 train is given a new lease of life. For this project, Circular Train Modernisation, NS received the 2021 Circular Award.

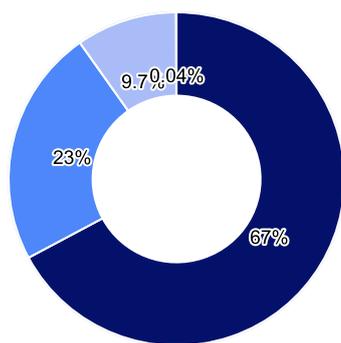
That same year saw the exit of 157 carriages and 292 bogies of the 45-year-old SGM Sprinter trains. Before a train is decommissioned, mechanics remove all valuable components that can be used in operational SGM trains or for reuse in other series. For example, following a minor modification the wheel sets can be fitted under our ICM trains. We also dismantled 800 train windows from the SGM series and used them to build a bicycle parking facility near Eindhoven station.

There is no such thing as waste

If we have no further use for products and cannot reuse them, we still want to keep them in the cycle as high-value materials. We first try to find a new destination for the product as a whole. If that proves impossible, we find a new destination for separate components. If materials cannot be reused, we separate them for recycling purposes as effectively as possible. For example, in 2021 we sold 28 DM90 carriages and 2 SGM carriages. This enabled us to prevent 1,436 tonnes of waste and to give 30 carriages a new lease of life. In addition, we use old train components to make new products. For example, 45-year-old public announcement speakers from our trains are turned into bluetooth living-room speakers. Old floorboards, seats and ceiling panels from our trains are converted into items of furniture. In 2021, we opened an Upcycle Pop Up store at Utrecht CS for the fifth time, where we sell new products made from old NS materials. We also opened the first Upcycle Pop Up store at Leiden station. This enabled us to demonstrate, with our Upcycle partners, that there is no such thing as waste, that materials are valuable and deserve to be reused.

In addition, we found new destinations for old or redundant NS materials by auctioning them, and sold others via DB-Resale work platforms. In total, we repurposed 25 tonnes of materials for high-grade uses.

Outflow results



- Recycling (16,109 tonnes)
- Incineration (5,484 tonnes)
- Reuse (2,322 tonnes)
- Dump (9 tonnes)

Promoting the sharing and worldwide upscaling of knowledge

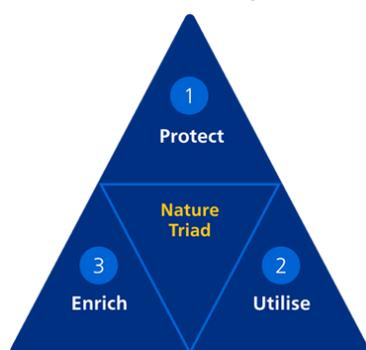
We have learnt lessons from the circular modernisation and dismantling of our trains and translated these lessons into specifications for the acquisition of new trains. We are now scaling up these specifications at the European level. In addition, this year NS took on the role of co-chair of the UIC 'Circular Economy' Sector Group so as to promote a circular railway sector worldwide by 2035 in a joint effort with carriers and infrastructure managers.

Zero-waste stations by 2040

In recent years, we have gained a great deal of experience with reducing and separating waste at our stations. The Green Deal waste reduction and recycling targets proved to be unrealistic for the public spaces at our railway stations. Due to the many different types of packaging and other waste and the absence of standardised waste collection procedures in public spaces, a lot of waste ends up in the wrong bins and cannot be recycled for that reason. This is why we have decided to opt for simple and recognisable waste flows, for a

focus on stations where the greatest impact can be achieved and for post-separation of residual waste. This approach enabled us to achieve a waste separation rate of 36% at our stations and in our trains in 2021: a threefold increase since the Green Deal was launched. We use the insights gained to help us realise our ambition, together with ProRail and the Ministry of Infrastructure and Water Management: zero-waste stations by 2040. We focus on preventing waste, making packaging materials more sustainable, collecting returnable packaging materials and optimising and further developing our waste separation policy. As one of the first organisations in the public space, NS is going to install collection machines for returnable PET bottles at several large stations. A tendering procedure for such machines was launched in 2021 and will result in the award of a contract and the supply of the first collection machines in 2022.

Green enterprise



Protect

Together with ProRail, we carefully maintain or replace plants and trees on the 65 hectares of green areas at and around the stations. We fight exotic species by introducing natural predators where possible, for example by providing nest boxes for great tits to control oak processionary caterpillar populations. In 2021 we started an inventory of the 'other grounds' of NS, studying their ecological value and how it can be protected and enriched. We will use the resulting recommendations to take the first concrete steps in that direction in 2023.

Utilise

Climate change is confronting us with more extreme weather conditions, such as flooding and extreme heat. Additional green spaces may provide a solution to some of those problems. For example, we can plant trees to avoid heat stress and benefit from natural drainage features ('wadis') and green roofs to catch and absorb rainwater. For example, in 2020 we planted veteran trees at a number of stations.

Enrich

The use of more plant species suitable for the local environment will increase biodiversity. In 2021, we did this at a number of stations, planting new prairie species and perennials and sowing mixed flower seeds.

NS: a sustainable brand

In 2021, NS came sixth in the 'Monitor Merk & Maatschappij' survey (2020: fifth). This means we have achieved our objective of securing our position in the top 10. Sustainability plays an ever more prominent role in society and in consumers' choice for the train above other means of transport. More than one third of consumers (36%) said the COVID-19 crisis prompted them to make more conscious and sustainable consumption

choices, compared with 30% in 2020. The share of consumers for whom environmental considerations and the socially responsible character of NS were the main reasons for favouring the train increased from one third in 2020 to nearly half in 2021. Even so, when it comes to the perceived sustainability of different means of transport, electric cars and e-bikes score higher than the train.

Sustainable procurement

Every year, NS purchases goods and services for an average of 1.1 billion euros (2020: 1.1 billion euros). In 2021, we had ties with over 3,000 suppliers in 22 countries. Of our total purchasing volume, we obtain 80% from 117 suppliers; the largest share of that volume (97%) originates from the Netherlands and other countries in Western Europe. Purchased goods and services mainly include staff, financial and facility services, IT, construction, communication, energy, trains and transport.

Through its supplier policy, NS uses its position as a purchaser to encourage suppliers to make their products and services more sustainable. In this way, we make our suppliers contribute to our sustainability objectives. We have included our CSR requirements in the procurement governance rules and embedded them in our General Terms and Conditions of Purchase (www.nsprocurement.nl/en/) and in our Sustainable Third-Party Policy. We work closely with our suppliers and challenge them and other market players to submit innovative and sustainable bids. We use the following initiatives to steer procurement:

Embedding sustainability in procurement through tendering plans

One permanent consideration in our European tendering procedures is to include suitable sustainable selection and award criteria. Some examples:

- In addition to the requirement to make NS's energy consumption fully sustainable through the use of Guarantees of Origin, the tendering procedure for facility energy services now also includes wishes concerning the joint development of actions aimed to achieve zero-emission electricity consumption.
- The current tendering procedure for operational staff uniforms includes requirements and wishes with regard to the circular use of raw materials, return flows, recycling, zero-emission enterprise and social return.
- One of the award criteria in the tendering procedure for the transport of rolling stock was the availability of zero-emission services. The result is that the transport will be carried out using electric locomotives as much as possible, instead of diesel-powered locos. The intention is to use a hybrid locomotive with a battery from 2022.

Sustainable Third-Party Policy

Through our Sustainable Third-Party Policy, we encourage our suppliers to make their products and services more sustainable. We ask them to help us explore opportunities for zero-emission, circular, green and socially responsible business practices. In 2022, NS will launch a renewed policy for sustainable purchasing linked to the company's overall strategy. This will allow us to set clearer objectives in weighing sustainability targets against other targets.

Supplier assessments and Code of Conduct

We subject our major suppliers to a Corporate Social Responsibility (CSR) assessment. The parties represented in the Railponsible sector initiative jointly agreed on using Ecovadis as the standard for this purpose. The assessment covers the supplier's environmental impact, its labour and human rights record, its integrity and sustainable procurement. The required minimum score for this assessment has been gradually raised from 35 points in 2018 to 50 points in 2021.

Through our Code of Conduct, moreover, we expressly communicate to our suppliers the CSR standards and values that we apply to doing business with them. In cases of non-compliance with the Code, we enter into a dialogue with the supplier concerned and ask them to produce an improvement plan. In cases of serious violations, such as corruption, we will terminate the relationship.

SDGs

The SDGs (Sustainable Development Goals) are 17 goals that aim to make the world a better place by 2030, as agreed between all UN member states. NS contributes to these goals and has included several in its sustainability strategy. NS's vision reads as follows: 'Keeping the Netherlands accessible in a sustainable manner – for everyone.' With its sustainable enterprise strategy, NS has shown what this term, 'sustainable', actually means in practice. Our approach is based on five key focus areas: zero emission, circular and green enterprise, by everyone and for everyone. Together with our stakeholders we have identified the SDGs of particular relevance to them which could benefit from additional future contributions by NS. This has resulted in a list of nine SDGs which NS helps to advance. Five of those benefit from extra NS contributions through our sustainable enterprise strategy, while we promote the other four SDGs through our regular operations.



So what exactly is that contribution? To be able to determine this effectively, NS is examining ways of measuring and influencing our contribution to the SDGs. To that end, for each priority area of our sustainable enterprise strategy (*“NS onderneemt duurzaam”*) we identify the SDG sub-targets to which it contributes. The contribution to those sub-targets is measured using international indicators, which we then convert into measurable NS indicators. The table below presents these steps for each priority area of our sustainable enterprise strategy.

NS strategy	Contributes to these sub-goals of the SDGs	Impact on SDG sub-goal is measured by this indicator	How will NS measure its impact?	This is how NS knows its impact on SDG:
Zero-emission Enterprise 	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix	7.2.1 Renewable energy share in the total final energy consumption	→ % Matching power consumption with green generation	7, 9 and 13**
	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix	7.2.1 Renewable energy share in the total final energy consumption	→ Number of MWh generated on NS land/buildings	
	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix	7.2.1 Renewable energy share in the total final energy consumption	→ The number of m3 gas consumption	
	7.3 By 2030, double the global rate of improvement in energy efficiency.	7.3.1 Energy intensity measured in terms of primary energy and GDP	→ The energy consumption per passenger kilometre	7, 9 and 13**
	9.4 By 2030 upgrade infrastructure and retrofit industries to make them sustainable.	9.4.1 CO2 emissions per unit of value added	→ CO2 emissions per passenger kilometre	7, 9 and 13**
Circular Enterprise 	12.2 By 2030, achieve the sustainable management and efficient use of natural resources	12.2.1: Material footprint, material footprint per capita, and material footprint per GDP	Indicator under development*	12
	12.2 By 2030, achieve the sustainable management and efficient use of natural resources	12.2.2: Domestic material consumption, domestic material consumption per capita/GDP.	Indicator under development*	12
	12.4. By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle.	12.4.2 Hazardous waste generated per capita and proportion of hazardous waste treated	→ Kg of hazardous waste generated	12
	12.5. By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse	12.5.1: National recycling rate, tonnes of material recycled	→ % residual waste from NS waste	12, 13**
Green Enterprise 	12.2 By 2030, achieve the sustainable management and efficient use of natural resources	12.2.1: Material footprint, material footprint per capita, and material footprint per GDP	Indicator under development*	12
	12.3. By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses	12.3.1 Global food loss index	Indicator under development*	12, 13**
For & by everyone 	11.2 Provide access to safe, affordable, accessible and sustainable transport systems for all by 2030.	11.2.1 Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities	→ % main rail network stations with travel assistance → Independently accessible rolling stock: % of sprinter fleet	11
	11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities	11.7.2: Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence.	Indicator under development*	11
Sustainable Mobility 	9.1. Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	9.1.2 Passenger and freight volumes, by mode of transport	→ We annually measure the impact of NS on society by means of the True Value Model	7,9,11,12 en 13**.

* This will be measured using the Circular Transition Indicator. Once the zero measurement for this indicator becomes available in 2021, it will be possible to measure and manage circular performance.

** SDG 13 concerns creating policies to combat climate change and its impacts. For NS, creating policies is a relevant issue and a factor overall. SDG 13 does not contain a useful indicator for NS.

Our activities and achievements abroad

Abellio



Merseyrail is offering local schoolchildren a chance to take part in an art project at Seaforth and Litherland stations.

Abellio is a wholly owned subsidiary of NS and operates in the passenger transport markets in the United Kingdom and Germany. Abellio has generated revenue of € 3.7 billion. In 2021, the coronavirus pandemic continued to have an operational and financial impact on the public transport sector.

For the UK government, the situation prompted an accelerated decision to convert the current system of franchises into management contracts. Operationally and financially, it was a reasonable year for Abellio UK taking into account the special circumstances the operation faced. In Germany, operations continued to be loss-making in 2021. Because it was not possible to reach additional agreements with the most important franchising authorities, the company in Germany was forced to initiate insolvency proceedings on 30 June 2021 with the aim of restructuring its loss-making operations.

Abellio was founded to prepare NS for the liberalisation of the European rail market and help NS to achieve the objectives in the Netherlands. Since 2017, the focus has been on activities that contribute to the interests of travellers in the Netherlands, such as better connections with European cities and cross-border services. As a result of the sharpened focus and the developments in recent years in the [United Kingdom](#) and [Germany](#), NS has given consideration to its strategy for the presence abroad if the foreign activities do not contribute to this interest for passengers in the Netherlands.

Capital at risk

In 2016, NS agreed with the Ministry of Finance on a risk capital framework for its operations abroad. The framework stipulates how much capital at risk can be invested in the UK and Germany. In 2021, Abellio remained within this framework.

In essence, the framework prescribes an upper limit for the capital at risk that NS, as parent company of Abellio, may allocate to foreign operations through Abellio. This consists of € 500 million for invested capital (defined as NS share in Abellio equity) and issued guarantees (Box 1). The actual capital investment of NS for Box 1 amounts to € 298 million by the end of 2021, comprising capital contributions (€ 215 million) and guarantees provided by NS (€ 83 million).

Abellio capital at risk	2021	2020
(in € million)		
Paid-up capital	215	175
Reserves	-289	-133
Equity attributable to NS*	-74	42
Guarantees provided by NS	83	71
Guarantees called on (NS portion)	29	20
Total paid-up capital and guarantees (Box I)	298	246
Total PCS guarantees provided by NS (Box II)	484	455
<i>PCS guarantees drawn (NS portion)</i>	92	85
Total capital at risk	782	701
Of which drawn	336	280

Capital at risk for operations in the UK

An additional limit of € 500 million applies to the contracts in the United Kingdom for specific parent company guarantees that the franchise provider requires from the NS parent company (Parent Company Support – ‘PCS’). These guarantees can be regarded as a conditional capital contribution. This was partly taken up as a subordinated shareholder loan with the aim of supporting the operations of the franchises and meeting the required liquidity ratios. No capital contributions or equity investments are required at the start of a franchise. Shareholder loans drawn for investments during the franchise are relatively low because investments in rolling stock are financed via lease transactions for the duration of the contract.

The new management contracts concluded in 2021 for Greater Anglia and West Midlands are subject to a lower guarantee requirement (£ 12 million per contract) and have been provided at the Abellio UK level. NS will be able to further reduce the PCS guarantee for these franchises to € 0 in 2022, once the termination of the Greater Anglia and West Midlands franchise agreements has been finalised. The guarantees for the ScotRail and East-Midlands franchise agreements are expected to disappear after the termination of these franchises, expected during the course of 2023.

** The reserved capital increase related to provisional termination payments in the UK and was reversed in 2021 because these payments were set at a lower value and financed differently.*

Key figures per country

	Abellio UK (excl. Merseyrail)	Abellio Germany 30 June 2021
Number of Employees	16,053	3,114
Revenue (€ million) excluding intercompany	3,294	378
Number of railway contracts	5	9

The influence of the coronavirus on Abellio's operations

The coronavirus pandemic has affected the contractual, operational and ultimately the financial aspects of Abellio's operations.

In the UK, there was considerable uncertainty and low passenger numbers in early 2021, due to several lockdowns instituted by the UK government. After the start of a vaccination programme, society gradually opened up again and the confidence in public transport also returned. Some restrictions, such as the advice to work from home, were reintroduced in December. Due to the increased sickness rates, fewer staff were available for train services and the timetable had to be scaled down here as well. A recovery occurred from the end of 2021. Since January 2022, social distancing and the wearing of face masks are no longer mandatory in England.

In Germany, passenger numbers were also lower. The different federal states applied different measures to prevent the spread of the coronavirus. There was a fragile recovery in the summer, but at the end of the year it was a challenge to maintain the timetable due to higher absence owing to illness and quarantine obligations among driving staff. However, the direct financial effect of the coronavirus for Abellio remained limited because most passenger railway contracts are tendered as gross contracts. This means that passenger revenue risk is retained by the tendering Public Transport Authority and any subsidy received is based on the gross costs of the contract.

2021 financial results

Abellio Transport Holding B.V. (ATHBV) consists of Abellio UK (fully consolidated) and Abellio Germany (consolidated until 30 June 2021, the start of the insolvency proceedings). In 2021, Abellio achieved a turnover of € 3.7 billion, of which € 3.3 billion for Abellio UK (exclusive of the Merseyrail joint venture), and € 378 million for Abellio Germany. Turnover decreased by € 172 million in 2021 due to the deconsolidation of Abellio Germany since 30 June, partly offset by the increase in turnover in the UK of € 100 million as a result of an increase in the EUR/GBP exchange rate of almost 4 eurocents.

Abellio generated an EBIT contribution from ordinary operations of € 5 million and a consolidated positive EBIT result of € 387 million, as a result of non-recurring items: these consist of the partial release of coronavirus-related provisions made in 2020 for possible

termination fees and asset impairments in the UK. The amount of these provisions was significantly reduced in 2021. This effect is partly offset by a negative financial result for Abellio in Germany due to the provision made for guarantees and possible other liabilities related to the insolvency proceedings. The net profit attributable to NS amounts to € 81 million. A net profit of € 161 million is attributable to minority shareholders.

Abellio consolidated	2021	2020
<hr style="border: 1px solid red;"/>		
<i>(in € million)</i>		
Revenue (excl. 50% Merseyrail joint venture)	3,672	3,844
Impact of additional grant to continue to provide rail services in the UK	0	
EBIT before non-recurring items	5	43
Non-recurring items	382	-786
EBIT reported	387	-743
Net profit attributable to NS	81	-554
Net profit attributable to minority interests	161	-203
Net result for the period	242	-757

Abellio UK



A volunteer tends to flowers at a station on the Shakespeare line in the West Midlands.

Reforms in the sector

In May 2021, the British government published the long-awaited White Paper on major railway reforms. This so-called 'Williams-Shapps Plan' for UK Rail has far-reaching consequences for the railway sector, including Abellio.

According to the plan, railways in the United Kingdom will come under one new supervisory body: Great British Railways (GBR). GBR will own the infrastructure, receive the fare income, run and plan the network, and set most of the fares and timetables. Network Rail will be included in GBR. GBR will produce a long-term plan and will be accountable to the government. In order to decentralise decision-making, GBR's regional divisions will work together with local authorities to enable local and regional authorities to do more themselves.

The new GBR aims to achieve tangible results in terms of fares, ticket sales and the shops. The fares and the season tickets will be simplified. There will be straightforward, uncomplicated payment options for every journey, with digital tickets available throughout the network. The option of paying per journey is being extended outside London to make train travel easier.

The plan also sets out a 30-year investment strategy with priorities such as digital signalling and the reduction of CO₂ emissions.

The White Paper also lists £ 1.5 billion of annual cost savings in the UK rail sector.

For rail operators, the next generation of Passenger Service Contracts (PSCs) is an important part of the Williams-Shapps Plan. Although the plan stipulates that the rail operators will play a role in this, the details of the PSCs, the risks, the compensation and the incentives are yet to be agreed upon.

Abellio UK will contribute to the financial sustainability of the sector by means of its available skills and expertise. The priorities are cost management, revenue growth, customer service and railway operations. To this end, attention should be focused on specific sector-wide training programmes, a comprehensive review of fares and ticketing, cost-effective infrastructure delivery, a national rolling stock plan and timetable reform.

Public investment

The number of rail passengers in the United Kingdom increased during the year. In the autumn, however, the numbers decreased again, partly as a result of the government's advice to work from home. The government contribution to the railways will be capped at £ 5.7 billion over the next three years, while emergency funding since the first lockdown in March 2020 amounted to £ 12 billion. In the short term, the prospects for passenger numbers remain uncertain. It seems, however, that passenger behaviour has been permanently altered by the pandemic. In order to get the passengers back, a nationwide advertising campaign was launched in the summer of 2021. This lasted until the autumn when restrictions were once again introduced. Abellio also introduced new flexible season tickets in 2021.

To strengthen the regions, the UK government is allocating £ 5.7 billion over the next five years to modernise local transport networks in urban regions, with Manchester, Liverpool and the West Midlands benefiting from new schemes. In addition, a further £ 1.2 billion will be made available for cheaper and more frequent bus services. For Abellio Bus, Abellio UK continues to look for franchising opportunities in regional areas outside London.

New contract forms

Throughout the year, Abellio UK negotiated contracts with the UK Department for Transport (DfT) and Transport Scotland (TS).

Greater Anglia and West Midlands

Greater Anglia and West Midlands signed a National Rail Contract in 2021. This is a management contract whereby the British government assumes the majority of the revenue and cost risks and finances the investments of the operators. This is therefore different from the current franchise agreement. These NRCs are effective from 19 September 2021

and have a term of five years, until September 2026. The Department for Transport has the option of applying a cancellation clause after three years. The transport companies receive a fixed management fee of approximately 0.5% of the operational costs for running train services, plus a performance fee of up to approximately 1.5% of the operational costs. This is linked to various performance indicators in the field of customers, operational and financial aspects, business management and investments.

The NRCs replace the ERMAs in Greater Anglia and West Midlands, thus formally ending the franchise agreements, which were no longer viable due to the pandemic. The Parent Company Support (PCS) guarantee that was required in the franchise agreements will be replaced by substantially lower guarantees totalling £ 12 million per NRC.

As a condition of switching to NRCs, Abellio UK reached an agreement with the Department for Transport on termination fees for the franchise agreements with West Midlands paying £ 90.5 million (NS share 70% - £ 63.4 million) and Greater Anglia paying £ 30.5 million (NS share 60% - £ 18.3 million). These amounts are significantly lower than the provision of approximately £ 433 million included in the 2020 Annual Report, which was based on preliminary calculations by the DfT. The reduction is a significant factor in Abellio UK's total 2021 profit.

East Midlands

East Midlands is still operated on ERMA land. No termination fee has to be paid when the underlying franchise agreement expires. In September 2021, the Department for Transport extended the East Midlands ERMA until 16 October 2022. It was initially to end on 31 March 2022. East Midlands is expected to be covered by an NRC with a basic duration of four years and a possible extension of another four years from 16 October 2022. The award process is currently ongoing.

ScotRail

In March 2021, the Scottish government announced its intention to transfer ScotRail's operations to a public operator on 1 April 2022, the date on which ScotRail's current franchise agreement expires. The Abellio ScotRail contract will therefore be terminated, but we are pleased that the Scottish government has again selected the Abellio Shared Services Centre as the service provider for the new public operator, until January 2025. The current EMA expires on 27 February 2022, after which a Temporary Measures Agreement will be concluded with Transport Scotland, which will last until 31 March 2022.

UK rail franchises and bus services

Abellio operates five UK rail franchises and around 8% of London bus services with a combined revenue of approximately € 3.3 billion (excluding Merseyrail). The company operates East Midlands Railway, ScotRail, Greater Anglia as a 60/40 venture with Mitsui, West Midlands as an 85/15 venture with Mitsui (prior to 19 September 2021, West Midlands was operated as a 70/15/15 venture, with JR East also holding 15%. On 19 September 2021, Abellio acquired JR East's interest in West Midlands) and Merseyrail as a 50/50 joint venture with Serco, as well as a profitable bus company. Abellio Bus operates 764 buses on 49 routes in London, or 9% of the capital's market, for Transport for London (TfL).

Operator	Current contract	End date of current contract	Possible resolatory clause national railway contract
Greater Anglia (GA)	National railway contract	19 September 2026	15 September 2024
Merseyrail (MR)	Franchise agreement	20 July 2028	N/A
ScotRail (SR)	Franchise agreement as amended by the EMA	31 March 2022	N/A
West Midlands (WM)	National railway contract	19 September 2026	15 September 2024
East Midlands (EMR)	Franchise agreement as amended by the ERMA	16 October 2022	N/A

Key figures for Abellio UK rail franchises and bus services

Operator	Revenue (€ million)	Punctuality PPM	Number of stations	Number of trains/buses	Number of employees
Greater Anglia	675.4	94.8%	136	1,054	2,867
Merseyrail (JV)	189.3	97.1%	66	177	1,136
ScotRail	1,138.20	90.7%	359	1,092	4,960
West Midlands	714	88.1%	150	649	2,906
East Midlands	537	87.0%	103	402	2,294
Abellio Bus	266.8	-	-	764	2,446
Total operators	3,520.70	-	814	4,138	16,609
Abellio UK head office	1.8	-	-	-	185
Exclusion intercompany and JV	-228.4	-	-66	-177	-1,136
Consolidated (incl. head office, excl. JVs)	3,294.10	-	748	3,961	15,658

Operator	Passenger revenues (€ million)	Government contribution (€ million)	Other income (€ million)	Revenue (€ million)
Greater Anglia	313.7	253.9	107.7	675.4
Merseyrail (JV)	41.8	118.3	29.2	189.3
ScotRail	169.8	947.3	21.1	1,138.20
West Midlands	228.1	422.7	63.2	714
East Midlands	209.4	293.9	33.8	537
Abellio Bus	-	233	33.9	266.8
Total operators	962.8	2,276.20	288.9	3,520.70
Consolidated (incl. HQ, excl. JV)	921	2,150.80	222.1	3,294.10

Financial result

Abellio UK consolidated	2021	2020
(in € million)		
Passenger revenue	921.0	759.1
Government income	2,150.80	2160.0
Other income	222.1	180.6
Revenue (excluding Merseyrail)	3,294.1	3099.7
EBIT before non-recurring items	28.8	86.8
Non-recurring items	381.7	-701.8
EBIT	410.5	-615.0
Intercompany financial result*	-16.0	-15.9
Other financial results	-17.4	15.8
Profit before tax	377.1	-615.1
Corporate income Tax	24.1	0.5
Net result	401.2	-614.6
Minority interest	160.7	-202.8
Net result attributable to Abellio	240.6	-411.8
Capex investment (excluding Merseyrail)	12.5	0.2
Equity attributable to NS	-85.3	-295.1
PCS guarantees provided by NS	484.3	455.4
Other guarantees provided by NS	75.5	70.9
Total capital at risk Abellio UK	474.5	231.2
PCS guarantees drawn (NS portion)**	92.0	84.9
Other guarantees drawn (NS portion)	21.4	20.1
Total guarantees called on (NS portion)**	113.4	105.0

* Intercompany financial result consists of interest on shareholder loans and guarantee fees

** The PCS facility for Greater Anglia will be reduced to £ 100 million in the first quarter of 2022, with an NS share of £ 60 million (€ 71 million at year-end at an exchange rate of € 1.19/£ 1) and the PCS facility for West Midlands will be reduced to £ 77 million, with an NS share of £ 54 million (€ 64 million).

Operational performance

In the UK, there was an increase in services in 2021 compared to 2020: more trains were running and more passengers were being carried than in the earlier stage of the pandemic (from March 2020). Based on the ERMAs and NRCs, various performance indicators were introduced. However, the Public Performance Measure (PPM) is relevant to all TOCs (train operating companies) and remains a key performance indicator for them.

	Carrier	2021	2020	Trains per day
1	Merseyrail	97.1%	97.4%	442
2	London Overground	95.6%	94.8%	1.38
3	c2c Rail	95.1%	96.3%	271
4	Abellio Greater Anglia	94.8%	93.0%	1.068
5	TfL Rail	94.7%	95.7%	504
6	Chiltern	93.8%	94.0%	278
7	Transpennine Express	92.0%	89.8%	242
8	Southeastern	91.1%	91.9%	1.372
9	South Western Railway	91.0%	89.8%	1.346
10	ScotRail	90.7%	91.9%	1.613
	Average ALL TOCs	90.5%	91.4%	
11	Great Western Railway	90.3%	92.5%	1.256
12	Crosscountry	89.5%	90.3%	195
13	Northern Trains	88.9%	89.7%	1.996
14	London North Eastern Railway	88.5%	89.8%	127
15	West Midlands Trains	88.1%	88.5%	972
16	Govia Thameslink Railway	87.4%	89.2%	2.773
17	TfW Rail Services	87.3%	91.7%	645
18	East Midlands Railway	86.9%	93.1%	402
19	Avanti West Coast	84.1%	86.4%	187
20	Caledonian Sleeper	83.3%	88.3%	4

1 This table shows the performance of the UK's franchised TOCs (MAA = Moving Annual Average) for Period 10 of the railway calendar for 2021 and 2020. Eleven of these franchises were contracted by the Department for Transport. ScotRail and Caledonian Sleeper are contracted by Transport Scotland and Transport for Wales Rail Ltd is franchised by Transport for Wales. Merseyrail, London Overground and TFL Rail have a franchise that is contracted by the local authority. LNER, Northern Trains and Southeastern are operated directly by the Department for Transport. The main reason for the decrease is an increase in services: more trains ran and more passengers were transported than in the earlier stage of the pandemic from March 2020.

2 PPM is the standard industry measure of train punctuality when a service arrives within 5 minutes of time advertised, or 10 minutes for long distance services.

The table below shows the cause of delays for Abellio's TOCs in 2021 by category, with delays attributed to Network Rail still the main cause:

- NR on TOC: delays attributed to Network Rail (infrastructure) on train operating companies, including extreme weather conditions.
- TOC on Self: delays attributable to a TOC itself.
- TOC on TOC: delays attributable to another TOC.

	Greater Anglia	Merseyrail	ScotRail	West Midlands	East Midlands
NR on TOC	67%	65%	61%	57%	58%
TOC on self	24%	34%	35%	33%	30%
TOC on TOC	8%	1%	4%	10%	12%

Abellio as an employer

Abellio UK is a major employer with around 16,000 employees at all TOCs. Abellio continues to invest in the development and welfare of its staff. During the year, Abellio invested in new educational platforms and online programmes. Employees could receive support and the communication and consultation with managers were strengthened. This year, Abellio once again focused on learning processes: more than 250 colleagues started such a process in positions ranging from bus driver and train driver to customer service employee, engineer or manager.

Furthermore, Abellio continues to work towards a more diverse and inclusive workforce. To this end, it is setting up forums in all companies to increase the number of people from ethnic minorities and women in leadership positions, to create opportunities for young people and to increase understanding of the benefits of an inclusive workforce.

Abellio has played an important role in the cooperation with the main railway trade unions as chair of the sector-wide Rail Industry Coronavirus Forum and the Rail Industry Recovery Group. This initially involved coordinating the management of the pandemic and subsequently the financial aftermath due to the significant loss of revenue.

Outlook 2022

The National Rail Contracts, the new management contracts, represent a fundamental change in how train operators work together with the Department for Transport. To this end, Abellio UK has changed the way it works in order to meet the five performance criteria set out in the contract: operational performance, customer satisfaction, service quality standards, financial performance and business management. Abellio will also help to implement changes in the sector.

Abellio UK will prepare for the transition from the ERMA to a directly awarded contract for East Midlands in October 2022. Whether this is successful depends on the success of the negotiations with the Department for Transport.

Abellio UK also aims for a smooth transfer of ScotRail services to the Scottish government's new public operator, ScotRail Trains Limited, which will commence operations from 1 April 2022.

Abellio Bus will continue to make strategic bids for routes in London and to electrify the depots there. Abellio will also add more electric buses to its fleet. Abellio Bus will also explore franchise opportunities in other urban areas (outside London) and seek to expand train replacement services.

Greater Anglia



The highlights of 2021 for Greater Anglia were the continued roll-out of new trains across the network, continued good punctuality and team performance in terms of service during the pandemic and the proactive approach in welcoming customers back after restrictions are eased.

The end of 2020 saw the introduction of new trains on the Norfolk, Suffolk and Cambridgeshire regional train services, on the Marks Tey to Sudbury line in Essex, all intercity services between Norwich and London and all Stansted Express train services. Almost a quarter of the new fleet is now operational and trains run daily to almost all final planned destinations.

Greater Anglia's performance this year was excellent. On average, punctuality (PPM) increased from 93.0% in 2020 to 94.8% this year.

Finally, there was once again external recognition: Greater Anglia has been voted 'Train Operator of the Year' at the Rail Business Awards (RBA) for the second consecutive year and also won the RBA Accessibility and Integrated Transport Award. Greater Anglia's contribution to Community Rail Partnerships (CRPs) won a prize at the national Community Rail Awards.

Greater Anglia (in € million)	2021	2020
Passenger revenue	313.7	268.6
Government income	253.9	345.2
Other income	107.7	115.6
Revenue	675.4	729.4
EBIT before non-recurring items	10.4	32.9
Capital investments	-	-19.6*
PCS guarantees provided by NS	194.0	182.4
PCS guarantees drawn (NS portion)	14.3	53.8
PCS guarantees not called on (NS portion)	179.7	128.6

* In 2020, Greater Anglia received grant funding for assets that had been capitalised in work in progress in a prior year resulting in the negative Capital investments in 2020.

Merseyrail



Merseyrail is Abellio's longest running franchise, awarded by Merseytravel for a period of 25 years (2003 to 2028). Merseyrail operates metropolitan services in and around the Liverpool City Region and is operated as a 50/50 joint venture with Serco.

In March 2021, it was announced that Merseyrail had broken a national record: over a 28-day period (7 February – 6 March), 99% of trains arrived on time or with a delay of no more than 5 minutes – something unprecedented in the UK rail industry. In May 2021, Merseyrail received recognition for these achievements: for the third year in a row, the company was named the best performing regional rail operator at the Golden Whistle Awards.

Preparations are underway for the introduction of new rolling stock and the new trains have already been shown to interested parties at Southport and Birkenhead North stations. The roll-out of the announced smart card systems has been postponed. This is because no funding was received for the overall plan, of which the new systems are a part.

In October, Merseyrail celebrated its 50th anniversary. This was celebrated with digital marketing activities, videos and a media campaign featuring historical images of trains and stations.

Merseyrail (based on 100%) (in € million)	2021	2020
Passenger revenue	41.8	33.8
Government income	118.3	110.5
Other income	29.2	20.0
Revenue	189.3	164.3
EBIT	10.1	0.4
Capital investments	0.4	1.0
PCS guarantees provided by NS	-	-

ScotRail



ScotRail operates throughout Scotland, with train services between the country's seven main cities and rail services provided by the Great Scottish Scenic Railway in the Highlands, Borders and South West. The ScotRail network comprises more than 360 stations and nine maintenance depots.

Glasgow Queen Street has now been rebuilt at a cost of £ 120 million thanks to investment from the Scottish government. Scotland's third busiest railway station has undergone a complete metamorphosis. The station concourse is now almost twice as large as before. The new station is also accessible by lift from Queen Street and has several barrier-free entrances.

In Motherwell, ScotRail is working with North Lanarkshire Council, Strathclyde Partnership for Transport (SPT) and Transport Scotland to redevelop the station. This £ 14.5 million project was continued in 2021. Shopping facilities will be expanded, access for pedestrians and cyclists improved and the public space outside the station building will undergo a transformation.

In Aberdeen, the station will be given a completely new look, with an enlargement of the shopping area, improved access, a new ticket office and a new first class lounge.

Punctuality (PPM) decreased from an average of 91.9% in 2020 to 90.7% in 2021. In the final quarter of 2021, operational performance was negatively impacted by adverse weather conditions due to storm Arwen and an increasing number of train staff in quarantine due to the coronavirus.

ScotRail (in € million)	2021	2020
Passenger revenue	169.8	136.6
Government income	947.3	887.6
Other income	21.1	12.6
Revenue	1,138.20	1,036.80
EBIT	-36.4	-93.1
Capital investments	-	9.5
PCS guarantees provided by NS	34.5	31.8
PCS guarantees drawn (NS portion)	33.3	31.1
Other guarantees provided by NS	54.0	50.8
PCS guarantees not called on	1.2	0.7

East Midlands Railway



East Midlands Railway (EMR) provides intercity and regional train services in the East Midlands region. The services to customers are divided into three brands: East Midlands Railway Intercity provides fast connections between London St Pancras International and the towns and cities of the East Midlands and South Yorkshire. East Midlands Railway Regional transports passengers across the country, from Liverpool to Norwich and from Crewe to Skegness. East Midlands Railway Connect

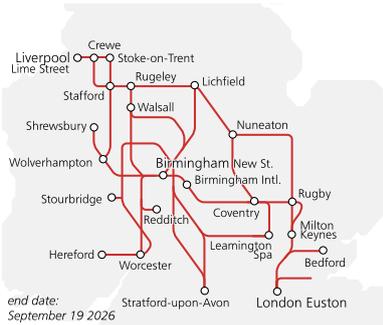
was introduced in May 2021 and connects commuter markets in Bedfordshire and Northamptonshire with London St Pancras International.

On 16 May 2021, East Midlands Railway extended the timetable on all routes. An extra train now runs every hour to and from London St Pancras International, with more seats and more service. Moreover, the journey is faster. This was made possible by improvements to the Midland Main Line and the introduction of the East Midlands Railway's first electric train fleet. Some regional services were also expanded, with new direct connections and more seats in the East Midlands. East Midlands Railway is now also the operator of the line to Barton-upon-Humber, which was previously jointly operated by Northern Trains and TransPennine Express.

However, the performance and punctuality of the timetable for the regional connections did not meet expectations due to problems with the implementation of the new timetable for regional transport in May 2021. Therefore, a more limited timetable was introduced in June 2021. East Midlands Railway is planning to gradually resume running more trains and resolve the problems that caused the inefficient operation of the May timetable.

East Midlands (in € million)	2021	2020
Passenger revenue	209.4	178.5
Government income	293.9	308.1
Other income	33.8	-
Revenue	537	486.6
EBIT	3.7	25.2
Capital investments	-	6.1
PCS guarantees provided by NS	133.3	125.7
PCS guarantees drawn (NS portion)	-	-
Other guarantees provided by NS	21.4	20.1
PCS guarantees not called on	133.3	125.7

West Midlands Trains



West Midlands Trains operates services from London Euston to Liverpool and throughout the entire West Midlands region. West Midlands Trains is divided into two brands: West Midlands Railway for train services in and around Birmingham and London Northwestern Railway for train services on the West Coast Main Line to and from London Euston.

The focus of West Midlands Trains is now on the Commonwealth Games in Birmingham, which start on 28 July 2022. These games will be the biggest event ever held in the West Midlands. More than a million tickets are expected to be made available. Significant progress has already been made in upgrading two important stations so that the railway network can accommodate more passengers.

West Midlands Trains expects to introduce the new Class 196 diesel fleet on the Worcester and Shrewsbury routes in 2022; production has been delayed by the pandemic. Further into the future, 333 additional Class 730 electric trains will be used on the Cross-City Line in Birmingham (from 2023) and on the long-distance routes of the West Coast Main Line. These trains are currently being manufactured by Alstom in the Midlands.

Punctuality (PPM) decreased from an average of 88.5% in 2020 to 88.1% in 2021. In the final quarter of 2021, operational performance was negatively impacted by adverse weather conditions due to storm Arwen and storm Barra, as well as an increasing number of train staff in quarantine due to the coronavirus.

West Midlands (in € million)	2021	2020
Passenger revenue	228.1	204.6
Government income	422.7	410.9
Other income	63.2	24.1
Revenue	714.0	639.6
EBIT before non-recurring items	10.7	18.5
Capital investments	-	4.2
PCS guarantees provided by NS	122.6	115.5
PCS guarantees drawn (NS portion)	45.2	-
PCS guarantees not called on (NS portion)	77.4	115.5

Abellio Bus

In 2021, two new contracts with Transport for London came into effect, introducing the first electric double-decker vehicles. The company also received confirmation of future contracts on the basis of which there will be electric buses in five of the six depots by mid-2022. More than 10% of the fleet will then emit no CO₂. Abellio London Bus this year celebrated travelling one million miles with electric buses. Two free electric buses also ran in Glasgow during the COP26 summit to raise awareness of the benefits of zero emissions. As a result of the coronavirus pandemic, TfL's revenues have dropped significantly. This results in a financial challenge for TfL, which may put pressure on the future scope of services (number of vehicles and frequency) and profitability of Abellio London Bus.

In 2021, Abellio Bus brought two new sites in west London into use to replace an existing depot. In 2022, a brand new purpose-built operations centre will open in Dawley Road, Hayes, supported by a new engineering facility in Waterway Park. This will expand the facilities for the operation of bus transport in west London.

Abellio Rail Replacement (ARR) provides alternative transport services – with coaches, buses and taxis – to Greater Anglia, ScotRail, East Midlands, West Midlands, Transport for Wales and Caledonian Sleeper during disruptions. With the introduction of NRCs, inter-company replacement transport services had to be re-tendered. The outcome of the tendering process is not yet known, so it is uncertain whether ARR will retain these contracts. Event Connect provides transport at major sporting events and for tour operators and corporate clients. Both activities were continued during the lockdowns, but on a smaller scale and with less revenue due to lower demand.

Abellio London Bus (in € million)	2021	2020
Government income	233	208.2
Rail Replacement (Intercompany)	33.9	31.1
Revenue	266.8	239.5
EBIT	14.8	9.2
Capital investments	12.2	2.5
Guarantees provided by NS	-	-

Abellio Germany

Market context

In Germany the direct financial impact of the coronavirus pandemic has been limited because the risk of lost revenue lies with the Public Transport Authorities, the clients of Abellio Germany. However, there are external factors other than the coronavirus pandemic that have made the operation on the German market loss-making as in previous years and have led to unforeseen costs:

- Increased track maintenance leads to higher costs for replacement transport and penalties for not achieving the performance targets for punctuality, while the transport operators have no influence on this.
- The collective labour agreement for train crews and developments in the labour market have led to higher personnel and training costs.
- Circumstances beyond the control of the train operators occurred and yet penalties were imposed. An example of this was the severe snowstorm in the winter of 2021 in central Germany.

The increase in costs is not sufficiently covered by the indexation mechanisms included in the transport contracts, nor is this compensated in any other way. None of the parties involved could foresee these additional costs when the bids were made or when the individual transport contracts were signed. All bids for these contracts date from before 2016 and no new contracts have been added since then. The regional railway sector is facing similar operational and financial problems, leaving other public transport companies in the same position as Abellio Germany. For example Keolis also ended its operations in North Rhine-Westphalia on 31 December.

Rising costs in recent years have had a very negative impact on Abellio Germany's results and have led to losses. Due to these unforeseen circumstances, Abellio Germany foresaw a situation with losses in the longer term, which was not sustainable without significant financial support and/or changes to these contracts. Abellio Transport Holding bv, the shareholder of Abellio Germany, has financed these losses with the support of NS since the situation became clear. This was done on the assumption that Abellio Germany would come up with long-term solutions together with the public transport authorities.

Discussions with public transport authorities and internal measures

Abellio Germany entered into discussions with the public transport authorities at an early stage and asked for compensation for the costs of external factors. In order to continue the German operations, it was essential to agree on a structural adjustment in the compensation for cost increases caused by external factors. This also applies to the compensation for penalties imposed for not achieving certain performance targets and costs for replacement transport due to infrastructure works. In parallel with the discussions with the public transport authorities, Abellio Germany also took internal measures to increase efficiency and reduce costs. However, these internal measures are not sufficient in themselves, as they do not outweigh the increased external costs. Abellio Germany has discussed this with the relevant public transport authorities, but it has turned out to be a lengthy process. In 2020, basic principles were agreed with these authorities. For the North Rhine-Westphalia and central Germany regions, a decisive answer was expected in the first half of 2021, proposing

a long-term solution. Unfortunately, the negotiations did not lead to compensation for the unforeseen circumstances and Abellio Germany was forced to file for provisional insolvency proceedings with the courts (on 30 June 2021). The aim of these proceedings was to find a viable long-term solution by restructuring the activities and loss-making contracts of all entities of Abellio Germany.

Restructuring of Abellio Germany

On 30 June 2021, the German court granted the request of Abellio Germany and its subsidiaries to initiate so-called Schutzschirmverfahren (special insolvency proceedings). These provisional insolvency proceedings under German law were initiated for each of the legal entities. This made it possible to work on a solution per entity together with the most important clients, rather than a solution for the whole of Abellio Germany. The ruling by the German insolvency court of Berlin Charlottenburg resulted in Abellio Germany losing control as a shareholder of the entities. As the consolidation criteria were no longer met, NS deconsolidated all German entities as of 30 June 2021 and valued them at nil. As a result of the court rulings, the local management has been placed under the supervision of a court-appointed receiver. They together had to draw up plans to restructure the entities.

Outcome of the insolvency proceedings

On 1 October 2021, the German insolvency court started the main proceedings for all German Abellio entities, with the expectation that a solution for the loss-making franchises could be found for each of the entities together with the public transport authorities. The status of the insolvency proceedings for each entity is described below. NS would like to emphasise that the outcome of the insolvency proceedings in Germany, given its nature, cannot be predicted and could materially adversely affect future operating results.

WestfalenBahn and PTS

WestfalenBahn and PTS both operated profitably until the start of the insolvency proceedings on 30 June 2021. These entities had to be included in the proceedings because they were an integral part of Abellio Germany. In February 2022, the shares in WestfalenBahn and PTS were transferred to a new German holding company within the NS group after the insolvency proceedings were closed. As the proceedings had not yet been completed by 31 December 2021, the companies remained deconsolidated at year-end 2021.

Abellio Rail Mitteldeutschland

A restructuring plan for Abellio Rail Mitteldeutschland is being discussed with the local public transport authorities. This will be laid down in an insolvency plan to be approved by the meeting of creditors and the court. The essence of the agreement is that the STS contract will continue until its expiry date (December 2030) and that the DISA contract will end early (December 2024 instead of 2032). This will give the public transport authorities sufficient time to organise a new tendering procedure for the DISA franchise. When the insolvency proceedings are terminated, presumably sometime in the first half of 2022, the shares will revert to NS.

Abellio Rail Baden Württemberg

An agreement was reached between the company's administrator and the local public transport authority to transfer the shares in Abellio Rail Baden Württemberg, including the transport contract with Stuttgarter Netz/Neckartal, to the local transport company (SWEG) as of 1 January 2022. SWEG is owned by the State of Baden-Württemberg.

Abellio Rail in North Rhine-Westphalia

In September 2021, Abellio Germany and the public transport authorities concluded an agreement to secure passenger transport until 31 January 2022. This continuation agreement laid the foundations for the negotiation of a long-term solution. However, these negotiations failed despite the fact that Abellio Germany and the shareholder ATHBV went to great lengths to reach a solution.

Abellio Germany made an offer to the public transport authorities to continue three of the five transport contracts until their normal expiry dates (2028-2034) and to terminate the contracts with S-Bahn Rhein-Ruhr and Rhein-Ruhr-Express early in December 2023. This would give the public transport authorities sufficient time to retender these two contracts. Abellio Germany believes that under the current circumstances this was the best solution both financially and operationally for the employees, passengers and the public transport authorities. The public transport authorities demanded a substantial termination fee on top of an amount equal to the guarantee that Abellio was willing to finance. Abellio Germany and its shareholder ATHBV considered this additional demand by the public transport authorities to be too high. This led the public transport authorities to reject Abellio Germany's offer. All five contracts were transferred to other operators on 1 February 2022 by means of emergency two-year contracts at significantly higher costs than Abellio's proposal. Abellio Germany was excluded from the tender procedure. The handover to the three new operators took place on 31 January 2022. Since the public transport authorities rejected the offer, Abellio Germany has focused on an orderly transfer of the train service and related activities.

Abellio GmbH

Abellio GmbH is the German holding company and is also subject to the court-ordered restructuring programme.

Rail franchises in Germany

Abellio Germany was founded in 2004 as a regional carrier in Essen and in 2008 NS acquired the company (Abellio GmbH; 'Abellio Germany'). In 2021, Abellio Germany operated rail franchises in Baden-Württemberg, North Rhine-Westphalia, Lower Saxony and central Germany (Saxony, Saxony-Anhalt and Thuringia). Abellio in Germany is also the owner of the Neuss-based cleaning and security company PTS, which provides services to several franchises run by Abellio and other operators in Germany.

Concession	Company	Start	End	Passengers per day (approx.)	Annual train kilometres in millions	Punctuality up to 5 min.	Trains
Saale-Thüringen-Südhardt-Netz (STS)	ABRM	2015	2030	22,000	8.7	95.2%	35
Dieselnetz-Sachsen-Anhalt (DISA)	ABRM	2018	2024	19,000	9	93.7%	54
Emsland-/Mittelland-Netz (EMIL)	WfB	2015	2030	43,500	5.4	90.6%	28

Financial result 2021

Abellio Germany has been deconsolidated as of 30 June 2021. In the first half of 2021, Abellio Germany achieved revenues of € 378 million (full year 2020: € 744 million). The consolidated result in the first half of the year was a negative EBIT of € -22 million (full year 2020: € -127 million, including asset impairments of € 84 million). In addition, since 1 July 2021, NS has financed the costs of restructuring and terminating the contracts in Baden-Württemberg and North Rhine-Westphalia, expected to amount to approximately € 101 million. After the restructuring, Abellio's operations are expected to at least be self-financing.

Outlook 2022

The insolvency proceedings for WestfalenBahn, PTS were terminated in February 2022 and are expected to be terminated for Abellio Rail Mitteldeutschland in the first half of 2022. The shares of these entities will be transferred to a new German holding company within the NS group and these entities will subsequently be consolidated again. Abellio Rail in North Rhine-Westphalia will be liquidated by the trustee. The total number of employees is expected to decrease from just over 3,000 FTEs on 30 June 2021 to around 1,500 FTEs in 2022 due to the smaller number of franchises. The new German organisation is based on the functional structure implemented for all of Germany in 2021, with one central management team, which will be appropriate for the scope of the future operations. After successful completion, the two remaining operators will work together to ensure synergy and better alignment of existing processes. This will take place in line with the NS strategy to contribute to better connections between the Netherlands and Germany, in the interest of Dutch travellers.

German operating companies

After completion of the restructuring in 2022, the following rail franchises in Germany will be operated:

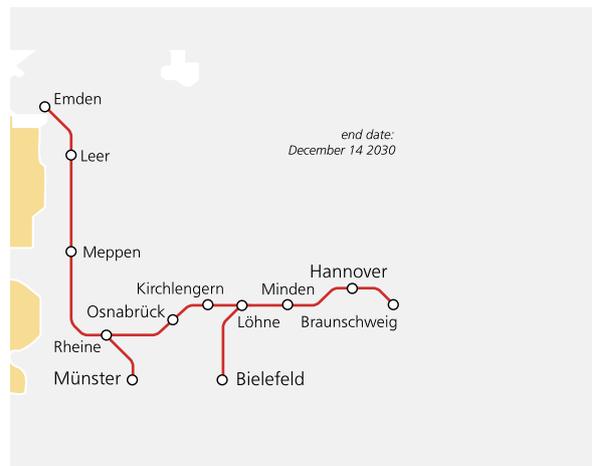
Abellio Rail Mitteldeutschland GmbH

Since 2015, Abellio's trains have been running on the STS electric network and since December 2018 on the DISA network. Thousands of passengers are able to travel with Abellio in the Harz and Börde regions and as well between the major cities of Erfurt and Magdeburg.



WestfalenBahn GmbH

The company is based in Bielefeld and connects the cities of Braunschweig and Hannover in Lower Saxony with Bielefeld and Rheine in North Rhine-Westphalia. From Münster there is a direct line via Meppen and Leer to Emden on the North Sea.



Financial performance

Finance in brief



Vattenfall plans to build six wind turbines on the NS premises in the Port of Amsterdam.

The COVID-19 crisis still has a significant impact on NS's financial performance. NS posted revenues of €6,486 million in 2021 (2020: €6,601 million). As in the previous year, in 2021 NS received compensation from the Dutch government to keep trains running, despite the sharp fall in passenger numbers due to the pandemic and the official advice to work from home. In 2021 the compensation amounted to €925 million (2020: €818 million). Without this compensation and taking non-recurring exceptional items into account, the underlying result from operating activities amounted to a loss of €925 million (2020: a loss of €890 million).

Introduction

In the past year, NS invested €554 million (2020: €548 million), mainly in the procurement of new trains and in upgrades of existing trains. NS posted a positive result from operating activities of €482 million (2020: €2,443 million negative). The result from operating activities includes exceptional income of €531 million attributable in particular to lower depreciation due to the impairment of the main rail network franchise in 2020, the partial release of the provision created in 2020 for terminating the franchise agreements in the United Kingdom, and the reversal of an impairment in the United Kingdom. Without these exceptional items, the result from operating activities amounted to a loss of €49 million. The net financing result of -€349 million is largely attributable to the write-down of the Abellio Germany participation to zero as a result of the deconsolidation and the costs associated with the restructuring and termination of several Abellio Germany franchises. NS has financed the costs of the restructuring and termination of the contracts in Baden-Württemberg and North Rhine-Westphalia (to an expected amount of approx. €101 million) since 1 July 2021. The net profit in 2021 is €500 million (2020: a net loss of €2,581 million).

(in millions of euros)	2021	2020
Revenue	6,486	6,601
Result from operating activities before impact on the result as a consequence of the (reassessment of the) impairments and (release of) provisions for termination payments	-49	-95
Impact on the result as a consequence of the (reassessment of the) impairments and (release of) provisions for termination payments	531	-2,348
Result from operating activities after impact on the result as a consequence of the (reassessment of the) impairments and (release of) provisions for termination payments	482	-2,443
Net financing result	-349	-21
Result before income tax	133	-2,464
Income tax	367	-117
Result for the reporting period	500	-2,581
Minority interests	161	-203
Result attributable to the shareholder	339	-2,378

Operating revenue

Revenue (in millions of euros)	2021	2020
The Netherlands	2,814	2,757
United Kingdom	3,294	3,100
Germany	378	744
Total revenue	6,486	6,601

Revenue from the Netherlands

Revenue Netherlands (in millions of euros)	2021	2020
Revenue from rail transport	1,519	1,539
Public transport availability payment	925	818
Station development and operation	355	376
Temporary Emergency Bridging Measure for Sustained Employment (NOW) scheme	15	24
Total revenue	2,814	2,757

Passenger revenues from the Netherlands are comparable to the figure for 2020, and are €1.1 billion lower than in 2019, before the COVID-19 crisis. At the request of the government, we maintained our regular timetable as much as possible in 2021 despite the fall in passenger numbers. The government partly compensated us for this by offering an 'availability payment' (*beschikbaarheidsvergoeding*) of €925 million. That availability payment has been recognised under revenues in the financial statements and amounts to a 93% compensation of the indexed cost level in 2019 net of revenues achieved. NS has recognised a contribution towards wage costs of €15 million (under the Temporary Emergency Bridging Measure for Sustained Employment (NOW)) in the revenue from stations (2020: €24 million). Adjusted for the NOW scheme, revenue decreased by €21 million compared with 2020, and even by €187 million compared with 2019 if we also take into account the sale of a number of retail formulas. The lower revenue is attributable to the lower income from retail activities and retail rental discounts granted as a direct consequence of the drop in passenger numbers.

Revenues from Abellio UK

Revenue Abellio UK (in millions of euros)	2021	2020
Passenger and other revenue related to rail transport	1,109	908
Subsidies related to rail transport	1,918	1,952
Revenue from bus transport	267	240
Total revenue	3,294	3,100

In 2021, once again the UK government assumed the turnover and cost risks of train operating companies. The UK government has since decided to move to a franchise system in which the turnover and cost risks largely rest with the UK government and the operator receives a (partly performance-related) management fee. The Greater Anglia and West Midlands franchises were terminated on 19 September 2021 and have since been operated under 'National Rail Contracts'. The ScotRail franchise will be terminated effective 31 March 2022 and the East Midlands franchise probably in October 2022.

Revenues from Abellio Germany

Abellio Germany's revenues from train-related transport amounted to €378 million for the period up to the deconsolidation on 30 June (full-year 2020: €744 million). In that period, the direct financial impact of COVID-19 on revenues remained limited because the regional rail clients - the public transport authorities - bore the loss-of-income risk.

Operating expenses

Thanks in part to cost-saving initiatives, the level of costs in the Netherlands decreased by €26 million compared with 2020. Personnel expenses (excluding exceptional items) fell by €28 million, due in part to the fall in passenger numbers. On the other hand, depreciation costs (€59 million) increased due to the commissioning of new trains, investments in IT solutions, the franchise fee and the infrastructure levy (€14 million). The cost level in the United Kingdom decreased by €75 million. The cost level in Germany decreased as a result of deconsolidation. The partial realisation of the impairment for the main rail network franchise in the Netherlands (€1,562 million) recognised in 2020 has translated into lower depreciation (€149 million). Part of the provision for termination fees imposed by the UK Department for Transport (DfT) and the impairment in 2020 (€702 million) recognised by Abellio UK was released in 2021 or reversed (€382 million), following a substantial downward adjustment of the definitive termination fees.

(in millions of euros)	2021		2020	
	€	%	€	%
Wages, salaries and social security charges	2,222	34	2,250	34
Other personnel expenses	96	1	90	1
Staff hired in	95	1	114	2
Depreciation, amortisation and impairments	967	15	888	13
Use of raw materials, consumables and inventories	432	7	463	7
Capitalised production on behalf of own business	-99	-2	-137	-2
Subcontracted work and other external costs	712	11	747	11
Infrastructure levies and franchise fees	1,439	22	1,515	23
Other operating expenses	676	10	768	11
Total operating expenses before exceptional items	6,540	100%	6,698	100%
Impact on the result as a consequence of the (reassessment of the) impairments and (release of) provisions for termination payments	-531		2,348	
Total operating expenses	6,009		9,046	

Underlying result from operating activities

Our financial position and results need to be sound if we are to achieve our ambitions and keep train fares affordable. We should be able to achieve healthy returns by ensuring good operational performance and high levels of customer satisfaction. This will also enable us to keep investing in new rolling stock and broad-based sustainable mobility, thus serving the public interest. The development in the underlying result from operating activities is a good yardstick for assessing whether NS is able to achieve healthy returns on its business operations. The underlying result reflects the result from operating activities after eliminating exceptional items, such as the impairment and the availability payment received. Due to the fall in passenger revenues during the COVID-19 pandemic, the underlying result from operating activities amounted to -€925 million (2020: -€890 million). Needless to add, this is not sufficient for us to achieve our ambitions. Our primary focus, therefore, is on getting passengers back into our trains and at our stations as soon as the situation allows, and on scaling down to regain our financial health, so that we can keep train fares affordable.

(in millions of euros)	2021	2020
Result from operating activities	482	-2,443
- Of which United Kingdom	409	-615
- Of which Germany	-22	-127
Availability payment	-925	-818
Exceptional items Abellio UK: in particular (reassessment of) impairments and (release of) provisions for termination payments	-382	702
(Impact on the result) impairment of main rail network contract	-149	1,562
Temporary Emergency Bridging Measure for Sustained Employment (NOW) scheme	-15	-24
Balance of miscellaneous	1	8
Provision for reorganisation	11	31
Early Retirement Scheme (RVU)	16	
Settlement of various claims	36	9
Impairment Abellio Germany		83
Underlying result	-925	-890
- Of which United Kingdom	27	87
- Of which Germany	-22	-44

Due to the new types of contract in the United Kingdom, the additional contributions (EMA/ERMA) in connection with COVID-19 no longer apply and are no longer adjusted in the underlying result. To allow comparison, the figures for 2020 have been adjusted accordingly.,

Taxation

Income tax

We have calculated our corporate (income) tax liability on the basis of the applicable tax rates, taking account of the tax rules and the valuation of temporary differences. The effective tax rate for profit before corporation tax was -276% (2020: -4.7%). This lower effective tax rate compared with the nominal tax rate is mainly caused by amended tax regulations in the Netherlands pursuant to which losses can be carried forward indefinitely. This has resulted in an upward valuation of the deferred assets in the Netherlands, in the amount of €367 million. In the United Kingdom, an asset of €17 million is recognised in connection with the tax deductibility of the termination fees paid.

Other tax information

Payroll tax is a tax that NS, as the employer, withholds from the salaries of its employees and then pays to the Dutch Tax Administration (*Belastingdienst*). In 2020, the Tax Administration granted a deferral of payroll tax due. This tax was paid in 2021. NS's costs are largely subject to the high VAT rate. NS can set off the VAT charged against the VAT that it has to pay on its sales. Most of NS's sales are taxed at the lower VAT rate or are zero-rated. In the United Kingdom, the VAT rate on the sale of train tickets is zero. The taxable profit is liable to corporate income tax. The amounts paid or received are shown in the table below, in millions of euros.

Overview of taxes per country in € million (minus sign refers to paid taxes)

	Turnover tax		Payroll tax		Corporate income tax	
	2021	2020	2021	2020	2021	2020
The Netherlands	17	12	-707	-104	0	0
The United Kingdom	404	340	-281	-263	4	-1
Germany	44	77	-8	-16	0	0
Total	465	429	-996	-383	4	-1

Financing

The net cash flow from operating activities was €355 million (2020: €914 million). The decrease compared with the previous year is mainly due to an increase in the availability payment asset and to the deferred payroll taxes repayment. The cash flow from investment activities was -€963 million (2020: -€602 million). This mainly concerns capital expenditure of €554 million and money market fund placements of €448 million. The effect of the deconsolidation of Abellio Germany is €35 million negative. The net cash flow from financing activities was €120 million (2020: €25 million) and originates from the balance of repayment of borrowings of €78 million, repayment of lease commitments of €478 million and new borrowings of €676 million. The above has resulted in a movement in cash and cash equivalents of -€488 million (2020: €337 million) and a closing balance of €680 million.

Financial position

	2021	2020
Solvency (equity/total assets)	23%	15%
Liquidity (current assets/current liabilities)	0.86	0.69
Total assets (in millions of euros)	7,368	8,063

Solvency has risen due to the decrease of the balance sheet total in connection with the deconsolidation of operations in Germany and to the increase in equity to €1,689 million (2020: €1,179 million) primarily as a result of the addition of the net profit of €339 million to the general reserve.

The financial position of NS has remained stable thanks to the support measures. Since October 2020, Standard & Poor's (S&P), a leading credit rating agency that investigates the financial position of companies, has kept the credit rating of NS Groep NV at A with a negative outlook. This rating is based on an underlying credit profile of bbb, raised by three notches given that the Dutch State is our sole shareholder. The estimated long-term impact of COVID-19 on the business has been factored into the financial forecasts for the coming twelve months. At year-end 2021, available cash resources amounted to €680 million and an additional €448 million from investments in money market funds is withdrawable on demand. Multiple credit facilities are available totalling €895 million as at the end of December 2021. The cash position includes security received under an energy contract. The amount concerned is volatile and was €313 million at year-end 2021. For further details, see the going concern section in the financial statements.

2022 and beyond

While in previous years we had to make every conceivable effort to facilitate the growth in passenger volumes, since 2020 the challenge has shifted to winning passengers back, recovering passenger volumes and rebuilding our results and our financial position. Affordable train fares, high-quality operational performance and satisfied customers remain central to everything we do.

NS wants to be able to continue providing world-class mobility services now and during the subsequent franchise period from 2025: always accessible, always sustainable and always affordable. To that end, we will continue innovating and investing in new trains, more convenient payment options, propositions to match evolving customer needs and passenger behaviours, and world-class stations that serve as mobility hubs. So we will continue our investments to make these ambitions come true, despite the losses that NS will incur over the years ahead as a result of the downward adjustment of passenger forecasts. The investments will however be adapted to the changed circumstances and outlook. As a result, we will continue to devote a great deal of attention to scaling down our organisation in order to adapt our costs, products and services to this new reality. To this end, we will implement a savings programme worth €1.4 billion in the period up to and including 2024. Even after COVID-19 has been overcome, changes in travel behaviour will persist and it will take years before passenger numbers have fully recovered. Our important social function is a major consideration in how we design and provide services for passengers. In order to secure this function in the years ahead, we need financial agreements to be able to continue providing passenger services at the current level.

Our impact

Our impact on the Netherlands



Author Lale Gül won the NS Audience Award with her book, *Ik ga leven* (I'm going to live).

In 2021, the number of people in the Netherlands using our trains increased compared with the year before. Even though passenger numbers are still well below the 2019 level, our social impact remains considerable. This is reflected in areas such as mobility, safety, environmental impact and our expenditure.

We present a transparent picture of our social impact by expressing the positive and negative socio-economic and environmental effects of our operations in euros. In this chapter we have tried to do so as objectively as possible, and to express some of those effects in monetary terms.

In a nutshell

In 2021, passengers travelled 9 billion kilometres by train. This is slightly more than in 2020. The increase in kilometres travelled has also increased the positive impact of NS-generated mobility. At the same time, the negative impact has increased as people spent more time travelling and the environmental impacts of first- and last-mile transport have increased. On balance, NS's positive social impact amounted to €2,369 million (compared with €2,352 million in 2020).

As in previous years, rail travel had only a very small impact on the environment compared with travel by car. The overall positive impact of rail as opposed to car travel increased slightly in 2021, due to the rise in passenger-kilometres compared with 2020.

Social impact of NS	Impact in 2021 (in € million)	% relative to 2020 (in € million)	% relative to 2014 (in € million)	Impact compared with cars (in € million)	% relative to 2020 (in € million)	% relative to 2014 (in € million)
mobility	4,114	7%	-47%			n/a
expenditure	1,373	0%	10%			n/a
training	11	3%	18%			n/a
journey time	-2,963	9%	-42%			n/a
environment	-55	16%	-68%	223	14%	-37%
health and safety	-112	6%	n/a	298	7%	-47%
Total	2,369					-43%

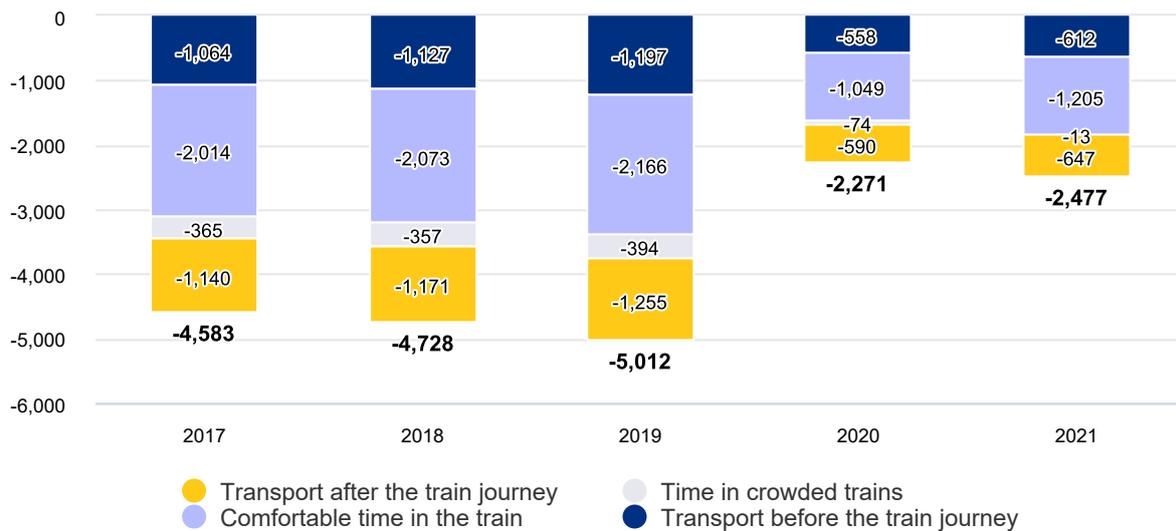
Social impact of NS

For further information about the methodology, the principles applied and the valuations and sources used, consult the [NS 2021 Handbook on socio-economic impact analysis](#) (only available in Dutch).

Socio-economic impact of mobility and travel time

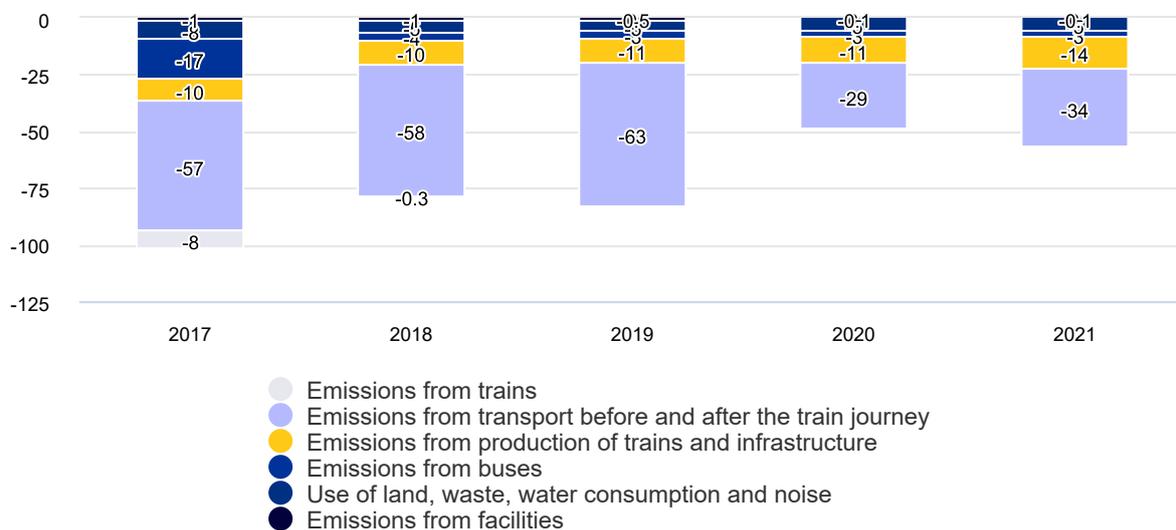
The Kennis Instituut Mobiliteit, a knowledge centre for mobility issues, has valued the importance of mobility in the Netherlands at €76 billion. NS used the results of that study to attach a certain value to each kilometre travelled by our passengers on our trains. We then multiplied the value per kilometre travelled by the total number of NS passenger-kilometres in 2021, which yielded a total value of €4,114 million (compared with €3,839 million in 2020).

At the same time however, to the extent that passengers cannot entirely spend the time they need to travel from A to B in other useful ways, the total door-to-door travel time also generates social costs. This applies in particular to time lost due to delays and to time spent in overcrowded trains (for example due to a lack of seating). This negative impact of time spent travelling amounted to €2,963 million in 2021 (compared with €2,722 million in 2020).



Environmental impact: emissions, land use, waste, water and noise

Our negative environmental impact results, among other things, from the use of fossil fuels. Fossil fuels cause air pollution due to emissions of substances such as CO₂, SO₂, NO_x and particulate matter. This has a negative impact on climate, nature and health and generates social costs. The use of 100% green power for our trains and buildings has considerably reduced our negative impact over the past few years, even by more than 50% compared with 2014. Land use, waste, water consumption and noise nuisance also have negative environmental impacts.

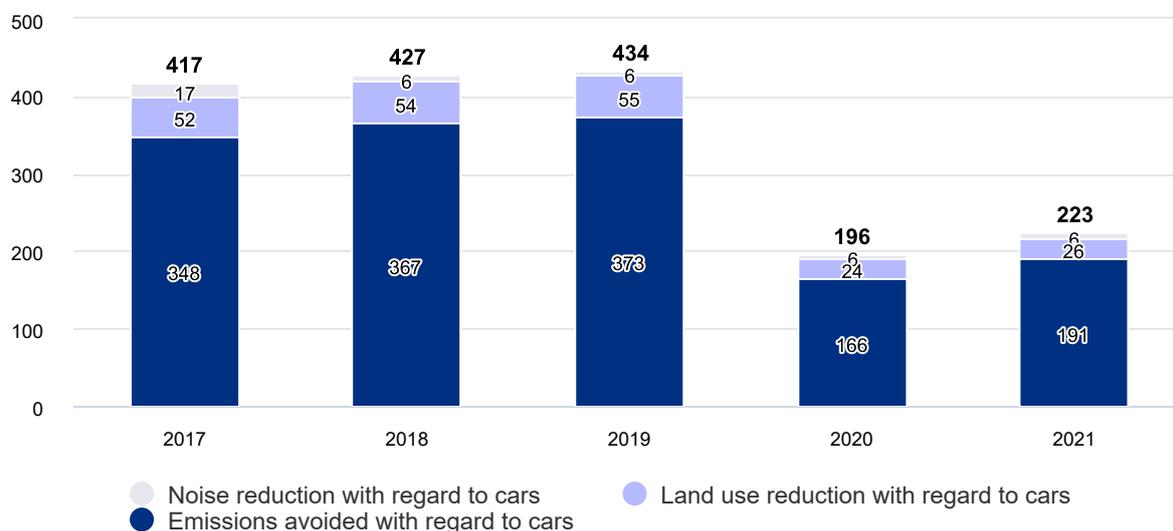


This negative environmental impact was €55 million in 2021 (2020: €47 million), of which approximately €8 million as a direct consequence of NS operations and approximately €47 million in the transport sector as a whole including the first and last mile, the building of trains, plus electricity and infrastructure. The increase compared with 2020 was caused by the rise in the number of journeys made and the resulting increase in the consumption of resources for the first and last mile.

Compared with the use of cars, travelling by train has a positive environmental impact.

Travelling by train avoids a certain amount of the impact of air pollution because pollution

produced by trains – including public transport bicycles – is low compared to car journeys and alternatives for the first and last mile. The positive impact of train travel on noise and land use compared with cars consists in the road construction and noise abatement measures that are not required because passengers are opting for the train. The positive environmental impact compared with car use was only calculated for 'elective passengers', i.e. those who are willing and able to make a choice between the car and the train.

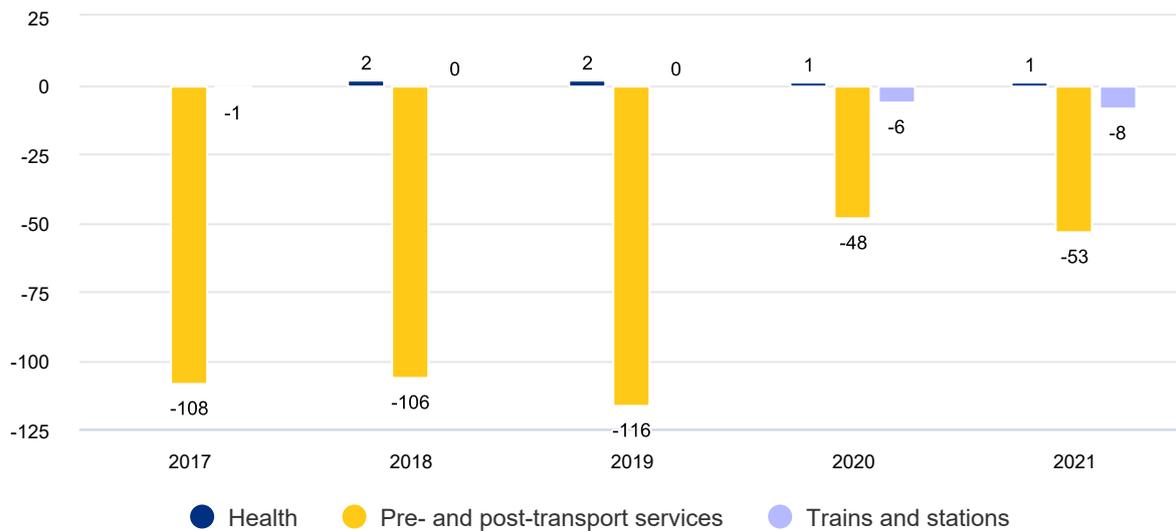


Socio-economic impact through safety

NS contributes to safety in society by providing safe transport and a safe environment for its passengers and employees. We constantly work to guarantee occupational safety, personal safety and safe travel.

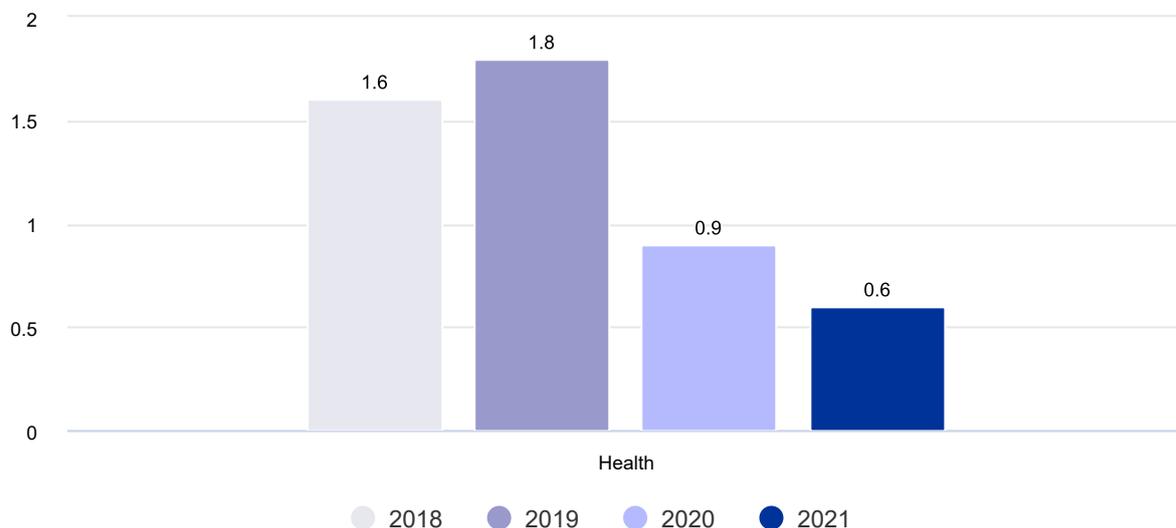
The social costs of occupational safety (accidents at work) in 2021 were €32,4 million (2020: €33,8 million). The social costs of personal safety (or a lack thereof) in 2021 were approximately €19 million, which is slightly higher than in 2020.

To provide safe travel, NS is working with its partners on preventing collisions, derailments and unsafe situations at the stations. In 2021, the social costs of unsafe situations amounted to approximately €8 million. The number of traffic accidents in the first and last mile is much higher, and so is their impact, which in 2021 amounted to €53 million (2020: €48 million). Rail travel train is relatively safe compared to transport by car. We calculate this positive impact by determining the number of avoided accidents. To that end, we calculate how many more accidents would have happened if all our elective passengers had travelled by car instead of by train. In 2021, the social benefits of safe transport by train were approximately €298 million (2020: €278 million).



Socio-economic impact on health through a more active lifestyle

Passengers who use our services become more active than they would be if they opted for a different mode of transport. We calculated this socio-economic impact for the first time in 2018. Moving to and from the train or bus station makes a certain percentage of otherwise inactive people become active. On average, NS passengers get 16 minutes of extra exercise every day. Due to this extra exercise, one sixth of rail passengers move to the group of people with an active lifestyle. Such a lifestyle can avoid costs associated with an inactive lifestyle, including medical costs and loss of productivity. The positive impact of this in 2021 was €0.6 million (2020: approximately €0.9 million).



Socio-economic impact from staff training and employability

NS exerts a positive socio-economic impact by developing the knowledge, skills and talents of its employees, by aiming to keep them in sustained employment, and by being a diverse and inclusive organisation. Training programmes at NS increase the economic value of our people and improve their potential on the labour market after they have left NS. The social benefits of this in 2021 amounted to approximately €11 million.

Incapacity for work limits the employability of employees. This entails negative social costs of approximately €20 million, for example because of higher medical costs and costs of benefit payments, and lower productivity and purchasing power.

Socio-economic impact through expenditure

We also have a socio-economic impact through our own expenditure, such as procurement, investments and salaries. This means for instance that we contribute to added value and employment opportunities at our suppliers. The economic benefits were €1,373 million of added value at suppliers (2020: €1,377 million), in the form of approximately 19,655 jobs.

NS group

Report of the Supervisory Board



NS is donating a portion of the inventory from the Naarden-Bussum station to recipients including a sports and cultural centre.

2021 was an intense year for NS and for the Supervisory Board. In addition to dealing with the more regular themes such as personnel, safety and IT, this year the Supervisory Board also addressed several particularly pressing themes such as COVID-19 and Abellio Germany and UK. The Board is pleased to note that NS has continued to perform its social task effectively in these challenging times.

COVID-19

The COVID-19 pandemic persisted throughout 2021. This has taken its toll in particular on our first-line employees, who are in direct contact with passengers in our trains and at the stations day in, day out and are directly affected by the social debate on the government's COVID-19 measures. The higher sickness absence among NS employees has added to the pressure of work. The Supervisory Board appreciates the commitment and resilience of all NS colleagues, who have once again continued to perform this year despite the difficult conditions and made sure that people who needed to travel by train could continue to do so. At the same time, COVID-19 has caused a sharp decline in passenger numbers and has severely hit NS also financially. At the government's request, NS continues to provide train services. The availability payment (*beschikbaarheidsvergoeding*) it receives in return covers up to 93% of lost income, thus largely compensating for the financial deficit. Even so, NS expects to deal with a considerable financial gap until 2025. To mitigate this problem, the Executive Board first of all initiated a transformation process for NS. The aim is to cut expenditure by €1.4 billion in the period up to 2025 and to make NS a more agile organisation. The transformation is now well under way and is on the agenda of every Supervisory Board meeting. At the same time, it is important to get passengers back on our trains as soon as the COVID-19 crisis allows. Following the government's advice, many people, especially commuters, are still working from home. While we cannot predict the extent to which they will continue to do so, expectations are that home working will result in permanent changes in commuter behaviour.

The NS strategy

Over the next few years, NS will develop into a broadly oriented mobility company. NS has formulated several strategic themes, such as regaining passengers, providing reliable journeys, broad mobility, world-class stations and digitalisation & data use, as a basis for its efforts to keep the Netherlands accessible in the future. Despite the COVID-19 crisis, we managed to achieve progress on these themes in 2021. For example, the 2022 timetable provides for an Intercity service every 10 minutes between Rotterdam, Schiphol and Arnhem. NS will also increase the number of international connections and is testing New Generation Intercity trains in the Dutch rail network. Fleet modernisation is now in full swing. NS has also invested in upgrading passenger services at the stations. The station areas offer a wealth of opportunities to relieve the housing construction crisis in the Netherlands, both in terms of property development and new stations in residential construction projects. Digitalisation offers opportunities to further improve our services for passengers, for instance via the NS app. Challenges include the need to upgrade back-office IT systems, and to find and retain sufficiently qualified employees to ensure high-quality IT facilities for NS. In addition, IT security calls for substantial investments. The Supervisory Board has also identified plenty of opportunities for NS to contribute to the national climate targets and to make our own organisation more sustainable.

Abellio

NS wants its operations abroad to serve the interests of passengers in the Netherlands, for example by means of cross-border transport options and better connections with cities elsewhere in Europe. Over the past year, the Supervisory Board extensively discussed the position of Abellio in Germany. Due to several external factors, such as current developments on the German labour market, the CLA and increased rail maintenance, operations in the German rail network incurred severe losses, as in 2020 and 2019. Abellio extensively consulted with the German public transport authorities on compensation for these external factors and to obtain certainty on the additional compensation that would be required to break even in Germany. Eventually, in consultation with the franchising authorities in two of the four regions where Abellio operates train services, and subject to provisional insolvency,

a solution was found that will help to limit future financial losses. In the fourth region, North Rhine-Westphalia, it proved impossible to make new agreements despite support from shareholder NS and the tremendous efforts by our colleagues there. In all likelihood this will result in the insolvency, after all, of Abellio in North Rhine-Westphalia. This is a disappointment to the Abellio staff who have always been highly committed to ensuring the company's success. NS wishes to emphasise that, due to their character, it is impossible to predict the outcome of the insolvency proceedings in Germany and that this could potentially have a negative impact on future operating results.

The franchising system in the United Kingdom was reorganised in 2021. This involved contract terminations and the transfer to a system with management contracts and a new balance between risk and reward for carriers, the government and UK taxpayers. The UK government has made termination of the contracts conditional on the payment of termination fees. In 2021 this resulted in the partial release of the provision created in 2021 for the termination fee set by the UK government.

From a financial perspective, the risks of our international operations are within the boundaries of the capital-at-risk agreements made with NS's shareholder, the Dutch Ministry of Finance. With the Executive Board we discuss both the short-term consequences of various developments and their effects on our long-term strategy.

Safety

Safety is an important and recurring issue on the agenda of the Supervisory Board. In addition to railway safety, this also concerns the personal safety of passengers and employees and the availability of inclusive workplaces. The Supervisory Board keeps abreast of NS's safety policy by discussing it in meetings, studying documents and making working visits. In the past year, the Supervisory board extensively discussed NS's transition to a more proactive safety culture and ways to prevent safety incidents.

Fortunately, no major incidents occurred in 2021. The Supervisory Board did however discuss the investigation into the 49 DDZ trains that were decommissioned in late 2020 following reports by NS colleagues about vibrations. The DDZ carriages were fitted with a different braking system and a Real-Time Monitoring system. Since December, NS has been reintegrating the DDZ trains in its timetable in phases.

The Supervisory Board also talked at length about the reports drawn up by NS and ProRail in response to the tragic accident at an uncontrolled level crossing (NABO) near the town of Hooghalen, in May 2020. An NS train driver lost his life in the accident. One of the key conclusions from the comprehensive investigation into safety at level crossings of this type is that long vehicles, under certain conditions, do not have enough time to get across. Other key conclusions are that good visibility is a precondition for the safe crossing of road traffic, and that visibility can be improved. There is also room for improvement in the integrated sector-wide control of level-crossing safety, which calls for active involvement of a wide range of stakeholders. In response to the findings and conclusions, NS has taken [several measures](#).

Financial results

NS achieved a net profit of €339 million for 2021, which will be added to the other reserves. The net profit attributable to the shareholder is mainly due to the non-recurring gain of €355 million from the downward adjustment of the termination fee previously set by the DfT and to the consequences of the legislative amendment that provides for the unlimited carry-forward of tax losses, which largely compensates for the loss in Germany. Without this non-recurring gain, NS would have operated at a loss also in 2021 as a result of the effects of COVID-19. The loss in 2020 was €2,378 million and was attributable for the most part to an impairment and provision for onerous contracts of €2,332 million.

NS will continue to face major challenges in the years ahead, as a result of expected lower passenger numbers and revenues due to the COVID-19 pandemic. NS will adapt to these changed forecasts by adjusting its organisation in the coming years, which will result in the loss of 2,000 jobs. This places considerable demands on the organisation and our people. However, the agreements made and the effects of natural wastage give us confidence that NS will be able to continue meeting the high quality standards of the franchising authority and passengers, and pursuing its independent investment policy. However, this is only possible if NS achieves a reasonable return in the new franchise period from 2025. This is important for the Netherlands as a whole, given the consistent and significant upward trend in passenger volumes projected for the long term combined with the high sustainability ambitions of the government.

Corporate governance

Changes in the Executive and Supervisory Boards

Eelco van Asch took on the role of Director of Operations on 1 March 2021. He is responsible for securing the high level of our operational performance, in the interests of our passengers. Tjalling Smit was reappointed in his position as Director of Commerce & Development for a 4-year term.

In line with the Dutch Corporate Governance Code, Pim van der Feltz was reappointed as a member of the Supervisory Board for another 4-year term. In view of the special challenges for NS posed by COVID-19, the term of office of the present Supervisory Board chair Gerard van de Aast has been extended once-only for a period of two years in 2022, on the recommendation of the Supervisory Board and in consultation with the shareholder.

Functioning of the Supervisory Board

Every three years, the Supervisory Board engages an external agency to evaluate its own performance. The Executive Board conducts internal evaluations in the intervening years. The next external evaluation is to be held in 2022. The relationship between the Supervisory Board and the Executive Board is professional and good. The Supervisory Board is involved in major and complex decisions in a timely and effective manner. The discussions also cover concrete dilemmas.

The functioning of the Executive Board and collaboration with the Supervisory Board

The Executive Board has functioned effectively under extraordinary conditions that demanded considerable flexibility and creativity, and performs its tasks well. The Supervisory Board has confidence in the Executive Board and professional relations between the two boards are good. Both the Supervisory Board and the Executive Board keep to their roles in the performance of their tasks.

Supervisory Board meetings

Owing to the exceptional circumstances caused by developments at Abellio Germany and COVID-19, the Supervisory Board held frequent online consultations outside regular meetings in 2021. In total, the Supervisory Board met 28 times in the past year. Virtually all of these meetings were attended by all the Supervisory Board Members, with average attendance amounting to 94%. The Supervisory Board has two permanent committees: the Risk and Audit Committee, and the combined Remuneration and Appointments Committee.

Risk and Audit Committee

The Risk and Audit Committee (RAC) consists of all Supervisory Board members and is chaired by Herman Dijkhuizen. The RAC met four times. The Chair and CEO, the Executive Board members for Finance and Risk, the Audit Director and the external auditor were also invited to these meetings. The external auditor attended all RAC meetings. In addition, in preparation for the meetings the chair, together with the CFO and the external auditor, held several prior consultations on important topics related to COVID-19, such as its impact on liquidity and solvency, and the use of the model and parameters to determine the potential (adjustment to the) impairment of assets and onerous contracts. Depending on the agenda, other individuals such as the directors of Legal Affairs, Group Control & Expertise and Sustainable Enterprise were also invited. In 2021, the RAC held discussions about the financial statements, the annual report and the yearly reporting for the Ministry of Infrastructure and Water Management, the six-monthly figures, the budget, risk management and risk appetite (see also the section in this report on Safety), the group plan for 2021-2025, periodic reporting by the I&C department, plans and reports of the Internal Audit department, reports prepared by the external auditor, and termination fees and new contract terms in the United Kingdom.

In addition, the RAC devoted considerable attention to the financial impact of the COVID-19 crisis on the group's liquidity and solvency position and our foreign participations. In particular, this concerned the consequences for NS Groep of the termination of the franchises in the United Kingdom and the associated termination fees, and the consequences of the provisional insolvency proceedings of the German activities and possible bankruptcy proceedings for the financial position of NS Groep and its reporting. Due to their character and duration, the outcome of the insolvency proceedings is hard to predict and could potentially have a material adverse effect on the operating result and cash flows compared with the estimates used for preparing the financial statements.

The RAC also discussed various different scenarios for the development of passenger numbers and customer appreciation. Within this context, on various occasions throughout the year the RAC also dealt with the reports on financing and liquidity, and the financing plan. Another regular item on the RAC agenda is cybersecurity in connection with home-working arrangements and the increasing risks in this area. The RAC also discussed rolling stock reports and the performance of the external audit function. A key focus in the RAC, based in part on the available I&C reports, was the progress made in addressing undesirable types of behaviour and preventing nuisance.

One important theme covered in the external auditor's management letter is the COVID-19 crisis and its impact on internal control, both within the main rail network and in the United Kingdom and Germany. The external auditor also highlights the potential impact of cost savings on the quality of internal control measures in the medium term and of the critical functions in the 'three lines of defence' model. The external auditor points out that further adjustments to the internal control framework are required, and that the improvements in the IT landscape are contributing to the quality of internal control within NS in the long term. The external auditor also considered the cybersecurity risks that NS has identified, as well as the associated measures and reporting. The most important topics from the year-end auditor's report that were discussed concern the results, solvency, financing and continuity of NS, the impairment of assets, the recognition of support measures and provisions in the context of termination fees in the United Kingdom, and the restructuring and insolvency proceedings of the German subsidiary.

Over the course of the year, the chair of the Supervisory Board and the chair of the RAC held several consultations separately with the external auditor and the shareholder.

Remuneration and Appointments Committee (combined)

The combined Remuneration and Appointments Committee is chaired by Janet Stuijt; its members are Gerard van de Aast, Nebahat Albayrak, Pim van der Feltz and Marike van Lier Lels. The committee met three times in 2021. The topics discussed include talent and leadership development, succession planning and the remuneration for the Executive Board. The committee also considered the remuneration report, target letters, the appraisal process, sickness absence and the Abellio Gain Sharing Plan. All members of the Supervisory Board are independent as defined in the Dutch Corporate Governance Code. The Supervisory Board broadly subscribes to best practice stipulations 2.1.7 through to 2.1.9 in the 2016 Code.

Shareholder

The Supervisory Board maintained good relations and regular contacts with the shareholder.

Employee participation

In 2021, the Supervisory Board met with the Central Works Council on several occasions. The Supervisory Board had two 'Section 24 Works Council Act meetings' with the full Central Works Council.

Relationship with the external auditor

As standard, the external auditor attends all meetings of the Risk and Audit Committee (RAC). The external auditor also attends the meetings of the full Supervisory Board when the financial statements and six-monthly figures are discussed. In addition, the RAC consults with the external auditor without the Executive Board being present. Every year, the RAC evaluates the external auditor's performance and issues a report to the Supervisory Board.

About this report

The financial statements for 2021, as prepared by the Executive Board, have been discussed within the Supervisory Board in the presence of the external auditor. The financial statements are accompanied by the Executive Board's report. We invite the General Meeting to adopt the 2021 financial statements. We also invite our shareholder to discharge the Executive Board and the Supervisory Board from their liabilities. The Supervisory Board proposes adding the profit for the 2021 financial year to the distributable reserve.

The Supervisory Board would explicitly like to thank all employees, the employee participation bodies and the Executive Board of NS. Like 2020, this was another challenging year that took its toll on all of us. Nevertheless, NS delivered a world-class performance. 2022 will once again require a great deal of resilience on the part of our people, but passengers will always be able to count on NS.

Utrecht, 24 February 2022

Personal details – Supervisory Board

Gerard van de Aast, chair (b. 1957), Dutch nationality (m)

- Appointed on 4 March 2014, reappointed until 2024
- Background: former chair of the executive board of Royal Imtech NV, former chair of the executive board of Koninklijke Volker Wessels NV, former member of the executive board of Reed Elsevier
- Other positions: member of the supervisory board of KPN, member of the supervisory board of Signify, member of the supervisory board of Witteveen+Bos



Nebahat Albayrak (b. 1968), Dutch nationality (f)

- Appointed on 1 June 2019 until 2023
- Background: Senior Vice-President Corporate Affairs, Safety and Sustainability Fortum, Former State Secretary for Justice and MP
- Other positions: member of the executive board of Fonds21



Pim van der Feltz (b. 1964), Dutch nationality (m)

- Appointed on 1 May 2017 until 2021, reappointed until 2024
- Background: managing director of Natuurmonumenten
- Former CEO of Google Netherlands
- Other positions: supervisory board of Kröller-Müller Museum, member of the advisory board of NWO



Marike van Lier Lels (b. 1959), Dutch nationality (f)

- Appointed on 3 February 2016, reappointed until 2024
- Background: COO of Schiphol Group until 2005, held various supervisory board memberships after that
- Other positions: member of the supervisory board of PostNL, member of the supervisory board of Dura Vermeer, non-executive board member at RELX Plc, chair of Innovation Quarter



Janet Stuijt (b. 1969), Dutch nationality (f)

- Appointed on 15 August 2016, reappointed until 2024
- Background: General Counsel, Company Secretary, NN Group NV, member of the management board, NN Group NV
- Other positions: member of the Master in Finance & Law Advisory Board, University of Amsterdam



Herman Dijkhuizen (b. 1960), Dutch nationality (m)

- Appointed on 1 January 2020 until 2024
- Background: CFO and vice-chair of the executive board of NIBC Holding N.V. and NIBC Bank N.V.
- Other positions: member of the executive board of the National Committee for 4 and 5 May Foundation, member of the supervisory board of the Dutch World Wildlife Fund



The remunerations of Supervisory Board members can be found [here](#).

Name	First appointment	Reappointment	Retiring at the latest on
Mr G. van de Aast (chair)	4 March 2014	4 March 2018	4 March 2024
Ms M. van Lier Lels	3 February 2016	3 February 2020	3 February 2024
Ms J.L. Stuijt	15 August 2016	15 August 2020	15 August 2024
Mr W.J. van der Feltz	1 May 2017	1 May 2021	1 May 2024
Ms N. Albayrak	1 June 2019	-	1 June 2023
Mr H.H.J. Dijkhuizen	1 January 2020	-	1 January 2024

Remuneration of the Executive Board

Composition of the Executive Board

The members of the NS Executive Board are nominated by the Supervisory board and appointed by the shareholder, the Ministry of Finance, for a period of no more than four years. Reappointments can be made for subsequent four-year periods. Eelco van Asch was appointed Director of Operations effective 1 March 2021. Tjalling Smit was reappointed for a 4-year term effective 1 April 2021. In 2021, the Executive Board comprised the following members:

	Position	First appointment	End of appointment
Marjan Rintel	Chair and CEO	1 October 2020 ¹	30 September 2024
Bert Groenewegen	Finance Director	15 September 2016	14 September 2024
Tjalling Smit	Commerce & Development Director	1 April 2017	31 March 2025
Anneke de Vries	Stations Director	15 October 2019	14 October 2023
Eelco van Asch	Director of Operations	1 March 2021	28 February 2025

1 Marjan Rintel served as Director of Operations since 15 July 2016 before being appointed Chair and CEO.

In accordance with the remuneration policy, the term of the employment contract coincides with the term of office, with the exception of Ms Rintel. She already had a permanent contract of employment before her first appointment. Pursuant to all employment contracts, the board member and the employer must observe a notice period of two months and four months respectively.

Remuneration policy

Effective 1 January 2020, the Minister of Finance, on behalf of the Dutch State, adopted the new remuneration policy for the NS Executive Board. The policy aims to enable the Supervisory Board to attract and retain highly qualified administrators (from both internal and external sources). The remuneration policy is required to support the objectives and strategy of NS and reflect the public nature of the company. It is based on the principles of the remuneration policy for state participations and complies with the best practice provisions on remuneration laid down in the Dutch Corporate Governance Code.

The pay ratio within the Executive Board is in line with common practice in the external market, depending on the job load for the position concerned. We use the Hay method to determine the job load, which also plays a role in determining remuneration levels for board members. The latter is done on the basis of a comparison with two reference markets: the public or semi-public reference market comprising state participations and transport companies (BNG Bank, COVRA, FMO, Gasunie, Havenbedrijf Rotterdam, KLM, NWB Bank, Amsterdam Airport Schiphol, TenneT, Thales, ProRail, RET, GVB and HTM) and the private reference market comprising Dutch companies with board level positions similar in weight to those at NS. The basis for establishing the reference income (base salary and variable remuneration) for Executive Board members is the median for the combination of fixed and variable components in these reference markets, with a ratio of 60% for the public and semi-public and 40% for the private sector. We chose the median as the basis because in both markets the median is stabler across job weight levels than higher or lower market levels. In addition, given the public nature of NS, the 60% versus 40% weighting for public/semi-public versus private takes into account a lower market level than the median relative to the overall Dutch market.

The non-variable remuneration of Executive Board members is based on 100/120th of the reference income, and the remuneration policy's impact on long-term value creation is taken into account. For NS, this means that the remuneration is determined with due regard for NS's position in society, its obligations under the franchise and the long-term challenges for mobility in the Netherlands.

On premature termination of the employment contract at the initiative of NS, a severance payment cannot exceed one year's base salary. The Supervisory Board decides whether a severance payment is to be paid and, if so, what the amount should be. Executive Board members who are not reappointed will not receive a severance payment, unless the law provides otherwise.

Performance agreements for Executive Board members

The Executive Board has drawn up performance agreements that comprise collective and individual targets as laid down in so-called target letters. While the results do not give entitlement to any reward (see Variable Remuneration), they do form part of the assessment process. The individual targets are related to the portfolio for which the Executive Board member concerned is responsible. The table below presents the collective targets that applied for 2021.

Objectives	KPI	Target
Customer	Public transport customer barometer	7.5
	Passenger punctuality 5-min. main rail network	92.6%
	More passengers in the train/occupancy rate	22%
Financial	Progress of financial transformation The Executive Board is responsible for the realisation of total savings at the end of 2021.	€105 million
Conduct & culture	NS is working on an open and safe working environment, in which we hold each other accountable, are honest with each other, make conscious choices, weigh up risks and help each other.	
	1. Manager demonstrates exemplary behaviour on long-term behavioural change	65% or more
	2. Diversity	Each Executive Board member has one direct report or one management position filled by an employee from a non-Western background
	Sickness absence	
	Demonstrably seeking sustainable substantial decrease of sickness absence.	
	Percentage of employees with good or excellent work capacity	80%
	Staff sickness absence (after correction for light duty)	4%
	Sickness absence operation (after correction for light duty)	8%
	Safety	
	Risk Assessments and Evaluations include a corresponding action plan carried out in accordance with the occupational health & safety policy.	75%
Inclusiveness & Sustainability		
Sustainable jobs: Number of sustainable jobs created by 2021	125 jobs	

Within the 'Customer' objective, the target for punctuality for passengers has been achieved. The financial objective has also been achieved. Within the 'Conduct and Culture' objective, the percentages for labour potential, safety, and inclusiveness & sustainability have been achieved. The result of the Public Transport Customer Barometer will be published on 21 March 2022. The other objectives have not been achieved.

Structure of the remuneration package

In response to the proposal submitted by the Remuneration and Nominations Committee and upon the voluntary request of all members of the Executive Board, in June 2020 the Supervisory Board decided to reduce the base salary of Executive Board members temporarily by 10%, over the period from 1 July 2020 up to and including 31 December 2021. This measure has since been extended until 1 July 2022. In addition, the pay increases pursuant to the CLA, of 1.2% effective 1 April 2020 and 1.6% effective 1 April 2021 were not implemented. In accordance with the remuneration policy, these pay increases were resumed with effect from 1 January 2022.

In the financial statements, the section entitled Remuneration of the Executive Board <link> includes a table itemising the overall remuneration for 2021.

Base salary

In 2021, the agreed gross annual base salary including holiday allowance for the members of the Executive Board was as follows:

	Position	Base salary as at 31 December 2021 (EUR) ²	Base salary earned 2021 (EUR)
Marjan Rintel	Chair and CEO	473,806	426425
Bert Groenewegen	Finance Director	371,612	334451
Tjalling Smit	Commerce & Development Director	371,612	334451
Anneke de Vries	Stations Director	371,612	334451
Eelco van Asch ¹	Director of Operations	371,612	278709

1 Eelco van Asch took up his position as Director of Operations on 1 March 2021.

2 Exclusive of CLA-related increases based on the CLA of NS.

The difference between the base salary and the base salary actually received is explained by the wage restraint measure (10% reduction).

Variable remuneration

In their employment contracts, all members of the Executive Board waived entitlement to variable remuneration. They did not receive any compensation for this via their base salary. In accordance with the remuneration policy, the Supervisory Board could consider granting the variable remuneration once again. The variable remuneration cannot exceed 20% of the annual base salary.

Pension

The members of the Executive Board are also members of the NS pension plan. The employer pays two thirds of the total pension costs. The tax-facilitated pension build-up has been capped since 1 January 2015. The capping threshold for 2021 is €112,189 gross. All new and existing employees, including Executive Board members, whose salary exceeds that level will receive a gross allowance of 12% over the part of their income in excess of that threshold. A transitional scheme applies for members who were 46 or older - and in the employment of NS - on 1 January 2015. They receive a supplementary age-related contribution. This transitional scheme, as described in chapter 10, Article 26a of the NS CLA, currently only applies to Marjan Rintel .

Other benefits

The other benefits are equal to those that apply to all NS employees. Executive Board members are additionally entitled to an appropriate expense allowance, a lease car (or mobility budget allowance) and the use of communication devices. For business-related travel, two chauffeur-driven director's cars are available to all Executive Board members. NS takes this to include business trips not directly associated with the relevant member's appointment, but where private use is unavoidable given the combination with the obligations associated with that member's position at NS. All Executive Board members are subject to an additional tax liability for the use of the director's cars. Given that the private use of those cars is unavoidable and arises from the relevant member's position with NS, they will receive a net allowance that equals the wage tax due on the amount of the addition.

NS has not extended any loans, advances or guarantees to the Executive Board.

Pay ratios

As of 2021, under the Corporate Governance Code the pay ratios are calculated on the basis of the remuneration of the Chair and CEO and the average annual pay¹. This has resulted in a pay ratio for 2021 of 7. The internal pay ratio in 2020 was 8, based on the median.

1 The average annual remuneration of NS and Abellio Nederland employees for the 2021 calendar year is determined by dividing the total wage costs in the financial year concerned by the average number of FTEs during that year. Costs of external staff over the period from October 2020 up to and including September 2021 are included in this calculation on a pro rata basis, to the extent the external staff was hired for at least three months of the financial year.

Personal details – Executive Board

Marjan Rintel (b. 1967), Chair and CEO - Dutch nationality

- Focus on: communication and corporate affairs, audit and risk management, legal and board secretariat, Integrity & Compliance
- Other positions: member of the board of governors of Hermitage Amsterdam, member of the supervisory board of Nederlandse Loterij, member of the executive board of the National Committee for 4 and 5 May Foundation, jury member for the Young Captain Award
- Background: Business Administration (Groningen University), among others
- Career: Amsterdam Airport Schiphol, KLM, Air France/KLM, among others



Bert Groenewegen (b. 1964), Member of the Board for Finance, Dutch nationality

- Focus on: finance, Abellio, IT, procurement, accommodation, new trains, security
- Other positions: member of the supervisory board of Coolblue, member of the supervisory board of Teslin Participaties, member of the supervisory board of the Dutch Railway Museum
- Background: Business Economics (Tilburg University), among others
- Career: Exact Software, General Atlantic Partners, PCM Uitgevers and Ziggo, among others



Tjalling Smit (b. 1977), Director of Commerce & Development, Dutch nationality

- Focus on: strategy and innovation, network development, sustainability, commerce
- Other positions: member of the executive committee of Coöperatie OV Bedrijven
- Background: Business Administration (Nyenrode) and Hotel Management School, among others
- Career: Transavia, Air France/KLM, among others



Anneke de Vries (b. 1964), Stations, Dutch nationality

- Focus on: stations and area development, commercial operation and chain services, retail, QHSE and sustainability of stations, HR NS
- Other positions: patroness of NS Harmonie, UAF Award jury member, member of the supervisory board of Stichting Eye Filmmuseum
- Background: Economic Geography (University of Amsterdam), among others
- Career: ING Vastgoed Ontwikkeling, Rochdale social housing association, Bureau Architectenregister and Ahold Delhaize, among others

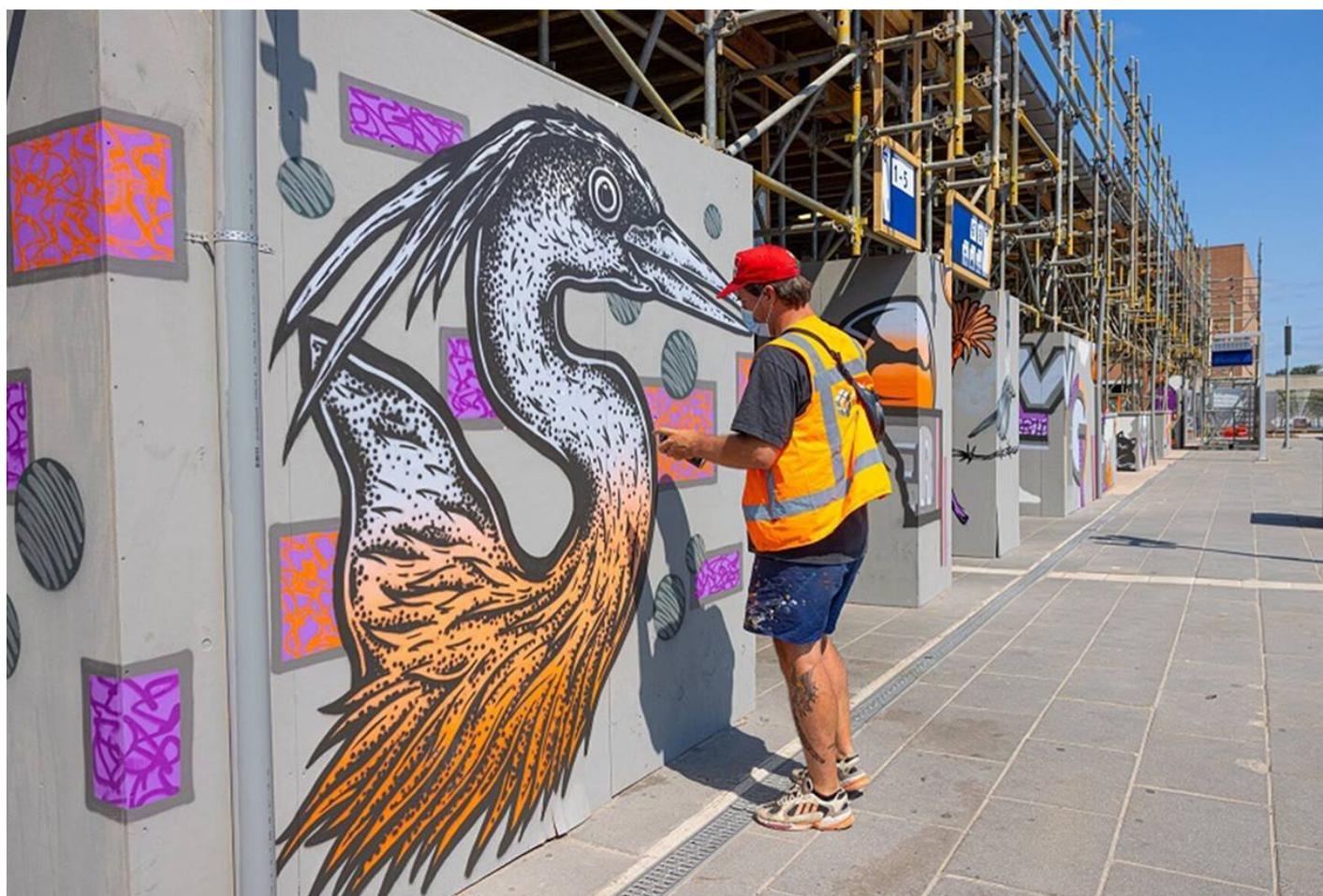


Eelco van Asch (b. 1972), Director of Operations, Dutch nationality, Executive Board member since 1 March 2021

- Focus on: operations management, service, maintenance, train modernisation, technology, QHSE in operations
- Other positions: -
- Background: Business Economics (Vrije Universiteit Amsterdam), among others
- Career: KLM, Air France/KLM, Delta Lloyd, among others



Corporate governance



Artists from the capital of Friesland decorate the construction screen at Leeuwarden station.

NV Nederlandse Spoorwegen is a public limited company under Dutch law. Its registered offices are in Utrecht. NV Nederlandse Spoorwegen is the holding company of NS Groep NV. NS is a state participation, The governance of NS is based on the modified two-tier company regime. NS has a two-tier management structure. NS Groep NV is managed by the Executive Board, which consists of the same individuals as the Executive Board of NV Nederlandse Spoorwegen.

Corporate Governance Code

As a major enterprise with a significant role in Dutch society, NS attaches great value to a high-quality governance structure. This is why NS applies the Dutch Corporate Governance Code 2016 (hereinafter the 'Code'), even though it is not a listed company. Given that NS is not a listed company and does not have a one-tier management structure, several elements of the Code do not apply to it. On its website, NS provides an overview of all the provisions in the Code plus explanatory notes on how NS applies those provisions.

Shareholder

The sole shareholder of NV Nederlandse Spoorwegen is the Dutch State. The role of the shareholder is performed by the Ministry of Finance. The General Meeting takes place annually, within six months of the close of the financial year. The matters discussed at the General Meeting include the annual report by the Executive Board. The General Meeting also adopts the financial statements, approves the profit appropriation (if applicable), discharges the members of the Executive Board from liability for their policy work, discharges the members of the Supervisory Board from liability for their supervision and instructs the auditor to audit the financial statements. Other general meetings can be held as often as is desired by the Executive Board, the Supervisory Board and the shareholder. Resolutions can also be adopted outside meetings.

Executive Board

The Executive Board is charged with and responsible for managing the business. The Executive Board develops the vision and associated mission, strategy and objectives of NS. The Executive Board aims to achieve the objectives and ensure the continuity of the company and its affiliated enterprises. The Executive Board is also responsible for implementing the NS strategy. Through the NS strategy, the Executive Board focuses on long-term value creation while weighing up the relevant interests of the stakeholders. That means that when making decisions, the Executive Board takes aspects such as safety and the role of NS in providing sustainable mobility into account, in addition to financial aspects. The tasks of the Executive Board are performed in part by the business units and subsidiary companies.

Responsibilities, tasks and procedures

The Executive Board's responsibilities, tasks and procedures are laid down in the Articles of Association of NV Nederlandse Spoorwegen and in the Rules of Procedure of the Executive Board. Pursuant to the Articles of Association of NV Nederlandse Spoorwegen, the Executive Board Rules of Procedure and the Supervisory Board Rules of Procedure, certain decisions by the Executive Board are subject to approval by the Supervisory Board and/or the General Meeting. The Executive Board is responsible for managing the business in a transparent way. The Executive Board reports to the Supervisory Board and the General Meeting.

Appointment

Executive Board members are appointed in the General Meeting on the recommendation of the Supervisory Board. The Supervisory Board decides on the number of members for the Executive Board. Members of the Executive Board can be suspended or dismissed by the General Meeting. Members of the Executive Board are appointed or reappointed for a period of four years at most. The Executive Board aims for a composition that is diverse, with a good mix in terms of gender and age. Both the Executive Board as a whole and each individual Executive Board member are authorised to represent NS.

Interests

Members of the Executive Board will not be involved in discussions or decision-making concerning matters or transactions where their direct or indirect personal interests conflict with the interests of NS. If all members of the Executive Board have a direct or indirect personal interest that conflicts with the interests of NS and, as a result, the Executive Board is unable to make a decision, the decision will be made by the Supervisory Board. The Supervisory Board must give its approval beforehand to decisions by the Executive Board about such matters as entering into transactions which involve conflicting interests that are of material significance to NS and/or the Executive Board member in question. Such transactions are published in the report of the Executive Board, stating the conflicting interest. There were no such transactions in 2021. Transactions involving conflicts of interests of members of the Executive Board or Supervisory Board are agreed with conditions that are in line with the market. The Company Secretary ensures that the proper procedures are followed and that the actions taken comply with the legal and regulatory obligations applicable to the Executive Board. This procedure was adhered to in 2021.

Rewards

The remuneration and terms and conditions of employment of the Executive Board members are established by the Supervisory Board with due regard for the remuneration policy adopted by the General Meeting. The remuneration policy for members of the Executive Board, to which reference is made in their respective employment contracts, includes the right to compensation upon dismissal on the initiative of NS, up to a maximum that has been fixed at one year's basic salary. The Supervisory Board decides whether a severance payment is to be paid and, if so, what the amount should be.

Supervisory Board

The Supervisory Board's tasks include supervising the Executive Board's policies and the general affairs of the company and its affiliated enterprises. It also advises the Executive Board. In performing its duties, the Supervisory Board focuses on long-term value creation for the company and its affiliated enterprises, taking into consideration the interests of the company's stakeholders. The Executive Board provides the Supervisory Board promptly with the information and resources the latter requires in order to do its work properly. If the Supervisory Board and/or one of its members consider it necessary, they can obtain information from the Executive Board, NS Audit, the external auditor, the Central Works Council and/or other officials and external advisers to NS.

Responsibilities, tasks and procedures

The Supervisory Board's responsibilities, tasks and procedures are laid down in the Articles of Association of NS, the Articles of Association of NS Groep NV and the Rules of Procedure of the Executive Board, the Supervisory Board and its committees. The Supervisory Board reports to the General Meeting. The Supervisory Board as a whole is responsible for the proper implementation of its tasks. Supervisory Board members are free to adopt positions independently from the Executive Board. Members of the Supervisory Board perform their duties without a mandate and independently of any personal interest in the company. At least once a year, the Supervisory Board discusses the performance of the Executive Board as a body and the performance of the individual members of that board.

Appointment

Supervisory Board members are appointed by the General Meeting, on the recommendation of the Supervisory Board, with due observance of the job profile and after consulting the Central Works Council. The Central Works Council has enhanced powers of recommendation covering the nomination of one third of the Supervisory Board members. The Supervisory Board has at least five members and at most nine. The Supervisory Board had six members as

at 31 December 2021. The Supervisory Board has drawn up a profile for its size and composition, taking account of the nature and activities of the company and the desired expertise and backgrounds of its members. The Supervisory Board aims for a composition that is diverse, with a good mix in terms of gender and age. Supervisory Board members can be appointed for two terms of four years each. After that period, they can be reappointed for a maximum of two terms of two years each. Reappointment after a period of eight years must be justified by the Supervisory Board in its report. In the case of a reappointment, the manner in which the relevant board member fulfilled their duties in the previous term is taken into account, and members will only be reappointed after careful consideration. The Supervisory Board's retirement schedule is published on the company's website.

Interests

Members of the Supervisory Board will not participate in discussions and decision-making about any matter or transaction where their direct or indirect personal interests conflict with the interests of NS.

Committees of the Supervisory Board

In view of the extent, diversity and complexity of the matters it has to handle, the Supervisory Board has set up a Risk and Audit Committee and a combined Remuneration and Appointments Committee. The composition of these committees is determined by the Supervisory Board. The committees advise the Supervisory Board and prepare its decisions. This allows the committees to assist effective decision-making by the Supervisory Board. The Supervisory Board as a whole remains responsible for the decisions that have been prepared by a committee.

Risk and Audit Committee

The Risk and Audit Committee (RAC) performs its duties pursuant to the Rules of Procedure as established by the Supervisory Board under the provisions of the Code. The RAC advises the Supervisory Board and prepares the Supervisory Board's decisions with respect to monitoring the integrity and quality of NS's financial reporting and the (assessment of the) effectiveness of NS's internal risk management and control systems. The RAC convenes as often as it deems necessary, and at least once a year with the external auditor without the Executive Board being present. The Rules of Procedure stipulate that the RAC must have at least three members. The RAC had six members as at 31 December 2021.

Remuneration and Appointments Committee

The combined Remuneration and Appointments Committee performs its duties pursuant to the [Rules of Procedure](#) as established by the Supervisory Board under the provisions of the Code. The Remuneration and Appointments Committee prepares the decisions of the Supervisory Board in areas such as the appointment of Executive Board and Supervisory Board members, the performance of the Executive Board and the Supervisory Board, and the formulation, implementation and monitoring of the remuneration policy for the Executive Board. The Rules of Procedure stipulate that the Remuneration and Appointments Committee must have at least three members. The committee had five members as at 31 December 2021.

External auditor

The external auditor is appointed by the General Meeting. The external auditor reports to the Supervisory Board and Executive Board on its audit. After the examinations and audit, the auditor issues an audit opinion regarding the truth and fairness of the NS financial statements.

The RAC annually reports to the Supervisory Board on the performance of and developments in the relationship with the external auditor. The external auditor attends the meetings of

the Supervisory Board in which its report on the audit of the financial statements is discussed, and is also available for the General Meeting in which the adoption of the financial statements is handled. The external auditor also attends the meeting of the Supervisory Board held to discuss the six-monthly figures. In principle, the external auditor attends the RAC meetings, unless the RAC determines otherwise. The external auditor immediately informs the chair of the RAC if, in the course of its audit task, it encounters any actual or suspected abuses or irregularities. If an actual or suspected abuse or irregularity concerns the functioning of an Executive Board member, the external auditor reports this to the chair of the Supervisory Board. EY has been NS's external auditor since the 2014 financial year. In 2020, the appointment of EY in that role was extended by two years to cover the period up to and including the 2023 financial year, in line with the rule regarding the maximum term of office of an external auditor.

NS Audit

NS Audit provides independent and objective assurance and advice on the adequacy of governance, risk management and internal control measures in view of the need to support NS's objectives and promote continuous improvement. NS Audit is subordinate to the Executive Board, with the NS Audit Director reporting directly to the Chair and CEO. The NS Audit Director also reports to the chair of the RAC. The NS Audit Director has direct access to the NS Chair and CEO, the chair of the Risk and Audit Committee, the members of the Executive Board and the external auditor.

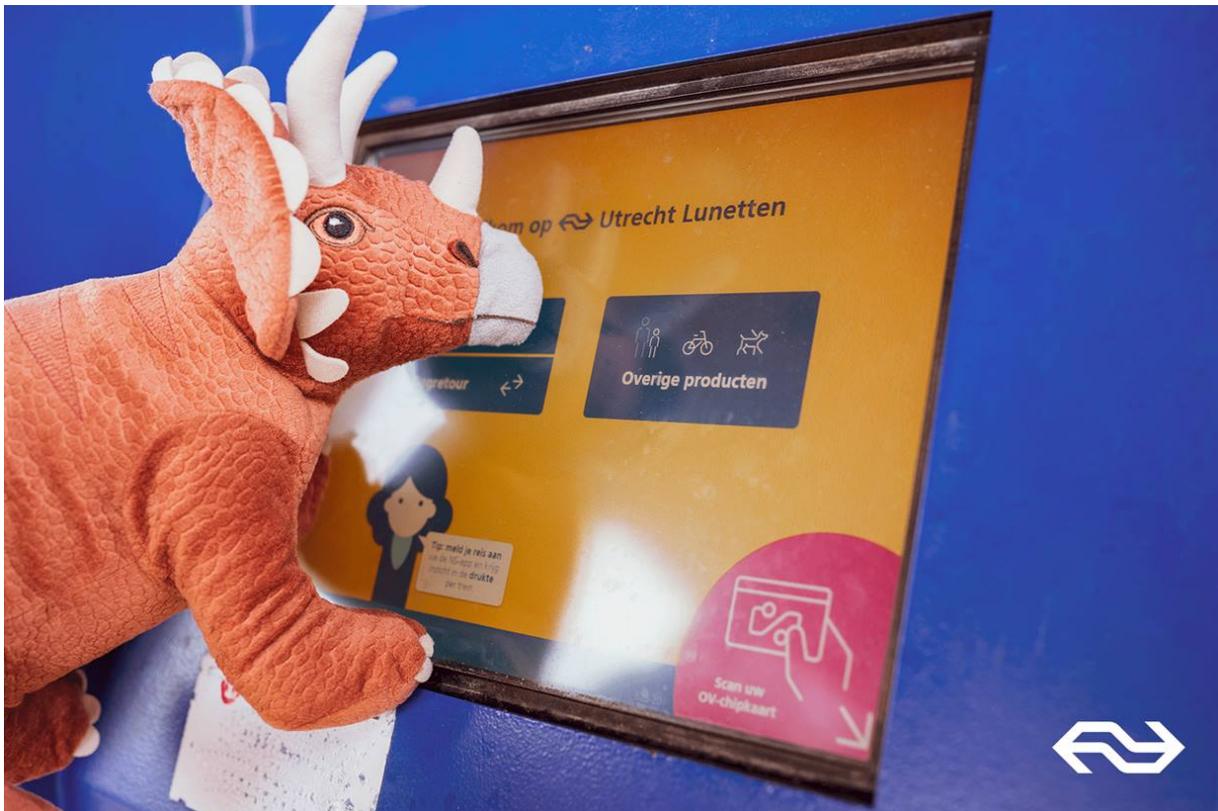
Risk

Risk governance at NS has been set up using the 'three lines of defence' model. The guiding principle in this model is that the first line of defence (the operational business) is responsible for the management of the risks by embedding this properly in processes and clearly assigning responsibilities. The second line of defence, which involves the NS Risk, Legal and Integrity & Compliance (I&C up to and including 2021) departments, provides support and advice and makes sure that line managers are fulfilling their responsibilities as intended. In addition, there are safeguards that risks are demonstrably taken into account in decision-making, thanks in part to advice from this second line of defence. The third line of defence, involving NS Audit, carries out independent audits to make sure that the risk management and internal control system is working properly. Finally, safeguards have been put in place to ensure that NS will learn from incidents, thus promoting the continuous improvement of risk management processes.

Sustainable enterprise

The Council for Sustainable Business Practices is NS's policy and decision preparation body for sustainable enterprise. The Council is comprised of the business unit and staff department directors and its meetings are chaired by the Member of the Board for Commerce & Development. Where necessary, proposed decisions and policies are submitted for approval to the Executive Board. Progress and development in sustainability results are monitored and managed through the regular planning, control and reporting cycle. The Council for Sustainable Business Practices periodically discusses the KPI reports on sustainability results. In accordance with the Code, the Executive Board is responsible for the aspects of Corporate Social Responsibility that are relevant to NS. The Executive Board reports on this to the Supervisory Board and the General Meeting.

Organisational culture, integrity and compliance



Every year, some 40,000 objects are found at stations or in the trains. During the 'Lost Cuddly Toy Week', NS hopes to reunite a number of cuddly toys with their owners.

NS aspires to be an organisation characterised by an open and safe corporate culture where professional integrity is a matter of course. While we attach great importance to result-oriented working practices, they should be consistent with the norms and values to which we have committed ourselves. We have measured the maturity of integrity culture at NS since 2017. These measurements show that we pursue a controlled approach of risks and issues surrounding integrity and compliance. Integrity and compliance issues are a key consideration in all our decisions and management measures. Over the next few years, we intend to make further progress and develop into an organisation that tackles integrity issues proactively, thus preventing problems from arising.

Open and ethical culture

The conduct of NS's employees and the choices they make in their work are crucial to the integrity of the company. We promote a culture of openness and accountability by adopting the Hearts and Minds method to stimulate professional integrity and provide for periodic measurements of the maturity level achieved. Additionally, NS has a planning and control system in place that helps to make and keep integrity and compliance risks and issues within the organisation visible and manageable.

NS also applies an updated [Code of Conduct](#) that helps employees make decisions and conscious choices in a range of possibly difficult situations, including the use of social media. Furthermore, the Code of Conduct forms a basis for handling integrity reports and investigations. The code is consistent with the relevant OECD guidelines and with the Dutch Corporate Governance Code. It serves as the basis for policies adopted for specific themes, such as conflicts of interests, competition, information protection, the fight against corruption and fraud. In addition, NS pursues a nationwide programme to improve existing social behaviours on the shop floor. The NS Code of Conduct serves as the guiding document for this programme.

Governance, integrity and compliance

The first line of defence is responsible for ethical business operations and regulatory compliance. It benefits from advice by various departments, including Legal, Risk, Finance, Procurement, HR, Security and Quality, Health, Safety & Environment. Our Integrity department supports efforts to encourage desired behaviour, regulatory compliance and observance of the NS Code of Conduct. The department develops policy, provides information on that policy, investigates integrity violation reports, provides solicited and unsolicited advice and promotes integrity awareness within NS. This task was moved to HR and NS Risk in 2021. Supervision of business risks in the area of integrity and compliance, and the associated reporting to the Executive Board, the Supervisory Board's Risk and Audit Committee and the organisation, were transferred to NS Risk in 2021 to ensure integrated reporting. Issues are submitted to confidential advisors within NS, if and to the extent permitted by confidentiality rules.

NS has an Integrity & Compliance Committee, whose members include the Directors of HR, Legal, Security and Risk. This committee assesses new integrity and compliance policies and provides advice on I&C-related issues and reports.

Advice and information for employees

On the Integrity Portal on the intranet, employees can find a wealth of information about integrity and compliance-related issues. For instance, the portal includes a current overview of NS's integrity and compliance policies. In addition, employees are free to submit concrete issues and dilemmas to the Integrity department. They can ask questions by email or by telephone. The Integrity department advises employees about possible solutions and measures. In 2021, the department answered 293 questions.

Integrity Desk and Regulations for Reporting Integrity Issues

The Regulations for Reporting Integrity Issues (including whistle-blower reporting) guarantee that employees can report actual or suspected irregularities, that NS deals with these reports carefully and confidentially and that employees will not experience any adverse consequences of having reported an incident. Employees have several options for (anonymously) reporting integrity issues or abuses: via the Integrity Desk on the internal network, via a special app, by email, by telephone or in a one-on-one conversation. An integrity violation report may result in a recommendation to the person who reported the issue and to the managers involved on any subsequent steps or measures. It may also be decided to ask NS Security to conduct an independent investigation into the cause of the incident, with NS taking measures based on the outcomes. A total of 75 integrity violation

reports were received in 2021. This is an increase compared with the 66 reports received in 2020, but the figure for that year appears to have been a temporary low relative to previous years (2019: 96). Of all finalised reports in 2021, 28% were found to be wholly or partially founded.

Employees may seek support from one of NS's confidential advisors if they want to report an integrity violation (or another issue). In 2021, they did so on 118 occasions (2020: 80). This increase is attributable to the higher number of questions on workplace conflicts resulting from the transformation and the associated reorganisation. External stakeholders can report issues to NS via a special [desk](#).

Compliance

We are aware that as a state participation we serve as an example to other players, must be transparent on our regulatory compliance and act with integrity at all times. We are keen to ensure, therefore, that we comply with all the applicable laws and regulations and abide by the standards and values in force. In these efforts, NS is bound to an extensive compliance framework that governs compliance with external laws and regulations such as the Railways Act, the Competition Act, the main rail network franchise, NS's obligations under the CLA, the Working Hours Act and the Working Conditions Act. Over the past year, NS has taken additional measures to make sure that our employees' (digital) home offices meet the requirements of the Working Conditions Act.

In addition, we apply internal policy frameworks such as the NS Code of Conduct, the procurement regulations and the train drivers' manual. NS has a compliance management structure in place to ensure that we keep abreast of this multitude of rules, standards and norms and are able to bring our social responsibility into practice. These requirements have been translated into performance indicators and norms regarding aspects such as competition, tendering procedures, privacy issues and safety. We also have a dashboard for NS as a whole, covering the key risks and issues regarding compliance plus an overview of all relevant KPIs. In addition, we provide training courses in all parts of the company to keep our employees' knowledge of laws and regulations up to date.

Privacy

The need to handle our passengers' and employees' personal data carefully is self-evident. Our approach is based on four principles: 'Transparent', 'Safe with NS', 'Choice and control' and 'Innovative and open'. To safeguard compliance with privacy laws, NS has set up a privacy structure and privacy governance system and maintains a permanent focus on privacy training and awareness, for example through (compulsory) e-learning programmes, training courses and newsletters. We have appointed 'privacy champions': employees who, in addition to their regular work, answer questions and serve as the eyes and ears of the Privacy Office within their respective business units. Together with the Data Protection Officer and the Privacy Officers, these privacy champions make up the privacy function within NS. This enables us to maintain short lines of communication between the business units and the privacy experts and to create an extensive network for privacy-related knowledge within NS as a whole.

'My NS' incident

Despite NS's careful handling of customer and employee data, incidents cannot be ruled out. One serious incident in 2021 was a cyberattack on customers' My NS accounts. The accounts of these customers were hacked using passwords obtained from outside NS. We informed the customers concerned and reset their passwords. In cases such as these, NS always notifies the supervisory authority and the person concerned. In all cases, data leaks also serve as input for process improvements.

Privacy by design

Effective and careful data processing starts with privacy by design. NS integrates measures to protect the privacy of individuals in the very design of a product or service. In addition, we conduct frequent data protection impact assessments to identify any risks for the individuals concerned and take measures to control those risks.

Risk management



Children in action at the NS Kids' Club at the Team NL Olympic Festival in Scheveningen.

NS wishes to keep the Netherlands accessible in a sustainable manner. Our operations involve a number of uncertainties. Risk management is all about targeting uncertainties that could impede the achievement of the strategic objectives.

Organisation of risk management

To ensure permanent integral management of risks, risk management must move along with internal and external developments. We use probabilistic planning schedules and analyses to present a realistic picture of the future impact of uncertainties and risks, so as to gain better insight into the reliability of project-related plans, policy choices and risk budgets. This supports the decision-making process.

Recording and reporting

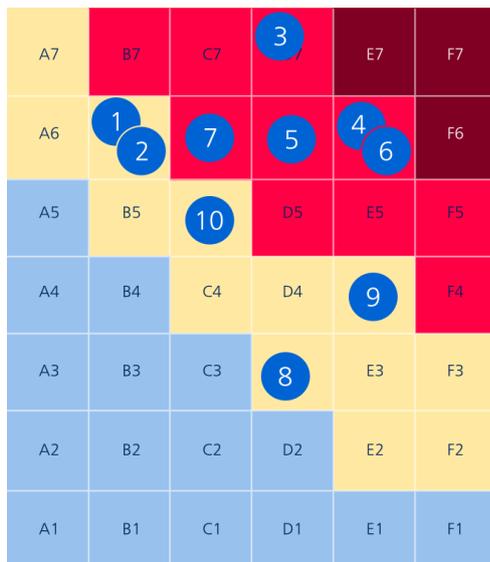
Identified risks, including the risk owners, have been recorded in risk registers and are assigned quantitative scores using a single, uniform risk matrix. Every three months, NS reports the main risks for each business unit; those reports are discussed in the Executive Board as part of the planning and control cycle. Any risks that fall outside our risk appetite are reported immediately and escalated where necessary. The Executive Board reports on and renders account for the risk management and internal control system to the Supervisory Board after discussing it in the Risk and Audit Committee.

Risk appetite and risk tolerance

The risk appetite and risk management we are aiming for in six risk themes at NS can be found in our 'risk appetite statements'. Each risk theme is linked to specific performance indicators with a quantitative bandwidth. Every year, the Executive Board evaluates and, if necessary, adjusts the risk appetite for each theme. The table below presents the current risk appetite for each risk theme plus the most important group risks. We apply a uniform method for determining the risk appetite for all of these themes, which also covers the subsidiaries Abellio UK and Abellio Germany. The risk appetite of NS in 2021 has not changed compared with 2020.

The individual risks have been included in a risk matrix. The more to the right the risk is positioned (from A to F), the more likely it is to materialise. The higher its position in the matrix (from 1 to 7), the greater its impact on NS's objectives should the risk materialise. The colours show how each risk relates to NS's risk appetite and at which level within NS any residual risk should be accepted if no further mitigating measures are or can be taken. Click on a risk for a pop-up explanation.

The more to the right the risk is positioned (from A to F), the more likely it is to materialise. The higher its position in the matrix (from 1 to 7), the greater its impact on NS's objectives should the risk materialise. The colours show how each risk relates to NS's risk appetite and at which level within NS any residual risk should be accepted if no further mitigating measures are or can be taken. We also provide explanatory notes to individual risks in the last table of this chapter.



Key changes in the risk profile compared with 2020

The table below presents the risk profile for NS's key risks in 2021 and the measures we have taken in response. We also describe the most significant changes.

1 Safety <i>Averse</i>		1. Safety: Failure to fulfil our duty of care in cases of major safety incidents involving passengers and/or staff.	+
2 Compliance <i>Averse</i>		2. Non-compliance: Not complying with legislation and regulations or exceeding applicable norms and values.	+
3 Finances <i>Averse</i>		3. Revenue: Long-term decrease in revenue.	-
		4. Savings: Failure to implement cost-saving measures due to the impact of the COVID-19 crisis.	+
		5. Foreign operations: Loss-making investments due to setbacks in foreign operations.	-
4 Operations <i>Averse</i>		6. Infrastructure: Inconvenience to customers caused by lack of infrastructure capacity and quality improvement backlog.	-
		7. IT (incl. cyber security): Failure to meet operational and security requirements for IT systems or those required by laws and regulations.	=
		8. Agility: Providing improvements too late or with insufficient results.	=
		9. Engagement: Psychosocial problems arising from job stress and COVID-19-related measures.	-
		10. Staffing capacity: Staff shortage as a result of tight labour market.	-
5 Reputation <i>Neutral</i>		<i>The main group risks do not concern the theme of Reputation.</i>	
6 Sustainability <i>Tolerant</i>		<i>The main group risks do not concern the theme of Sustainability. This presents major opportunities for NS.</i>	

 Trend improved
  Trend unchanged
  Trend worsened

Mixed risk profile

The risk profile shows a mixed development. Generally speaking, the profile is improving for the safety and compliance domains, where measures are becoming increasingly and visibly effective. The risks in the finance and operations domains remain high, however:

- As regards finance in the Netherlands, uncertainty regarding passenger numbers remains high and turnover is under constant pressure due to changed passenger behaviour, such as the increasing tendency among employees to work from home. While the cost-saving measures are making progress, they risk being delayed.
- As regards finance abroad (Abellio Germany), the restructuring processes in North Rhine-Westphalia and Baden-Württemberg have come to an end, but the risk of claims and lengthy proceedings remains. Franchises are also terminated in the United Kingdom, which involves financial risks upon closure.
- As regards operations, the principal risks concern infrastructure, where the lack of funds (for investments and maintenance by ProRail) is becoming increasingly problematic.

Another important area of focus in 2021 was further adaptation to climate risks and mitigating cyber risks. Via the Taskforce on Climate-related Financial Disclosures (TCFD) we analysed the risks and opportunities for NS associated with climate change. These risks and opportunities are incorporated into the regular risk assessments.

Group risks

Group risk	Development 2021	Control measures
<p>1. Safety: The risk that NS in the Netherlands does not take adequate measures to prevent safety incidents or does not sufficiently fulfil its duty of care.</p> <p>Risk score in matrix B6</p>	<p>NS works on the basis of a maturity model (Hearts & Minds) to control safety risks. The key risks have been identified for each domain, owners and advisers have been assigned. The risks are managed proactively as far as possible.</p>	<ul style="list-style-type: none"> • Rail travel is one of the safest forms of mobility. NS seeks to continue improving safety by means of the control of the safety risks and continuous improvement of safety performance. We have made great progress in all areas. In the area of cyber (see risk 7), more work is needed to reach the desired maturity and further manage the risks. • We implemented the technical and organisational measures in response to the major railway incidents (derailment and collision) in 2020 according to plan. Measures include adjusting the maintenance regime of trains and temporary speed restrictions when passing a number of unguarded level crossings. • In the field of security and social safety, NS has implemented organisational improvements and we are affiliated with the relevant government agencies. Terrorism situations are regularly practised. In addition, a programme to improve the monitoring of NS property has been initiated.
<p>2. Non-compliance: The risk that NS does not comply with legislation and regulations or exceeds applicable norms and values. risk score in matrix: B6</p>	<p>The control of compliance was further strengthened in 2021, as part of a multi-year programme. In addition, compliance policy, monitoring and accountability were further expanded.</p>	<ul style="list-style-type: none"> • We also have a dashboard for NS as a whole, covering the key risks and issues regarding compliance plus an overview of all relevant KPIs. • In addition, we provide training courses in all parts of the company to keep our employees' knowledge of legislation and regulations up-to-date. • NS has a nationwide programme to improve existing social behaviour on the shop floor. The NS Code of Conduct serves as the guiding document for this programme.
<p>3. Revenue: The risk of losing customers structurally and/or customers travelling less. Risk score in matrix: D7</p>	<p>Revenue fell sharply in 2020 and 2021 as a result of COVID-19, and expectations for the coming years are also substantially lower, partly due to changed travel behaviour and more working from home. Ensuring that customers return is a key focus for our company and for the mobility issue facing the Netherlands. This is how we keep the Netherlands accessible.</p>	<ul style="list-style-type: none"> • Studies have taken place to understand changing travel behaviour, and we update passenger forecasts with greater regularity. • Such insights are used to: • Win back passengers with an offering that matches the new travel behaviour. • Attract new passengers by means of campaigns and improvements in the offering and services (e.g. Increasing the supply of chain services, improvement of the App, new functionalities for business customers). • These insights are used whenever possible when making investments and any adjustments to services.

<p>4. Savings: The risk that NS will not realise the savings required as a result of the COVID-19 crisis. Risk score in matrix: E6</p>	<p>NS implementing a €1.4 billion savings plan for the period up to and including 2024; Agility is crucial. Implementation of these plans is coordinated with the employee participation bodies and trade unions, with some savings no longer being fully achieved (on time).</p>	<ul style="list-style-type: none"> • A dedicated team has been set up to drive the transformation and develop savings initiatives for direct and indirect employees. In this, we work together with social partners and employees. Investment plans are adjusted and put on hold if possible. We periodically reassess forecasts and monitor progress.
<p>5. Abroad: The risk of NS making a loss on its investments abroad (Abellio). Risk score in matrix: D6</p>	<p>In the United Kingdom, Abellio has signed two new contracts, whereby the risks lie more with the franchising authority. Abellio Germany is involved in insolvency proceedings and loss-making contracts in Germany are being restructured or terminated. There is an inherent risk of claims and litigation in insolvency proceedings.</p>	<ul style="list-style-type: none"> • In Germany, the restructuring processes in North-Rhine Westphalia and Baden-Württemberg have come to an end, but the risk of claims and lengthy proceedings remains. The other franchises will be continued and, insofar as they are loss-making, modified. • Franchises will be terminated in the United Kingdom, which involves financial risks upon closure.
<p>6. Infrastructure: The risk that the implementation of the timetable and the realisation of our ambitions (high frequency and speed increase) will be negatively affected by infrastructure bottlenecks. Risk score in matrix: E6</p>	<p>In 2021, infrastructure bottlenecks have emerged that negatively affect the operation of the train services and the realisation of our domestic and international ambitions.</p>	<ul style="list-style-type: none"> • We discuss these matters within the Medium Term process together with ProRail and the Ministry of Infrastructure and Water Management.
<p>7. IT (including cyber): The risk of IT systems failing to meet operational and security requirements. Risk score in matrix: C6</p>	<p>Measures are in place to increase control but threats including cyber risks (including on the train) are now increasing as the threat landscape continues to grow.</p>	<ul style="list-style-type: none"> • The most important critical systems in train logistics control have been replaced. We will largely replace the major operational legacy systems, including the travel information system and Data Warehouse systems, by mid-2022 and 2023. Business continuity agreements with suppliers have been tightened. • In order to mitigate the IT capacity shortage, external staff will be replaced by in-house staff where possible and junior staff will be trained internally to a higher level of knowledge. The transformation plan is being implemented, among other things, through Agile working with extra attention being paid to retaining technical talent. • Based on a roadmap, cybersecurity will be further strengthened, both in terms of process by means of governance and policy, and substantively in the case of IT and operational technology (OT) on and around the trains. This is becoming increasingly important given the growing cyber threat and the designation of NS as a provider of an essential service. • Cyber risk analyses were conducted for example on the operational fleet and ransomware vulnerability.

		<ul style="list-style-type: none"> • NS participated in the creation of the 'roadmap Vitaal', which was drawn up under the leadership of the Ministry of Infrastructure and Water Management, and NS drew up an implementation plan for the Networks and Information Systems (Security) Act (WBNI). This will further shape the protection of vital mobility processes. • Awareness campaign concerning secure working from home and extra alertness internal IT security monitoring. • A phishing campaign has started and will continue for years to come. • Every NS employee has been given a secure laptop which can be used to work from home. • Access management has been tightened. • As a result of incidents, improvement actions have been taken on, for example, the website www.ns.nl.
<p>8. Agility: The risk of NS failing to achieve sufficient change and innovation capability. Risk score in matrix: D3</p>	<p>During the crisis, we kept the Netherlands moving and adapted to the new circumstances, and thus demonstrated our agility and flexibility. Because of the financial situation and forecasts of lower passenger numbers, we are structurally working on a smaller and more agile NS.</p>	<ul style="list-style-type: none"> • Supported by a Transformation Team, NS is working in a structured manner on cost savings, behavioural change and improved result-oriented strategies so that we can work together more decisively and respond more quickly to changes. We also promote advancement and retraining so that people remain employable and flexible in the changing context.
<p>9. Psychological absence The risk of psychosocial complaints due to work stress and COVID-19. Risk score in matrix: E4</p>	<p>The transformation and the (governmental) measures resulting from the COVID-19 crisis have a negative impact on employees.</p>	<ul style="list-style-type: none"> • Regular measurements among employees to be able to take targeted measures. • Measures for safe and healthy home working (physical and mental). • Development and support of managers. • Stimulating movement and physical fitness. • Accessible supply of preventive coaching. • Targeted approach per target group to improve labour potential.
<p>10. Staffing The risk of staff shortages due to tight labour market. Risk score in matrix: C5</p>	<p>High staff outflow and slightly rising trend in absenteeism, combined with an increasingly tight labour market.</p>	<ul style="list-style-type: none"> • Strategic personnel plan per position. • Labour market campaign. • Focus on retention. • Scaling up training capacity.

Dialogue with our stakeholders in the Netherlands



NS employees offered passengers a lift in antique cars to benefit the charity Stichting Vlinderkind.

In addition to daily contact with passengers, NS maintains close relations with many different partners and stakeholders. Thanks to this dialogue, which is based on trust, we are able to jointly seize opportunities, identify risks at an early stage and, if possible, mitigate them. These talks also provide valuable expertise and ideas for our organisation and for better, more sustainable services for our passengers. The permanent dialogue provides input for the steps we are considering to keep the Netherlands accessible in a sustainable manner, for everyone.

Our stakeholders

Our stakeholders are the people or groups who are affected by our actions and who, in turn, influence our organisation and services. NS is continuously monitoring who the stakeholders are. The nature of our contacts with stakeholders is determined in some cases by legislation (government ministries and regulatory authorities), in some cases by collaboration in the transport sector (carriers, ProRail) and in other cases by the public nature of our service (passengers, politics, the media and interest groups). Some stakeholders are on the scene only temporarily in connection with specific subjects, but their input too can be relevant and we take it seriously. We organise sessions with stakeholders on specific themes or promote a broad stakeholder dialogue on the course of NS, with a focus last year on, for example, the public tender for the traction energy contract.

We also held regional meetings with local stakeholders. The dialogues with our stakeholders take place at various levels within the organisation, with the Executive Board often being involved. This enables us to build trust.

Collaboration in the transport sector

We work with partners in the transport sector to ensure an optimum door-to-door journey for our passengers. This collaboration features prominently at all levels of our organisation, in terms of strategy as well as operations, and with an eye on the long-term vision that we drew up in the Mobility Alliance with a view to improving and optimising mobility within the Netherlands.

Vision for the Future of Public Transport up to 2040

If the Netherlands is to remain accessible, ProRail, travellers' organisations and other stakeholders will have to continue their mutual dialogue. As before, in 2021 NS participated in the efforts to flesh out the Vision for the Future of Public Transport up to 2040 (*Toekomstbeeld 2040*). The Development Agenda (which was presented to the House of Representatives in early 2021) will set the course of the Ministry of Infrastructure and Water Management's mobility policy in the years to come. In 2021 the participants worked to make the Development Agenda more concrete. NS has contributed to the realisation of the Action Agenda for Public Transport Hubs and is also involved in elaborating the various different corridor studies. The further elaboration of the Vision for the Future of Public Transport up to 2040 will also provide information that will serve as input for the government's decisions during its current term of office.

Tailored regional solutions

NS serves the whole of the Netherlands. We aim to meet the needs of the various regions, while ensuring smooth connections within the Netherlands and with other countries. The 'regional management dinners' - an initiative launched by NS - have met with a favourable response. During these dinner sessions, regional administrators and the NS Executive Board discussed their shared ambitions and challenges and collaboration between the various regions and NS. The sessions marked the ongoing intensification of collaborative ties between NS and the various Dutch provinces. Over the past year, we continued our consultations with regional authorities about the development of the timetable and the railway / public transport infrastructure, and about the role of train services in accessibility and mobility issues. The regional authorities are also greatly interested in hub development (also with a view to the urgent housing construction task), international railway connections

and a better spread of passengers during peak times. Regional authorities in the Netherlands are facing major tasks and complex challenges, such as the urbanisation challenge and the associated mobility issues. NS can make a key contribution to help solve these issues. NS is keen to intensify its collaboration with provincial and regional authorities by jointly developing plans and implementing measures.

European Year of Rail

Within the context of the European Year of Rail, NS organised two events at which it entered into dialogue with a range of stakeholders. The events took place upon the arrival of the Connecting Europe Express in Amsterdam on 3 October, and during the special climate train journey to Glasgow on the occasion of the COP26 climate summit in that city.

Dilemmas in the discussions

NS shares the dilemmas it is facing with stakeholders in good time, so that they have a better understanding of our considerations and joint solutions can be found. We provide our stakeholders with feedback about their ideas and recommendations and the effect that the dialogue has had on NS policy, both in regular discussions and thematic sessions and in reports. For example, we tell them how we used their input in adapting our product portfolio or creating a new timetable. The aim is that passengers overall should benefit from this, although there will inevitably be passengers for whom any given choice has an adverse effect. We have contacts with consumer organisations to address these dilemmas.

Consultations with the trade unions

NS attaches great importance to good relations with the trade unions. In February 2021, NS and the trade unions agreed on a new CLA which also covers the Social Plan, pension arrangements and an employment guarantee. The term of the new CLA runs from 1 April 2020 to 1 July 2022. The Social Plan and the employment guarantee will remain in effect until 1 January 2025. At several points in time during the rest of the year, NS consulted with the unions on the implementation of agreements under the new CLA and the associated HR policies. For example, these talks covered an early-retirement scheme and a leave savings scheme. NS also talked with the unions about the transformation of NS and the organisational changes arising from that process.

Case: international ticketing road map

NS wants to introduce an easier and more customer-friendly system for buying and travelling with international train tickets. The idea is that buying an international train ticket should become as uncomplicated as booking a plane ticket. At present it is not always possible to buy a ticket well in advance of the travel date, for instance, and there are differences between countries on conditions such as bicycle-on-the-train rules or rates for specific age groups. To change this, NS decided it was necessary to find solutions at the European level. To that end, a new coalition has been formed within the Community of European Railway and Infrastructure Companies (CER). This 'Passenger CEO Coalition' is chaired by Marjan Rintel. One of the three main topics is ticketing. Within a special task force, several carriers have developed an ambitious road map. As a guiding principle, it was agreed that the carriers would take the initiative themselves rather than wait for national and European politics come into action. This resulted in a road map that includes all NS's objectives. In September, all CER members (there are around 70, including NMBS, DB, SBB and ÖBB) approved the road map. We are now seeking partnerships, independently and within the framework of the CER, with consumers' associations, the European Commission and others for the purpose of implementing the road map.

Regional collaboration has also resulted in extension of the Leeuwarden-Meppel Sprinter route to Zwolle. Within the context of the Programme for the Northern Netherlands, ProRail delivered the new infrastructure for this project between Meppel and Zwolle in the summer of 2021. The province of Friesland has temporarily adapted bridge opening times on the route to help realise this project. Passengers from Grou-Jirnsum, Akkrum and Wolvega can now travel to Zwolle directly, and also benefit from better connections with the rest of the Netherlands. At the request of regional parties, NS accelerated the launch of this new Sprinter service and began operations on 6 September rather than wait until the start of the new timetable in December.

Case study: Regional development agendas

NS is keen to intensify its collaboration with provincial and regional authorities by jointly developing plans and implementing measures. This includes drafting regional development agendas for the period until 2030. In 2021, we worked on development agendas that included mutual agreements between public and private parties. The development agendas cover topics such as building houses and creating work environments around our stations, improving all links in our passengers' door-to-door journeys, making transport more sustainable and the phased further development of our timetable. The agendas now also include agreements on the manner of collaboration, accountability and execution monitoring. The agendas differ from region to region.

In the southern region (covering the provinces of South Holland, Zeeland, North Brabant and Limburg), the emphasis is on initiatives such as improving and accelerating national and international connections to Germany and Belgium. One result is the new IC connection from Zeeland to the Randstad conurbation, to be launched in 2022. The development agendas are encouraging parties in the southern region to intensify their collaboration on pre- and post-2030 objectives.

Stakeholder dialogue diagram

The numbers mentioned in the dialogue content refer to the related material themes. For an overview of all material themes, go to [Notes to the material themes](#) and the [Materiality Matrix](#).

European	Nature of dialogue	Content of dialogue	Effects of the dialogue on NS policy
EU institutions, CER, UIC, ERA	Informational, creation and to determine standpoints	2, 5, 6, 9 Promote sustainable mobility in Europe and a level playing field with other modes of transport such as air and car, stimulate international rail traffic (for distances up to 700 km), investments and co-financing, stimulate innovation, facilitate international door-to-door travel, improve international ticketing and customer services	<ul style="list-style-type: none"> • Strengthening position of (international) passengers • Optimising cooperation between European railway companies and institutions • Sustainable investments in the railway sector that contribute to climate objectives by encouraging the modal shift from air to rail • NS's reputation as a sustainable partner
National (NL)	Nature of dialogue	Content of dialogue	Effects of the dialogue on NS policy
Customers (consumers and businesses)N.B. Some customer groups are represented by interest groups. See also LOCOV	Informational, creation, monitoring	1, 2, 3, 4, 11 Timetable, public transport card (OV-chipkaart), customer satisfaction, handling complaints and inquiries, consumer portfolio, corporate portfolio, collaboration with bus, tram and metro companies, accessibility	<p>Improved services, including:</p> <ul style="list-style-type: none"> • Providing passengers better insight into crowding: technological improvement to better predict crowding, with crowding indicators tailored to changed experience of crowding • Further development of Treinwijzer: improved customer experience of the voluntary registration system, through which passengers can be informed in case of a change in the predicted levels of crowding • NS Flex: over 670,000 customers have discovered the benefits of our 'travel now, pay later' option. • Introduction of the Young Person's Day Ticket; over 100,000 Young Person's Day Tickets are sold monthly • Introduction of Vroegboek Dal (early reservation/off-peak) proposition in November, which offers passengers a 10% discount • Improvement of group ticket: available from 2022 for groups of two persons or more (previously only for groups of at least four persons) • Introduction of new proposition for the business market: Traject op Maat (customised route), which offers flexible commuting options to capitalise on changing travel behaviour of commuters • Introduction of new service for large business clients: NS Go. With this service, we help companies to develop a more sustainable mobility policy • Improve communication between people with a hearing impairment and NS Customer Service. From October 2021, customers can get assistance from a telephone interpreting service (Teletolk) when calling NS Customer Service • Improving communication for people with a hearing impairment on the train. From October 2021, passengers with a hearing impairment will have access to the same information as hearing passengers thanks to a pilot project during which announcements are shown on information screens in trains • Increasing the number of stations where travel assistance is offered (over 25 stations) • Improving accessibility of Sprinters. As of December 2021, all NS Sprinters are equipped with retractable steps for easy access

			<ul style="list-style-type: none"> • Nationwide roll-out of option for reporting intimidating atmosphere or unsafe situations via WhatsApp or text messaging. Around 10% of the total number of reported incidents are reported in this way • Of the 400 stations, 82 are being equipped with access gates to reduce fare dodging and aggression at stations and in trains. Therefore, eventually, over 90% of passengers will pass through a gate at the start of their train journey or when they exit the station. Access gates were installed at station no. 80 in 2021; Groningen and Schiphol will follow later. NS Customer Service. As of October 2021, customers can get assistance from a telephone interpreting service (Teletolk) when calling NS Customer Service
Shareholder Ministry of Finance	Intensive involvement	1, 12, 13, 14, 15, 16, 17 NS performance, remuneration, strategy, appointments, major investments, standard return, dividend policy, financial situation/ COVID-19, CSR, foreign activities	<ul style="list-style-type: none"> • Determining financial policy • Appointment of new Director of Operations • Executive Board remuneration • Revision of dividend policy • Transparent reporting in accordance with GRI, participation in the Ministry of Economic Affairs and Climate Policy Transparency Benchmark • Progress made on GRC measures and savings through efficiency measures • Investment decision on modernisation of lengthened interregional rolling stock (VIRM IV) • Restructuring of foreign operations • Impact of COVID-19 on financial performance and support given to NS • Monitoring CSR targets
Ministry of Infrastructure and Water Management	Intensive involvement	1, 2, 4, 5, 8, 9, 11,16 NS Performance, door-to-door journey (TrainWijzer, number plate recognition), Travelling and working in safety, international connections, HSL-South train services, cross- border transport, social and rail safety, public transport card (OV- chipkaart), accessibility, timetable, transparency, sustainability, station agenda	<ul style="list-style-type: none"> • Transportation Plan for 2022, half-yearly and annual report for 2021 • Timetables for 2022 and 2023 and new product steps (including New Generation Intercity (ICNG) trains) • Policy intention and preparations for new franchise • International train services: timetables for NightJet, Thalys and Eurostar • Cross-border transport • Ensuring a good spread of passengers • COVID-19 and KPIs/meeting franchise obligations • Availability payment and Transition Plan/Public Transport Protocol • Measures to cope with winter and seasonal conditions • NightJet to Vienna/Innsbruck • Exploring supporting accessibility measures for 2023-2024, based on reports from the Ministry of Infrastructure and Water Management of remaining impediments for people with disabilities • Jointly monitoring hitches in travel assistance due to staff shortages at stations and discussing mitigating measures

National political bodies	Informational, intensive involvement	1, 2, 4, 5, 6, 8, 11, 13, 15 COVID-19, NS strategy, operational performance, sustainability, circular economy, new rolling stock, ERTMS, accessibility, main rail network franchise including HSL, international train connections, public transport card (OV-chipkaart)/access gates, diversity policy, personal/railway safety, timetable, coping with winter and seasonal conditions, service at stations, suicide prevention, management and maintenance challenge	<ul style="list-style-type: none"> • Commitment to extending and making new passenger spread agreements with educational institutions and employers • Connections to and from regions, including faster journeys between the northern part of the Netherlands and the Randstad conurbation • Researching options to expand and create faster international cross-border connections, including by putting in place a better and faster connection to Germany from Utrecht via Arnhem. • Accessible travel by train: acting on reports from the government • Waste reduction and separation at stations • Package of measures for personal safety
Supervisory authorities – ACM, IL&T, Dutch Data Protection Authority	Involvement, consultation ('guidance') and information	2, 4, 7, 10, 11, 14 Answering standard and ad hoc requests for information, discussing current issues such as a more professional safety culture, (market) issues, acceptance of rolling stock, safety incidents, incident investigations, clarification of new regulatory requirements, and providing input for market studies and consultations	<ul style="list-style-type: none"> • Improved implementation and service • Promoting compliance • Transparency • Position statements • Increasing safety on the track, both for NS and throughout the sector
ProRail	Intensive involvement	1, 2, 4, 5, 6, 7, 8, 9, 11 Long-Term Rail Agenda, timetable development, performance of the rail system, availability of infrastructure, planning future rail maintenance and improvement, safety, accessibility, station development, ERTMS, sustainability	<ul style="list-style-type: none"> • Cooperation on seasonal measures • Cooperation on safety and safety policy • Cooperation on sustainable business practice and accessibility • Cooperation with regard to stations (management, maintenance, development and new construction) • Better alignment between infrastructure and the timetable • Cooperation with regard to the planning of large infrastructure works • Cooperation with regard to sustainable development and placing it on the political agenda • Cooperation on the 'Work on the Tracks to Prepare for the Future' (TWAS) programme
LOCOV (National Public Transport Users' Forum)	Intensive involvement	1, 2, 3, 5, 7, 11 NS timetable, fares, travel information, service delivered to passengers, transport plan, new rolling stock, customer satisfaction, punctuality, rolling stock, accessibility, international connections, HSL services, NS strategy	<ul style="list-style-type: none"> • Better train product by incorporating suggestions from consumer organisations in thematic sessions and recommendations (timetable, pricing policy, accessibility, communication, etc.) • Implementing concrete recommendations with regard to the timetable for 2022. The timetabling changes implemented in this way ensure a better train product • Implementing recommendations with regard to making changes to travel information (to be put into effect after 2021) • Also offering a discount for young people on short cross-border routes between the Netherlands and Belgium, based on advice • Making changes to the price list for international routes (boarding stations), based on advice of consumer organisations • Implementing recommendations for changes to the design of stations to maintain the current level of services to people with a disability

Interest groups, NGOs, Anders Reizen (employers' coalition)	Involvement, consulting and information	2, 4, 5, 6, 7, 9, 11, 13 Promote sustainable mobility (via Anders Reizen), social policy, promoting accessible train travel for people with disabilities	<ul style="list-style-type: none"> Identifying current impediments to accessibility for people with a disability and jointly designing and developing services to resolve the impediments already identified NS continuously challenges its sustainable enterprise strategy ('NS onderneemt duurzaam') in a stakeholder dialogue with NGOs, resulting in useful feedback, appreciation for the sustainable direction of NS and strengthening of the relationship between key green stakeholders and NS NS contributes significantly to the realisation of the measures regarding sustainable passenger mobility from the Climate Agreement.
Trade unions	Intensive involvement	4, 7, 13 Collective labour agreement, COVID-19, perspectives for action, pension plan, social plan, employment guarantee, personal and social consequences of organisational changes, signs suggesting satisfaction or dissatisfaction among staff, employees' interests	<ul style="list-style-type: none"> Negotiation and implementation of agreements under the collective labour agreement for 2020-2022 and the resulting HR policy Preparation of a new collective labour agreement Implementation of the Social Plan Implementation of the Pension Plan
Suppliers, subcontractors	Consulting, negotiating conditions, making contractual agreements, intensifying collaboration, innovation and development	1, 6, 9, 12, 14, 15, 16 Operational performance, sustainable business practice, innovation, financial performance, integrity and compliance, responsible procurement, risk management	<ul style="list-style-type: none"> Focus on cost reduction for NS due to its financial situation Focus on reliability, availability and costs of products and services for business-critical processes Encouraging cooperation and innovation with suppliers, including to make the supply chain more sustainable
Media	Informational, intensive involvement	All NS-related subjects	<ul style="list-style-type: none"> Position statements Improving NS image in line with operational performance
Regional authorities and official representatives of the provinces, metropolitan regions and municipalities, other carriers and consumer organisations	Informational, negotiations, contractual agreements, crisis management, collaboration, exploring and investigating	1, 2, 4, 5, 7, 8, 9, 11, 17 Quality of train services, crowded trains, punctuality, network development, redevelopment of existing stations, public transport and railway discussion platforms, advisory body on the Multi-annual Programme for Infrastructure Space and Transport for the northwest Netherlands (BO MIRT NWNL), vision of the future of public transport and the public transport development agenda, national environmental strategy, timetable, cross-border transport, personal/railway safety, transport sector-wide agreements, regional franchises, noise nuisance near the railways, hub development	<ul style="list-style-type: none"> New, more modern stations and redevelopment of station surroundings Quality of train services, crowded trains, punctuality, network development, development and redevelopment of existing stations, public transport and railway discussion platforms, advisory body on the Multi-annual Programme for Infrastructure Space and Transport for the northwest Netherlands (BO MIRT NWNL), vision of the future of public transport and the public transport development agenda, national environmental strategy, timetable, cross-border transport, personal/railway safety, transport sector-wide agreements, regional franchises, noise nuisance near the railways, hub development Tailored regional solutions for replacement bus service when train services are interrupted Joint public transport development agendas for attractive stations and better accessibility from door to door Various bicycle storage facilities free of charge for the first 24 hours, extension of P+R sites Collaborating on regional tasks and ambitions for the vision of the future for public transport Optimising the Noord-Holland North timetable Extension of the Leeuwarden-Meppel Sprinter route to Zwolle from 2021, together with partners in the region;

- ProRail-NS quick scan for acceleration measures in the medium term on routes between the northern Netherlands and the Randstad conurbation; results discussed with coordinating body for railway infrastructure in the northern Netherlands (Bestuurlijk Overleg Spoor Noord-Nederland)
- IC Randstad-Aachen
- Increasing collaboration with stakeholders based on our commitment to broad mobility, with deployment of additional mobility developers
- In connection with COVID-19: collaboration in the region, including on availability payment, spreading passengers (education sector and employers) and long-term recovery

Internal: central and local works councils, vocational training

See: [Attractive and inclusive employer](#)

Strategy and material topics diagram

NS presented a new strategy in 2020. The performance figures in this diagram allow us monitor progress in implementing this strategy.

Strategic priorities		Indicators with a quantitative target value	Objectives	Results	Risk factors	Result/prospects	Contribution to global objectives	
Themes	Material topics	KPI	2024	Objective in 2021	Achieved in 2021	Risks	Social impact	SDG
A responsible and comfortable journey	Operational performance	Punctuality for passengers (with a 5-minute margin) on the main rail network	91.5%	88.9%	94.4%	Infrastructure / Reliability of IT / Staffing	Mobility / Travel time	SDG 9 / SDG 11
		Punctuality for passengers (with a 15-minute margin) on the main rail network	97.4%	96.7%	98.1%			
		Punctuality for passengers (with a 5-minute margin) on HSL South	84.2%	82.1%	89.2%			
		Seat availability at peak times (main rail network)	95.5%	94.3%	99.6%			
		Seat availability at peak times (HSL South)	94.9%	91.2%	99.9%			
		Number of crowded trains at peak times per working week	100	110	4			
		User-friendly travel information	68.5%	65.0%	79.9%			
	Customer satisfaction	General customer satisfaction with the domestic main rail network	7.5	7.3	--	Infrastructure / Staffing	--	--
		General customer satisfaction with HSL South services	7.4	7.2	--			
		Reputation (RepTrak)	--	64	68			
	Travelling and working in safety	Customer satisfaction with personal safety	7.9	7.7	--	Safety	Health and safety	SDG 8
		Number of signals passed at danger in the Netherlands	--	--	33			
		TRR	--	--	4.0			
	Accessibility	Stations with travel assistance	--	--	78.0%	Infrastructure	Mobility	SDG 10
Focusing on broad mobility services	Door-to-door journey / Collaborating with stakeholders	Quality of connections to other carriers	95.6%	94.0%	96.5%	Infrastructure	Mobility / Travel time	SDG 9 / SDG 11
	World-class stations	Customer satisfaction with stations	--	--	80.0%	Safety / Infrastructure / IT	Expenditure	SDG 11
	Designing and sharing knowledge on mobility	CO ₂ emission reduction by members of Anders Reizen Coalition	--	--	Not yet calculated for 2021	Infrastructure	Mobility / Journey time / Expenditure	SDG 11
Sustainable accessibility, nationally and internationally	International connections	Faster international connections	--	--	IC Berlin 10 minutes faster	Foreign operations	Mobility / Travel time / Environment	SDG 11
		--	--	Night trains Zurich and Innsbrück				
	Contribution to Dutch Climate Agreement	Energy efficiency of traction	--	--	120.2%	Non-compliance	Environment	SDG 7 / SDG 12 / SDG 13 / SDG 15
An agile organisation	Innovation	Perception of NS as an innovative company (RepTrak)	--	--	55.8	Infrastructure / IT / Agility	Expenditure	
		Revenue (in € million)	--	--	6,486	Revenue / Savings / Agility	Expenditure	SDG 8
	Financial performance	ROE	--	--	24%			
		Investments (in € million)	--	--	554			

Our performance in a wider context

Reputation

We have engaged the Reprtrak Company to monitor and calculate our reputation. The RepTrak score fell from 69.0 in 2020 to 68.0 in 2021 . which is above our target score of 64.0 for reputation. NS is doing particularly well on social values and the attractive employer score.

Benchmarking against other carriers

NS is constantly benchmarking its scores against those of other carriers in order to monitor and further improve its performance. In 2021, however, NS did not conduct the regular franchise benchmark because it would have been unduly influenced by the effects of the COVID-19 crisis. NS did however exchange data and experiences on those effects and carried out a series of targeted case studies. These benchmarking studies have shown that the financial effects of COVID-19 on NS have been much more severe than on many other rail transport operators. While, under normal circumstances, other carriers, including regional carriers in the Netherlands, receive government support, NS depends on the market for all its income and *pays* a franchise fee to the government. In addition, many other carriers are fully compensated by the government for their costs, while the availability payment in the Netherlands does not cover all costs.

Just as with other carriers, scores for operational performance, such as punctuality, are higher than normal. Also note that practically all carriers adapted their service offering to the fall in passenger numbers.

Transparency

NS is transparent about its performance. Every month, it reports via www.ns.nl on the latest scores for the KPIs that have been set for the main rail network franchise, with detailed supporting evidence. The COVID-19 crisis prevented us from measuring all KPIs throughout the year. NS is included in the permanent research group of the 250 largest Dutch organisations for the Transparency Benchmark. This is a tool provided by the Ministry of Economic Affairs for improving corporate sustainability reporting within the Netherlands. The results are presented in a Transparency Ladder that is publicly available and widely communicated. In 2021, NS came in ninth place.

Notes to the material themes

We recalibrated our material themes in 2021. For the purpose of this exercise, the management team and the stakeholder and franchise management team indicated whether they had seen any shifts in relevance and impact as a result of developments over the past year. With a view to its broad role in Dutch society, NS attaches importance to all 17 material topics. The matrix has been validated by the Executive Board.

Tightening definitions

We have tightened the definitions of two themes: 'The extent to which NS works to provide faster international connections' has been tightened to 'The extent to which NS works to provide and implement international connections', which more accurately reflects the role of NS in increasing not only the speed but also the quantity of international connections. As regards Abellio, the following definition applied: 'The extent to which NS achieves sustainable financial returns, learns from its experiences abroad and allows Dutch passengers to benefit from its presence abroad'. This has been replaced by 'The extent to which Dutch

passengers benefit from NS's international franchise contracts'. This new definition arises from the recalibration of our previous Abellio objectives (earn, learn & prepare) in 2018. Those objectives were no longer fully consistent with current developments, such as the stagnating deregulation of railway transport in Europe. For that reason, NS has tightened its strategy for its foreign operations.

Thematic shifts

Compared with the matrix from 2020, two themes have moved up on the Y-axis (= in relevance). 'Travelling and working in safety' (4) has risen on the Y-axis due to the attention for COVID-19 measures, the finalisation of the ORBIT implementation process and NS's follow-up actions in response to the report on the accident at Hooghalen (concerning uncontrolled level crossings). The rise of 'International connections' (5) can be attributed to the extra attention for international transport generated over the past year by the European Year of Rail and the launch of NightJet services.

As regards the X-axis, NS's impact has increased on the themes of 'Customer satisfaction' (3), 'Contribution to Dutch Climate Agreement' (6), 'Collaborating with stakeholders' (7), 'Innovation' (9), 'Designing and sharing knowledge on mobility' (10), 'Accessibility' (11) and 'Responsible procurement' (15). The increase of impact on 'Customer satisfaction', 'Collaboration with stakeholders' and 'Innovation' reflects developments triggered by the pandemic. NS is keen to get passengers back into the train again. To that end we intensified our discussions with stakeholders over the past year and went ahead with our innovation processes at full steam. Our rising scores on 'Contribution to Dutch Climate Agreement' (6) and 'Designing and sharing knowledge on mobility' (10) reflect the impact we generated by installing 200 solar panels on two of our technical centres and commissioning six wind turbines on the Nieuwe Hemweg wind farm. Our role as a front runner in the field of data usage via the Data Usage Board also contributed. The increase for 'Accessibility' (11) is associated with the redevelopment of the NS service formula at our stations, while our increased impact on 'Responsible procurement' (15) reflects the more stringent conditions that NS imposed on suppliers earlier this year.

Evaluation of the management approach

We use our results in the annual evaluation of our management approach to the various material topics. For 'Operational performance' (1), 'Door-to-door journey' (2) and 'Customer satisfaction' (3), for example, we use the performance indicators from the 2021 Rail Transport Franchise. For the other material topics we use our own performance indicators. We report on any adjustments to our management approach that result from the evaluation.

#	Topics in 2021	Definition
1	Operational performance	The extent to which NS is committed to achieving operational performance agreements on the Main Rail Network and HSL South, such as punctuality and seat availability.
2	Door-to-door journey	The extent to which NS facilitates customised door-to-door travel for all public transport passengers in all regions of the Netherlands. Using our own physical and digital services where possible but also by using other providers.
3	Customer satisfaction	The extent to which NS meets the core needs of travellers with respect to their travel experience.
4	Travelling and working in safety	The extent to which NS is committed to safety for passengers, employees and colleagues of partners.
5	International connections	The extent to which NS works with partners to improve international connections in order to offer an attractive alternative to short-haul flights and cars.
6	Contribution to Dutch Climate Agreement	The extent to which NS is committed to making mobility more sustainable, by reducing energy use and CO2 emissions and making circular use of resources and materials.
7	Collaborating with stakeholders	The extent to which NS works reliably, openly and accessibly with (inter)national and regional stakeholders to shape mobility in the Netherlands.
8	World-class stations	The extent to which NS is committed to working with our partners in the region to provide world-class stations by creating functional and valued hubs for mobility and quality of life in their environments.
9	Innovation	The extent to which NS continues to innovate in order to optimise our services, the quality of our products and efficient operations, and thus the satisfaction of passengers with their journeys, now and in the future.
10	Designing and sharing knowledge on mobility	The extent to which NS is actively taking the lead in shaping future and sustainable mobility in the Netherlands and sharing knowledge with the sector.
11	Accessibility	The extent to which NS is committed to seamless travel in order to make its products and services available and accessible to all.
12	Financial performance	The extent to which NS is able to achieve a financial return now and in the future so that it can continue to invest in improving its services.
13	Attractive and inclusive employer	The extent to which NS can offer its employees an attractive (terms of employment, rewards, development) and inclusive (open and safe, diversity, equality) working environment where everyone can be themselves.
14	Integrity & compliance	The extent to which NS is committed to sustainable assurance of integrity, desired behaviour and compliance.
15	Responsible procurement	The extent to which NS takes responsibility for making products and services more sustainable and innovative through active procurement policies, including a focus on social entrepreneurship, innovation, energy consumption and circularity.
16	Risk management	The extent to which NS is able to consciously deal with uncertainties that may have a negative impact on the realisation of its strategic objectives.
17	Abellio franchises	The extent to which Dutch passengers benefit from NS foreign franchises.

Statement by the Executive Board

The Executive Board is of the opinion that the risk management and internal control systems concerning the financial reporting risks in the year under review functioned satisfactorily and give a reasonable degree of assurance that the financial reports do not contain any material misstatements. The report gives sufficient insight, therefore, into the functioning of the said systems. The Executive Board states that as far as it is aware:

- the financial statements give a true and fair view of the assets, liabilities, financial position and profits of NS and the companies included in the consolidation as a whole;
- the annual report gives a true and fair view of the situation on the balance-sheet date and the course of business during the financial year;
- given the current state of affairs, the preparation of the financial reports on a going concern basis is justified;
- the annual report specifies the material risks and uncertainties that are relevant to expectations about the company's continuity for a period of twelve months after the compilation of the report.

Note that the above does not mean that those systems and procedures provide absolute assurance as regards the achievement of operational and strategic objectives, nor that they will necessarily be sufficient to prevent any and all inaccuracies, errors and cases of fraud and failure to comply with laws and regulations. Neither can they provide assurance that we will be able to reach our objectives.

Given the above, the Executive Board is of the opinion that it satisfies the requirements of best practice provision 1.2 of the Dutch Corporate Governance Code.

About the scope of this report

NS is based in the Netherlands and has a single, Dutch shareholder, the Dutch State. In this annual report, which was published on 25 February 2022, we primarily render account to our Dutch stakeholders for our potential social impact in the Netherlands. Even so, we also report on our international operations and have included a separate chapter for that purpose. NS focuses on passengers and enabling them to enjoy a comfortable door-to-door journey. To that end, NS's main priority is to improve operational performance on the railways, supported by the provision of, for instance, bicycle facilities and station services and by optimised door-to-door journeys thanks to public transport bicycles and collaboration with other partners in the public transport sector and elsewhere. In addition, we aim to remain financially healthy so as to be able to continue investing in services to meet the growing mobility needs in the Netherlands, and to keep train fares affordable. Indeed, this is what our stakeholders expect from us. They also want to see accountability for our non-financial results in the Netherlands.

In order to offer passengers the best possible service at the right price, we are also accumulating experience abroad. We monitor the extent to which our results in the United Kingdom and Germany add value for passengers in the Netherlands, in terms of cross-border travel, for example. Our international activities have to benefit the interests of our stakeholders in the Netherlands. According to our Dutch stakeholders, our activities in the United Kingdom and Germany are a materially relevant theme. Given Abellio's low

positioning in the material relevance matrix, we do report on this subject but only in proportion to the financial impact of Abellio on NS as a whole. In tendering procedures, the franchising authorities set the terms of the franchised agreements, which leave less room for non-financial indicators. This is why there is less reporting on non-financial performance indicators.

Apart from the financial statements and the combined auditor's report, the NS Annual Report for 2021 contains the following information:

- the Report of the NS Executive Board, including About NS; Trends, developments and strategy; Our activities and achievements in the Netherlands; Our activities and achievements abroad; Financial performance; Our impact; NS Group, excluding the Report of the Supervisory Board;
- the Report of the Supervisory Board;
- other data, in accordance with Title 9 of Book 2 of the Dutch Civil Code.

This annual report is subdivided into three blocks:

- A core report comprising the Foreword by the CEO, NS and COVID-19 in 2021, The profile of NS, Trends and developments, Our strategy, How NS adds value to society, Material relevance matrix, Our activities and achievements in the Netherlands, Our activities and achievements abroad, Financial performance, Our impact. For the operational results, the core of the report consists of the results that we have achieved within the franchise agreements with the Ministry of Infrastructure and Water Management for the Dutch main rail network.
- A section with other information including Corporate governance, Organisational culture, Integrity and Compliance, Risk management, and Dialogue with our stakeholders in the Netherlands.
- Financial statements.

Scope and reporting criteria

In the annual report, NS presents its operational and financial performance and the associated social aspects with the highest possible degree of integration. Our reporting method is in accordance with the GRI Standards' 'core' option. The following are the main building blocks of this type of reporting:

- relevant provisions in the Dutch Civil Code;
- the International Financial Reporting Standards (IFRS);
- the revised 2016 Dutch Corporate Governance Code;
- GRI SRS reporting guidelines ('core' option);
- Electric Utilities Sector Supplement, EU Directive on disclosure of non-financial information and diversity
- the International Integrated Reporting Council IIRC.
- This annual report also meets the relevant OECD guidelines.

In order to provide assurance regarding the reliability of the information included, NS instructed EY to perform an audit with a limited level of assurance, with a focus on non-financial information in the following chapters: About NS, Our activities and achievements in the Netherlands, Our activities and achievements abroad, Our impact and the following components: Our strategy, How NS adds value to society, Material relevance matrix, Dialogue with our stakeholders in the Netherlands, About the scope of this report, and Scope and reporting criteria.

GRI indicators

The selection of the GRI indicators is based on the GRI method, the 2020 Transport Plan, discussions with our stakeholders and the resulting material relevance matrix. The reported data are derived from measurements, calculations, third-party reports or internal systems. Any changes in definitions or inherent limitations in the data are highlighted in the report. The GRI index is available at the end of the online annual report.

Definition cards for performance indicators from the Transport Plan and the reporting criteria can be found on www.ns.nl/mvoberekeningen and the [PI Vervoerplan 2021](#).

Scope

NS reports on topics whose material relevance emerges from the material relevance analysis, which also serves as the basis for choices regarding the level of detail and demarcation of our reporting. Themes where NS has little impact or that stakeholders do not consider particularly important are included in the report in less detail. Within the context of the stakeholder dialogue, Abellio regularly provided input and answered questions on material topics such as our financial position, operations in Europe, and operations and developments abroad.

This report primarily concerns NS's activities in the Netherlands. The activities in the United Kingdom and Germany are discussed where they involve operations in which NS holds a stake of more than 50%.

- All data derive from measurements, unless stated otherwise in the description of the method. Any estimates are made using the relevant procedures in our Reporting Manual.
- Uncertainties in the data regarding the quantification of our impact are explained on www.ns.nl.
- We report on the transport supply chain as a whole where procurement is concerned or where our process of value creation gives reason to do so. The choices we have made in this regard are specified, where relevant, under value creation.
- Acquisitions are included in the data from the date of acquisition; disposals are included until the date of disposal, unless stated otherwise.
- The definitions of the KPIs and the descriptions of the measurement methods used can be found in the [2021 Transport Franchises Definitions](#).

Financial statements

The NS financial statements 2021 are published in Dutch and English. In the event of discrepancies between versions, the Dutch version prevails.

Consolidated financial statements

Consolidated income statement 2021

(in millions of euros)	2021	2020
1 Revenue*	5,546	5,759
1 Additional government contributions in the context of COVID-19	940	842
Total revenue	6,486	6,601
2 Personnel expenses	2,413	2,455
3 Cost of depreciation, amortisation and impairments	733	2,637
4 Use of raw materials, consumables and inventories	432	464
5 Own capitalised production	-99	-137
6 Subcontracted work and other external costs	712	747
7 Infrastructure levies and franchise fees	1,439	1,515
8 Other operating expenses	379	1,365
Operating expenses	6,009	9,046
15 Share in result of investments accounted for using the equity method	5	2
Result from operating activities	482	-2,443
Finance income	4	39
Finance expense	-353	-60
26 Net financing result	-349	-21
Result before income tax	133	-2,464
9 Income tax	367	-117
Result for the reporting period	500	-2,581
Attributable to:		
Shareholder of the company	339	-2,378
Minority interest	161	-203
Result for the reporting period	500	-2,581

* Due to the new contract forms in the United Kingdom, it is no longer possible to refer to additional contributions in connection with COVID-19 and no breakdown is given. For the sake of comparability, the figures for 2020 have been adjusted.

Consolidated statement of comprehensive income 2021

(in millions of euros)

	2021	2020
Result for the reporting period	500	-2,581
Other comprehensive income items that may be reclassified to the income statement in subsequent periods		
Currency translation differences on foreign activities	-20	-9
Changes in measurement at fair value through other comprehensive income	-	1
Effective portion of changes in fair value of cash flow hedges	34	-18
9 Taxation	-5	-
	9	-26
Other comprehensive income items that will not be reclassified to the income statement in subsequent periods		
28 Actuarial result of defined benefit plans	-	-1
Taxation	-	-
15 Actuarial result for defined benefit plans as a consequence of revaluation of investments accounted for using the equity method, after tax	-	-
	-	-1
Total comprehensive income for the period	509	-2,608
Attributable to:		
Shareholder of the company	354	-2,405
Minority interest	155	-203
Total comprehensive income for the period	509	-2,608

Consolidated statement of financial position as at 31 December 2021

before profit appropriation

(in millions of euros)

31 December 2021 31 December 2020*

	31 December 2021	31 December 2020*
Assets		
11 Property, plant and equipment	2,973	2,919
12 Real estate assets	124	129
13 Intangible assets	345	376
30 Right-of-use assets	827	1,865
15 Investments accounted for using the equity method	26	19
22 Other financial fixed assets, including investments	131	160
10 Deferred tax assets	367	41
Total non-current assets	4,793	5,509
16 Inventories	176	194
17 Trade and other receivables	1,219	1,175
Income tax receivables	22	13
22 Other current financial assets, including investments	478	35
18 Cash and cash equivalents	680	1,137
Total current assets	2,575	2,554
Total assets	7,368	8,063
Equity and liabilities		
23 Equity		
Issued share capital	1,012	1,012
Other reserves	36	21
Retained earnings	308	2,697
Unappropriated result	339	-2,378
Total group equity	1,695	1,352
Minority interests	-6	-173
Equity	1,689	1,179
27 Deferred credits	161	197
24 Loans and other financial liabilities, including derivatives	1,598	1,130
30 Lease liabilities	634	1,601
28 Employee benefits	54	37
29 Provisions	216	179
19 Accrued and deferred items	10	14
10 Deferred tax liabilities	2	1
Total non-current liabilities	2,675	3,159
24 Loans and other financial liabilities, including derivatives	196	81
30 Lease liabilities	296	465
Income tax payable	12	14
20 Trade and other liabilities	1,647	2,022
21 Deferred income	645	562
29 Provisions	208	581
Total current liabilities	3,004	3,725
Total liabilities	5,679	6,884
Total equity and liabilities	7,368	8,063

* Restated for comparison purposes in connection with netting of deferred tax assets and deferred tax liabilities within the fiscal unity

Consolidated cash flow statement for 2021

(in millions of euros)	2021	2020
Result for the reporting period	500	-2,581
Adjustments for:		
Income tax	-367	117
Results from investments accounted for using the equity method	-5	-2
11,12,13,30 Depreciation	818	909
11,12,13,30 Impairment losses and reversals	-85	1,730
Net financing result	349	20
Change in provisions	-383	606
15,22 Change in non-current financial assets (excluding deferred tax positions)	-	-
Change in other non-current liabilities not resulting in cash flows	-49	-56
Change in deferred credits	-39	-45
	239	3,279
Result after adjustments	739	698
Change in inventories	-5	-10
Change in trade and other receivables	-505	10
Change in current liabilities	157	273
Movements in working capital	-353	273
Interest paid	-35	-56
Income tax received/paid	4	-1
	-31	-57
Net cash flow from operating activities	355	914
Finance income received	4	2
15 Dividends from investments accounted for using the equity method	-	3
Disposal (acquisition) of subsidiaries, net of cash disposed of (acquired)	-	-
11,13 Acquisition of intangible assets and property, plant and equipment	-553	-548
12 Acquisition of investment properties	-1	-
Receipts (payments) from other investments	34	-34
Deconsolidation of Abellio Germany	-35	-
Acquisition of financial fixed assets, including investments	-449	-42
15,22 Disposal of financial fixed assets, including investments	19	4
11,12,13 Disposal of intangible assets, property, plant and equipment and investment properties	18	13
Net cash flow from investing activities	-963	-602
Net cash flow from operating and investing activities	-608	312
Repayment of borrowings	-78	-494
Repayment of lease liabilities	-478	-482
New borrowings	676	1,001
Dividends paid	-	-
Net cash flow from financing activities	120	25
Net decrease/increase in cash and cash equivalents	-488	337
Cash and cash equivalents as at 1 January	1,137	818
Effect of exchange and translation differences on cash held	31	-18
Cash and cash equivalents classified as held for sale	-	-
Cash and cash equivalents as at 31 December	680	1,137

Consolidated statement of changes in equity

(in millions of euros)	Issued capital	Other reserves	Retained earnings	Unappropriated result	Total	Minority interests	Total equity
Balance as at 1 January 2020	1,012	48	2,495	208	3,763	18	3,781
Result	-	-	-	-2,378	-2,378	-203	-2,581
Other comprehensive income	-	-27	-	-	-27	-	-27
Total comprehensive income for the period	-	-27	-	-2,378	-2,405	-203	-2,608
Dividend paid to shareholders	-	-	-73	-	-73	-	-73
Reversal of dividend paid to shareholders	-	-	73	-	73	-	73
Other	-	-	202	-208	-6	12	6
Balance as at 31 December 2020	1,012	21	2,697	-2,378	1,352	-173	1,179
Result	-	-	-	339	339	161	500
Other comprehensive income	-	15	-	-	15	-6	9
Total comprehensive income for the period	-	15	-	339	354	155	509
Dividend paid to shareholders	-	-	-	-	-	-	-
Reversal of dividend paid to shareholders	-	-	-	-	-	-	-
Other	-	-	-2,389	2,378	-11	12	1
Balance as at 31 December 2021	1,012	36	308	339	1,695	-6	1,689

Notes to the 2021 consolidated financial statements

The notes are divided into six sections. The notes contain both the relevant information and a description of the specific accounting policies applied to the subject matter of the individual note.

Section 1 General information and significant accounting policies

General information

NV Nederlandse Spoorwegen has its registered office at Laan van Puntenburg in Utrecht, the Netherlands (KvK number 30012558). The consolidated financial statements of the Company for the financial year 2021 comprise the Company and its subsidiaries (hereinafter referred to as the Group) and the Group's interest in associates and companies over which control is exercised jointly with third parties. NV Nederlandse Spoorwegen is the holding company of NS Groep NV, which in turn is the holding company of the operating companies that carry out the group's various business activities. The figures of the consolidated financial statements of NS Groep NV are the same as the consolidated figures of NV Nederlandse Spoorwegen. The operating companies of NS Groep NV are included in note 32. The Group's activities mainly involve passenger transport, management and development of real estate and operation of station locations.

The Executive Board prepared the financial statements on 24 February 2022. In its preliminary advice, the Supervisory Board has advised the General Meeting of Shareholders to adopt the financial statements without amendment. The Executive Board and Supervisory Board gave their approval for the publication of the financial statements on 24 February 2022. The adoption of these financial statements will be on the agenda of the General Meeting of Shareholders on 3 March 2022.

In accordance with Section 2:402(1) of the Netherlands Civil Code, the separate financial statements of NV Nederlandse Spoorwegen only include an income statement in abbreviated form.

Acquisition and disposal of companies

No material acquisitions or disposals took place in 2021.

Significant accounting policies

The following is an explanation of the policies for consolidation, the measurement of assets and liabilities and the determination of the Group's result. These policies are in accordance with IFRS as endorsed by the EU and are applied consistently to all the information presented. Furthermore, insofar as applicable, the statutory provisions regarding the financial statements as included in Title 9 of Book 2 of the Netherlands Civil Code are complied with. The Group uses the historical cost convention as the basis of measurement, unless stated otherwise.

In 2021 the Group has netted deferred tax assets and deferred tax liabilities within the fiscal unity. For comparative purposes, the comparative figures for 2020 have been adjusted accordingly. This netting should have taken place in previous years, but it is not material. This has resulted in a reduction of the deferred tax assets and a reduction of the deferred tax liabilities at year-end 2020 by €93 million.

Impact of COVID-19 and important (result) developments

The COVID-19 crisis still has a significant impact on NS's financial performance. The Group's result from operating activities is €482 million, partly due to the release of €362 million of the provision for termination payments made in 2020 in the United Kingdom (note 29), the reversal of the impairment charges in the United Kingdom for a net amount of €80 million and lower depreciation charges in the Netherlands of €149 million in 2021 as a result of the impairment charge at year-end 2020. The result from operating activities was also positively influenced by government contributions (note 1). The government contributions are shown in the table below.

The net financing result amounted to -€349 million and was mainly caused by the write-down of a participating interest and loans to zero, costs of restructuring and terminating a number of franchises and provisions made regarding guarantees and settlement of possible other liabilities related to the insolvency proceedings concerning Abellio Germany.

Tax income of €367 million was recorded. In addition to the regular tax burden, this income is mainly caused by:

- the recognition of deferred tax assets, temporary differences and loss compensation in the Netherlands, which are the result of the amended tax regulations in the Netherlands (open-ended loss set-off);
- the recognition of a deferred tax asset in respect of the termination payments in the United Kingdom. The Group's assessment with regard to the deductibility of these termination payments has changed in relation to year-end 2020, as a result of which the receivable has been recognised in 2021.

The COVID-19 outbreak also had a substantial impact on the Group in 2021, as follows:

- In 2021, as a result of the nationwide measures, the number of passengers and therefore the passenger revenue were still significantly below the pre-COVID-19 level. NS (largely) continued the timetable, partly at the explicit request of the Ministry of Infrastructure and Water Management. NS makes use of the measure of the Ministry of Infrastructure and Water Management with the promise of an availability fee for the public transport sector, as a vital sector, as compensation for the decrease in passenger revenue for the period until 31 August 2022. For the period after 31 August 2022, discussions are still being held with the Ministry of Infrastructure and Water Management. The availability fee amounts to 93% of the costs eligible for the availability fee, minus 100% of the realised revenues during the period from 15 March 2020 to 31 August 2022.
- In the United Kingdom, when COVID-19 broke out, the franchising authorities Department of Transport (Dft) and Transport Scotland (TS) amended the contractual conditions for Greater Anglia, East and West Midlands and ScotRail until 20 September 2020 by means of 'Emergency Measures Agreements' (EMAs). Subsequently, the franchising authority Dft followed up the EMA deadline with 'Emergency Recovery Measures Agreements' (ERMAs) for Greater Anglia, East and West Midlands and TS with an EMA2 for ScotRail. When this form of contract expired, the West Midlands and Greater Anglia contracts were then converted to new 'National Rail' contracts as of 19 September 2021. For East Midlands, the ERMA ends in October 2022, after which a 'National Rail' contract will be offered by the Dft there too. Due to these contractual changes, the risk with regard to passenger revenue has been shifted to the franchising authorities. ScotRail's current EMA expires on 27 February 2022, after which a Temporary Measures Agreement will be concluded with TS, which will last until 31 March 2022.

- The results of Abellio Germany have been consolidated until 30 June 2021. The franchises are so-called gross contracts, whereby no risk is run on passenger revenue and the financial consequences of the COVID-19 pandemic are relatively limited. For the first half of 2021, Abellio Germany nevertheless incurred a loss due to higher than compensated personnel costs, a difficult start for new franchises and fines for, among other things, deteriorating punctuality, the causes of which lie outside Abellio's sphere of influence. On 30 June 2021, the German court approved the request of the management of Abellio GmbH and its subsidiaries to apply 'Schutzschirmverfahren' and these insolvency proceedings under German law were initiated for each of these legal entities. As a result, Abellio Deutschland and its German group companies have been deconsolidated as of 30 June. As of 1 October 2021, following court approval, final insolvency proceedings have started with a restructuring process for each entity. The foregoing has resulted in NS, as a shareholder, no longer being able to exercise any significant influence over Abellio GmbH and its subsidiaries as of 1 October 2021. The Group has estimated the expected outflow of funds arising from the termination and winding up of the activities in Germany in its role as shareholder. The Group has formed a provision for this, which, with the exception of €10 million, has been charged to its financing result (see further section on deconsolidation and note 29 provisions). The remainder is recognised in other operating expenses.

A more detailed analysis of the result is included in the 'Finance in brief' section of the NS Annual Report.

The additional contributions on franchise contracts in the Netherlands and abroad had the following impact on the recognised revenue in 2021. This mainly concerns the availability fee for train-related transport in the Netherlands.

(in millions of euros)	Revenue	Additional government contributions in the context of COVID-19	2021
Train-related transport in the Netherlands	1,519	925	2,444
Station development and operation in the Netherlands	355	15	370
Train-related transport in the United Kingdom	3,027	-	3,027
Bus-related transport in the United Kingdom	267	-	267
Train-related transport in Germany	378	-	378
Total revenue	5,546	940	6,486

(in millions of euros)	Revenue	Additional government contributions in the context of COVID-19	2020
Train-related transport in the Netherlands	1,539	818	2,357
Station development and operation in the Netherlands	376	24	400
Train-related transport in the United Kingdom**	2,860	-	2,860
Bus-related transport in the United Kingdom	240	-	240
Train-related transport in Germany	744	-	744
Total revenue	5,759	842	6,601

* Train-related revenue in Germany refers to the first half year 2021 compared to a full year 2020

** Due to the new contract forms in the United Kingdom, it is no longer possible to refer to additional contributions in connection with COVID-19 and no breakdown is given. For the sake of comparability, the figures for 2020 have been adjusted. An amount of €2,037 billion was reclassified for this purpose.

Due to the changed economic circumstances in the Netherlands and in the United Kingdom, mainly as a result of the impact of COVID-19 and new contract forms in the UK, a renewed test for impairments recognised in 2020 took place in 2021 (see note 14).

Continuity assumption

The Group prepared the financial statements for the financial year 2021 on a going concern basis, which assumes the continuity of ongoing business activities and the realisation of assets and settlement of liabilities in the ordinary course of business.

The Group has prepared financial projections for the twelve months from the date of approval of these financial statements, which include an estimate of the ongoing business impact of COVID-19. The Group has concluded that it is appropriate to prepare the financial statements on a going concern basis and that there is no material uncertainty. To reach this conclusion, the Group has calculated different scenarios and in each of the scenarios there is room for possible revenue and/or expenditure shortfalls.

Conservative estimates of the expected cash flow and the risks arising from the Abellio operation and the completion or transfer of franchises have been made and included in the cash flow forecasts. With regard to Germany, estimates were made for expected outflows of resources required for the completion of the initiated insolvency proceedings and the settlement and/or transfer of franchises. Due to the changed contract forms in the United Kingdom, whereby the revenue risk is limited for Abellio, future liquidity risks from normal business operations are limited. See the section 'Impact of COVID-19 and important (result) developments'.

The key assumptions and uncertainties in the Group's liquidity forecast further relate to:

- setbacks in passenger revenue. Until at least 31 August 2022, 93% of the eligible costs (cost level indexed to 2019) are covered by the public transport availability fee, minus passenger receipts;
- for the period after 31 August 2022, it is expected that a form of availability fee will be provided for declining passenger revenue. The nature and extent of this arrangement is not yet known;
- timing of the receipt of the availability fee settlement for 2020 and 2021 as well as advance payments for 2022, whereby the Group assumes that these will be received in full during the period of the financial forecast. This concerns an amount of approximately €1,058 million;
- the student public transport contract will be continued in its regular form and this revenue for 2023 will be received in full in the period of the financial forecast;
- timing of investments in new equipment (especially ICNG);
- estimates were made for expected outflows of resources required for the completion of the initiated insolvency proceedings and the settlement and/or transfer of franchises in Germany.

The cash available to the Group (excluding the collateral received from Eneco by virtue of a Credit Support Agreement under the energy contract for the Dutch main rail network of €313 million as well as the money market funds amounts to €367 million in 2021. In addition, the Group has access to credit facilities of €545 million and a financing facility was signed in December 2021 under which one or more long-term loan(s) can be contracted for a maximum cumulative amount of €250 million until 17 December 2024. In addition, the Group expects to be able to make use of alternative financing options if the situation so requires.

Based on the above, the Group concludes that it is appropriate to prepare the financial statements on a going concern basis and there is no material uncertainty.

Deconsolidation

On 30 June 2021, the German court approved the request of the management of Abellio GmbH and its subsidiaries to apply 'Schutzschirmverfahren' and these insolvency proceedings under German law were initiated for each of these legal entities. The decision of the German insolvency court, accepting applications for insolvency proceedings, resulted in the loss of control as a shareholder over all group companies of Abellio GmbH. Pursuant to the court decisions, the management of these legal entities is supervised by a 'trustee' appointed by the court. As the consolidation criteria of IFRS 10 are no longer met, the Group has deconsolidated all German group companies that are part of the insolvency proceedings with effect from 30 June 2021.

The following balance sheet items have been deconsolidated as at 30 June 2021 (excluding intercompany loan):

(in millions of euros)	30 June 2021
Assets	
Property, plant and equipment	66
Intangible assets	82
Right-of-use assets	909
Deferred tax assets	42
Total non-current assets	1,099
Inventories	23
Trade and other receivables	460
Cash and cash equivalents	35
Total current assets	518
Total assets	1,617
Liabilities	
Lease liabilities	895
Provisions	59
Deferred tax liabilities	17
Total non-current liabilities	971
Lease liabilities	98
Trade and other liabilities	446
Provisions	56
Total current liabilities	600
Total liabilities	1,571

The income statement of Abellio Germany up to 30 June 2021 is included below.

(in millions of euros)	until 30 June 2021
Revenue	378
Additional government contributions in the context of COVID-19	-
Total revenue	378
Personnel expenses	84
Cost of depreciation, amortisation and impairments	50
Use of raw materials, consumables and inventories	29
Own capitalised production	-
Subcontracted work and other external costs	33
Infrastructure levies and franchise fees	172
Other operating expenses	32
Operating expenses	400
Result from operating activities	-22
Finance income	-
Finance expense	-8
Net financing result	-8
Result before income tax	-30
Income tax	-
Result for the reporting period	-30

At the time of deconsolidation, NS estimated the fair value of Abellio GmbH in the context of the measurement of the equity interest as at 30 June 2021. At that time, the participating interest was stated at zero and additional provisions were made as explained in note 29 provisions.

As of 1 October 2021, following court approval, final insolvency proceedings have started with a restructuring plan for each entity. The foregoing has resulted in NS, as a shareholder, no longer being able to exercise any significant influence over Abellio GmbH and its subsidiaries as of 1 October 2021. As of 1 October 2021, the equity interest no longer meets the definition of an asset as it is no longer entitled to economic benefits.

The Group has reached an agreement with the franchising authorities of the Westfalenbahn franchises on the conditions for the continuation of the franchises. The Group is committed to acquiring the shares of the companies Westfalenbahn GmbH and PTS GmbH. For the acquisition of these shares, the Group paid €9 million and €1.75 million for Westfalenbahn GmbH and PTS GmbH respectively in December 2021. These share prepayments were stated at fair value via the income statement as at 31 December 2021. This fair value was determined on the basis of expected cash flows from the companies to be acquired.

The actual transfer of shares can only be effected once the insolvency proceedings of the companies concerned are completed. The shares of PTS GmbH were transferred in January 2022 and the shares of Westfalenbahn GmbH will be transferred at the end of February 2022. At that time, the Group will have acquired the shares and gained control over these companies. The Baden-Württemberg company was transferred to another party on 1 January 2022, thus completing the insolvency proceedings for that company. The Nordrhein-Westfalen franchise will be transferred to other parties and the company therefore remains in insolvency proceedings. The company Abellio GmbH also remains in the insolvency proceedings. The completion of these proceedings may take a considerable time and the outcome is subject to uncertainties. For the expected outflow of funds in the context of the settlement, the Group has made provisions that are explained in note 29.

New standards and amendments to standards that are mandatory as of 2021

The Group has adopted the following new standards and amendments to standards, including all consequential amendments to other standards, with effect from 1 January 2021. These new or amended standards have not had a significant impact on the Group's consolidated financial statements:

- Amendments to IFRS 4 Insurance Contracts - deferral of IFRS9 (effective 1 January 2021)
- Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16 Interest Rate Benchmark Reform - Phase 2 (effective 1 January 2021)
- Amendments to IFRS 16 Leases: COVID-19-related rental concessions after 30 June 2021 (effective 1 April 2021)

New standards and amendments to standards that are mandatory as of 2022 or later

The Group has not voluntarily applied new standards, amendments to existing standards or interpretations that are mandatory only with effect from the financial statements for 2022 or later.

The following new or amended standards do not have a significant impact on the Group's consolidated financial statements:

- Amendments to IAS 1 Presentation of Financial Statements: Classification of liabilities as current or non-current and Classification of liabilities as current or non-current - Deferral of effective date (effective 1 January 2023)
- Amendments to IAS 1 Presentation of Financial Statements and IFRS Practice Statement 2: Disclosure of accounting policies (effective 1 January 2023)
- Amendments to IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors: Definition of accounting estimates (effective 1 January 2023)
- Amendments to IAS 12 Income Taxes: Deferred tax in respect of assets and liabilities arising from a single transaction (effective 1 January 2023)
- Amendments to IFRS 3 Business Combinations; IAS 16 Property, Plant and Equipment; IAS 37 Provisions, Contingent Liabilities and Contingent Assets; and Annual Improvements 2018-2020 (effective 1 January 2022)
- IFRS 17 Insurance contracts; including amendments to IFRS 17 (effective 1 January 2023)

Estimates and assessments

The preparation of the financial statements requires the Executive Board to make judgements and estimates that affect the application of policies and reported amounts of assets and liabilities, income and expenditure. The estimates and associated assumptions are based on past experience and various other factors that are believed to be reasonable under the circumstances. Actual outcomes may differ from these estimates. The estimates and underlying assumptions are reviewed periodically. Revisions to accounting estimates are recognised in the period in which the estimate is revised, or in future periods if the revision relates to them.

The main estimates and assessments concern:

- going concern assumption (as stated above in the section 'Going concern assumption');
- impairments (note 3 and 14);
- infrastructure charges and franchise fees (note 7);
- settlement of the insolvency proceedings of Abellio Germany and prepayments on shares to be acquired ('Deconsolidation' section);
- deferred tax assets (note 10);
- debtors and other receivables (note 17);
- provision for termination payments/net asset payments (note 29).
- Other provisions (including for settlement in Germany)/arrangements not included on the balance sheet (note 29 and note 31);

The accounting policies set out below have been applied consistently to the periods presented in these consolidated financial statements.

Basis of consolidation

Subsidiaries

The Group controls an entity if, as a result of its involvement with the entity, it is exposed to, or has the right to, variable returns and has the ability to affect those returns through its control of the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date that control commences until the date that control ceases.

Upon the loss of control over the subsidiary, the assets and liabilities of that subsidiary, any non-controlling interests and other components of equity related to the subsidiary are derecognised. Any surplus or deficit is recognised in the income statement. If the Group retains an interest in the former subsidiary, that interest is recognised at fair value at the date that control ceases.

Acquisition of subsidiaries

Business combinations are accounted for using the acquisition method as at the date on which control passes to the Group. The consideration transferred for the acquisition is measured at fair value, as are the net identifiable assets acquired. Any resulting goodwill is tested annually for impairment. Any book profit from a bargain purchase is recognised directly in the income statement. Transaction costs are recognised when incurred.

Elimination of transactions on consolidation

Intra-group balances and transactions, and any unrealised gains and losses on intra-group transactions or income and expenses arising from such transactions, are eliminated. Unrealised gains arising from transactions with investments accounted for in accordance with the equity method are eliminated to the extent of the Group's interest in the investment. Unrealised losses are eliminated in the same way as unrealised gains, but only to the extent that there is no evidence of impairment.

Foreign currency

Foreign currency transactions

Transactions denominated in foreign currencies are translated into the respective functional currencies of Group entities at the exchange rate prevailing at the date of transaction. Monetary assets and liabilities denominated in foreign currencies are translated into the functional currency at the exchange rate prevailing at the balance sheet date. Non-monetary assets and liabilities denominated in foreign currencies that are measured at fair value are translated to the functional currency at the foreign exchange rates prevailing on the dates on which the fair values were determined. Non-monetary assets and liabilities denominated in foreign currencies that are measured in terms of historical cost are not retranslated.

Foreign exchange differences arising on translation of the following items are recognised in other comprehensive income:

- financial liabilities that are designated as hedges of the net investment in a foreign operation;
- eligible cash flow hedges to the extent that the hedge is effective.

Foreign operations

The assets and liabilities of foreign operations, including goodwill and fair value adjustments arising on consolidation, are translated into euros at the exchange rates prevailing on the reporting date. The revenues and expenses of foreign operations are translated into euros at the average exchange rate, which approximates the exchange rate on the transaction date.

Currency translation differences are recognised in other comprehensive income and presented in the currency translation reserve. If the Group loses control, significant influence or joint control on the disposal of a foreign operation, the cumulative amount in the translation reserve is transferred to profit or loss when the gain or loss on disposal is recognised. If the Group disposes of only part of its interest in a subsidiary while retaining control, the relevant proportion of the cumulative amount is reattributed to the non-controlling interest. If the Group disposes of only part of its interest in an associate or joint venture, while retaining significant influence or joint control, the relevant proportion of the cumulative amount is reclassified to profit or loss.

Determination of fair value

A number of the Group's accounting policies and disclosures require the determination of fair value for both financial and non-financial assets and liabilities. For measurement and disclosure purposes, fair values have been determined on the basis of the following methods:

Real estate assets

In view of the nature, diversity and locations (station areas), the fair value of the real estate portfolio is not determined periodically, unless there are indications of impairment. The fair value is expected to be higher than the carrying amount of the real estate assets. Real estate assets are measured at cost less accumulated depreciation and accumulated impairment losses.

Investments in financial fixed assets

The fair value of debt investments is determined on the basis of the price at the reporting date. The fair value of the equity investment (Eurofima) is determined on the basis of the latest available financial statements.

Prepayments on shares

The fair value of prepayments on PTS and Westfalenbahn shares were determined on the basis of expected future cash flows of these entities.

Derivatives

The fair value of derivatives is based on derivative market quotations, taking account of current interest rates and the estimated creditworthiness of the contract counterparties.

Non-derivative financial liabilities

The fair value of non-derivative financial liabilities is determined for disclosure purposes and calculated on the basis of the present value of future principal and interest cash flows, discounted at the market rate of interest at the reporting date.

Segmented information

The Group is not required to comply with the requirements of IFRS 8 due to the fact that it is not publicly listed. In order to meet the requirements of Dutch legislation and regulations, segment information by geographical area is included with regard to revenue and FTEs.

Consolidated cash flow statement accounting policies

The cash flow statement is prepared using the indirect method and is based on the comparison between the opening and closing balance sheets of the relevant financial year. The result is adjusted for changes that have not resulted in receipts or expenditure during the financial year.

Section 2 Result for the year

1. Revenues

In the following table, the revenues are broken down according to a combination of transport type and geographical area.

(in millions of euros)	Revenue	Additional government contributions in the context of COVID-19	2021
Train-related transport in the Netherlands	1,519	925	2,444
Station development and operation in the Netherlands	355	15	370
Train-related transport in the United Kingdom	3,027	-	3,027
Bus-related transport in the United Kingdom	267	-	267
Train-related transport in Germany	378	-	378
Total revenue	5,546	940	6,486

(in millions of euros)	Revenue	Additional government contributions in the context of COVID-19	2020
Train-related transport in the Netherlands	1,539	818	2,357
Station development and operation in the Netherlands	376	24	400
Train-related transport in the United Kingdom**	2,860	-	2,860
Bus-related transport in the United Kingdom	240	-	240
Train-related transport in Germany	744	-	744
Total revenue	5,759	842	6,601

* Train-related revenue in Germany refers to the first half year 2021 compared to a full year 2020

** Due to the new contract forms in the United Kingdom, it is no longer possible to refer to additional contributions in connection with COVID-19 and no breakdown is given. For the sake of comparability, the figures for 2020 have been adjusted. An amount of €2,037 million was reclassified for this purpose.

Public transport/main rail network availability fee (train-related transport in the Netherlands)

By virtue of the public transport availability fee arrangement (BVOV) as enacted by the Ministry of Infrastructure and Water Management, NS is entitled to compensation for loss of revenue suffered by NS as a result of COVID-19. The compensation amounts to 93% of the indexed 2019 cost level for the 2021 availability fee and 93% of the 2020 cost level for the 2020 availability fee, minus 100% of the realised revenues. For 2021, NS is entitled to BVOV for the whole year and for 2020 for the period from 1 March 2020 to 31 December 2020. Based on a calculation, NS has accounted for the compensation in the amount of €925 million (2020: €818 million). NS received an advance of €644 million for 2021, being 80% of the calculation at the time of application. Conditions apply to claiming the public transport availability fee, such as operating a full timetable and complying with tender legislation, a dividend ban, a ban on severance payments to Dutch executives and a bonus ban for executives and board members within the Dutch entities. NS has come to the conclusion that the availability fee for 2020 and 2021 can be justified by assessing it against the conditions. The BVOV contributions for 2020 and 2021 have not yet been finalised.

Emergency Bridging Measure for Sustained Employment (NOW)

For the activities relating to station development and operation in the Netherlands, so-called NOW compensation (operating company scheme) was applied for and recognised as revenue for an amount of €15 million (2020: €24 million). In order to claim the NOW compensation, conditions apply, such as the ban on management bonuses, dividend payments and agreement by the employee representative body. The applicable NOW conditions have been reviewed by NS and on this basis NS has concluded that the NOW compensation can be justified. The NOW applications that have been accounted for have not yet been finally submitted and determined.

EMA/ERMA (train-related transport in the United Kingdom)

The outbreak of COVID-19 led to the contract terms for Greater Anglia, East and West Midlands and ScotRail being amended by the DfT until 20 September 2020 by means of so-called EMAs. The franchising authority has subsequently followed up the term of the EMAs with ERMAs for Greater Anglia and West Midlands. When this form of contract expired in September 2021, the ERMAs were converted to new National Rail Contracts (NRCs). For East Midlands, the EMA has been extended until 16 October 2022. ScotRail's current EMA expires on 27 February 2022, after which a Temporary Measures Agreement will be concluded with Transport Scotland, which will last until 31 March 2022.

Miscellaneous

Station development and operation in the Netherlands includes an amount of €31 million (2020: €39 million) relating to development activities.

Measurement basis

Revenues

Revenues are recognised on the basis of the fee that is laid down in a contract with a customer. The Group recognises revenues when it transfers control of a good or service to a customer. Revenue includes transport revenue including additional contributions from governments within the framework of COVID-19 and revenue from other business activities after deduction of discounts and VAT.

Provision of services and sale of goods

Revenues from the sale of travel rights are recognised at the time the travel right arises. Revenues from season tickets is recognised over time and recognised in the income statement over the period of the season ticket.

Revenues from the sale of goods are recognised in the income statement when control of the goods has been transferred to the buyer, recovery of the consideration due is probable, the associated costs or possible returns of goods can be reliably estimated.

Fees from the government or similar bodies arising from transport contracts or transport franchises are recognised in the income statement over the period to which the fee relates.

Additional government contributions in the context of the coronavirus of COVID-19

The contributions from governments in the context of COVID-19 are determined on the basis of the individual arrangements with various government agencies and are intended to cover costs incurred/ allowance as a result of loss of revenue in (part of) the financial year. The final amounts of these contributions for 2020 and 2021 will be determined in 2022, but are sufficiently certain to be recognised in the financial statements on the basis of IAS 20. The contributions are allocated to the period to which they apply. The availability fee in the Netherlands was determined on the basis of the technical memorandum and audit protocol.

Rental income

Rental income from property is recognised in the income statement over time, based on the duration of the rental period. Costs of commitments made as an incentive to enter into rental agreements are recognised as an integral part of the total rental income and distributed on a straight-line basis over the contract period. Rent reductions granted as a result of COVID-19 during ongoing contracts for services still to be rendered are distributed on a straight-line basis over the contract period. Rental discounts that have been granted retroactively for services already rendered are not deducted from revenues but are included in the assessment of expected credit losses under IFRS 9.

2. Personnel costs

(in millions of euros)	2021	2020
Wages and salaries	1,836	1,854
Social security contributions	255	248
Contributions to defined contribution plans	84	101
Contributions to defined benefit plans	47	47
Other personnel expenses	96	91
Staff hired in	95	114
Total	2,413	2,455

The average staffing level was as follows:

(in FTEs)	2021	2020
The Netherlands	17,241	17,556
United Kingdom	15,834	16,259
Germany*	1,521	2,900
Total	34,596	36,715

* Germany's average staffing level is based on the average staffing level in the first half of 2021, extrapolated to the full year 2021

The staffing level at the end of the financial year was as follows:

(in FTEs)	2021	2020
The Netherlands	17,071	17,453
United Kingdom	15,658	16,142
Germany	-	3,060
Total	32,729	36,655

Remuneration of the executive board

(in euros)	Basic salary	Alternative for the cap on pension accrual ****	Payment of lease amounts	Allowance for additional tax liability for director's car	Various allowances	Pension costs	Total 2021
Ms M.E.F. Rintel	426,425	47,010	-	3,806	4,368	15,623	497,232
Mr H.L.L. Groenewegen	334,451	31,131	16,920	3,806	4,368	15,623	406,299
Mr T.B. Smit	334,451	31,131	-	3,806	18,829	15,623	403,840
Ms A.M.E. de Vries	334,451	31,131	3,102	3,806	4,368	15,623	392,481
Mr E.F.W. van Asch*	278,709	25,942	-	3,045	3,640	13,019	324,355
Total	1,708,487	166,345	20,022	18,269	35,573	75,511	2,024,207

(in euros)	Basic salary	Alternative for the cap on pension accrual ****	Payment of lease amounts	Allowance for additional tax liability for director's car	Various allowances	Pension costs	Total 2020
Ms M.E.F. Rintel***	376,025	37,316	52	2,998	4,368	15,351	436,110
Mr R.H.L.M. van Boxtel**	343,509	32,733	-	7,191	3,276	11,513	398,222
Mr H.L.L. Groenewegen	353,032	31,380	16,920	2,998	4,368	15,351	424,049
Mr T.B. Smit	353,032	31,380	-	2,998	4,368	15,351	407,129
Ms A.M.E. de Vries	353,032	31,380	3,164	2,998	4,368	15,351	410,293
Total	1,778,630	164,189	20,136	19,183	20,748	72,917	2,075,803

* Mr. Van Asch was appointed Director of Operations effective 1 April 2021

** Mr. van Boxtel stepped down on 1 October 2020

*** Ms. Rintel took up her duties as CEO as of 1 October 2020.

**** Calculated on the fixed salary

From 1 July 2020 to 31 December 2021, the fixed income was temporarily reduced by 10% at the voluntary request of the Executive Board. This reduction is extended by six months. In addition, the pay increases pursuant to the collective labour agreement, of 1.2% effective 1 April 2020 and 1.6% effective 1 April 2021 were not implemented. In accordance with the remuneration policy, these pay increases were resumed with effect from 1 January 2022.

The five members of the Executive Board jointly use two company cars. Mr. Groenewegen does not have a lease car and the mobility budget (which also applies to the other board members) has been paid out in full to him. The other four members of the Executive Board have a lease car. Ms. De Vries was paid the remainder of the unused mobility budget for the lease car.

For the years 2018-2021, Mr. Smit was compensated for the cost of occupational disability insurance. This compensation was granted because this insurance had been taken out in the past on the basis of information provided by NS, but in retrospect it covered the same risk as the regular occupational disability insurance.

For a more detailed explanation of the remuneration policy of the Executive Board, please refer to the chapter on Remuneration of the Executive Board in the management report.

Remuneration of key management personnel (excluding Executive Board)

(in euros)	Fixed and variable remuneration	Pension costs	Total
2021	1,617,236	107,404	1,724,640
2020	1,837,572	112,590	1,950,162

This concerns managers with powers under the articles of association and managers with a specific portfolio. In the table, the manager of Abellio GmbH is included until 30 June 2021 in line with the consolidation.

Remuneration of the members of the Supervisory Board

The remuneration of the members of the Supervisory Board for 2021 to be borne by the company totals €218,350 (2020: €232,100). The remuneration consists of a fixed fee and a fee for participation in one or more committees. The breakdown of the amounts per supervisory director is as follows:

(in euros)	2021	2020
G.J.A. van de Aast <i>Chair of the Supervisory Board, member of the Risk and Audit committee, member of the Remuneration and Nomination Committee</i>	42,512	44,726
H.H.J. Dijkhuizen <i>Member of the Risk and Audit committee, from 26 January 2020 chair of the Risk and Audit Committee</i>	35,112	36,584
J.J.M. Kremers (until 26 January 2020) <i>Chair of the Risk and Audit Committee</i>	-	2,652
N. Albayrak <i>Member of the Risk and Audit Committee and member of the Remuneration and Nomination Committee</i>	32,608	34,322
M.E. van Lier Lels <i>Member of the Risk and Audit committee, deputy chair of the Supervisory Board, member of the Remuneration and Nomination Committee</i>	37,894	39,888
J.L. Stuijt <i>Member of the Risk and Audit Committee, chair of the Remuneration and Nomination Committee</i>	37,616	39,606
W.J. van der Feltz <i>Member of the Risk and Audit Committee and member of the Remuneration and Nomination Committee</i>	32,608	34,322
Total	218,350	232,100

The average allowances for the different positions (excluding expenses) are as follows:

(in euros)	2021	2020*
Chair of the Supervisory Board	35,056	37,003
Vice-chair of the Supervisory Board	31,049	32,774
Member of the Supervisory Board	26,042	27,488
Chair of the Risk and Audit Committee	7,512	7,929
Member of the Risk and Audit Committee	2,504	2,643
Chair of the Remuneration and Nomination Committee	7,512	7,929
Member of the Remuneration and Nomination Committee	2,504	2,643

* From 1 July 2020 to 31 December 2021, the remuneration of the Supervisory Board was temporarily reduced by 10% at its own request. This reduction is extended by six months. In addition, the pay increases pursuant to the collective labour agreement, of 1.2% effective 1 April 2020 and 1.6% effective 1 April 2021 were not implemented. The collective labour agreement increases have been applied again from 1 January 2022.

No loans, advances or guarantees have been provided by the company for the benefit of members of the Executive Board or Supervisory Board.

All shares in NV Nederlandse Spoorwegen are held by the State of the Netherlands. No rights have been granted to members of the Executive Board, Supervisory Board or staff to take or acquire shares in the company.

3. Depreciation expenses and impairment losses

(in millions of euros)	Note	2021	2020
Cost of depreciation of Property, plant and equipment	11	261	335
Cost of depreciation of Investment property	12	7	8
Cost of amortisation of Intangible assets	13	74	84
Cost of depreciation of Right-of-use assets	30	476	482
Total cost of depreciation and amortisation		818	909
Impairments of Property, plant and equipment	11	2	1,474
Impairments of Intangible assets	13	1	148
Impairments of Right-of-use assets	30	13	111
Total impairments		16	1,733
Reversal of impairments of Property, plant and equipment	11	(98)	(2)
Reversal of the impairments of Intangible assets	13	(3)	-
Reversal of impairments of Right-of-use assets	30	-	(3)
Total reversal of impairments		(101)	(5)
Total		733	2,637

For the explanation of impairments of non-current assets, reference is made to note 14.

4. Consumption of raw materials, consumables and supplies

(in millions of euros)	2021	2020
Materials used	194	207
Energy consumption	238	257
Total	432	464

5. Capitalised production on behalf of own business

The capitalised production on behalf of own business in 2021 of €99 million (2020: €137 million) mainly relates to the overhaul of trains.

Measurement basis

The capitalised production for use of own business includes directly attributable personnel costs, costs of materials and attributable indirect costs used in the construction of assets for own use.

6. Cost of work contracted out and other external costs

(in millions of euros)	2021	2020
Costs of subcontracted work	121	186
Remediation costs	98	96
Maintenance	285	261
Automation costs	208	204
Total	712	747

The cost of work contracted out is the cost related to the execution of orders to third parties that is not covered by the other items in this category.

7. Infrastructure charge and franchise fee

(in millions of euros)	2021	2020
Dutch train franchises	414	400
UK train franchises	853	792
German train franchises	172	323
Total	1,439	1,515

Measurement basis

Adjustment mechanisms for main rail network franchise

The implementation agreement with the Ministry of Infrastructure and Water Management includes a number of adjustment mechanisms for setting the franchise price. The adjustment relating to the average profitability during the franchise is recognised as a receivable at the time that, in accordance with the calculation method laid down in the implementation agreement, the entitlement arises. The adjustment is recognised on a straight-line basis over the franchise period. Other (one-off) payments under the agreement are recognised on a straight-line basis over the franchise period.

Adjustment mechanisms for UK train franchises

In the franchise agreements, mainly with Ministries of Transport (Department for Transport, Transport Scotland) and the infrastructure manager Network Rail, a number of adjustment mechanisms are included, including the one for 'Central London Employment (CLE)', with which the franchise fee can be adjusted. The CLE is an index that is adjusted annually, after which the franchise fee can be adjusted and accounted for by the Dft in the respective reporting year. The right to compensation for loss of income and the method of calculation are determined by contract and will be recognised in the year in which the loss occurred based on an estimated calculation.

8. Other operating expenses

Other operating expenses include insurances, costs of accommodation and inventory, auditor's fees, publicity costs, maintenance costs of operating assets and additions to provisions. The decrease in other operating expenses from €1,365 million in 2020 to €379 million in 2021 is mainly due to the recognition of termination payments/net asset payments in the United Kingdom of €487 million in 2020. Of this provision, €362 million was released in favour of other operating expenses in 2021 (note 29). In addition, the German operations have been deconsolidated as of 30 June 2021.

Auditor's fees

(in millions of euros)	2021	2020
Statutory audits	3.5	3.6
Other assurance engagements	0.6	0.4
Tax advisory services	-	-
Other services	-	-
Total	4.1	41.0

The auditor's fees include the fees for both the services in the Netherlands and those of the foreign network. The share of the foreign network in the statutory audits for 2021 is € 1.4 million (2020: €1.6 million).

9. Income tax

(in millions of euros)	2021	2020
Recognised in the income statement		
Current income tax	12	-5
Deferred income tax	355	-112
Total income tax	367	-117
<i>Reconciliation with effective tax rate</i>		
Profit before tax	133	-2,464
Income tax at Dutch tax rate for corporation tax (2021 and 2020: 25%)	-33	616
Participation exemption	1	-
Addition of mixed costs, investment credit, etc.	-1	-
Non-recognition of losses in the current financial year	-12	-
Write-down of deferred tax assets	-8	-574
Recognition of deferred tax assets	367	-
Permanent difference: Termination payments/net asset payments	86	-116
Effect of the tax rate in foreign jurisdictions (different rate)	25	-26
Permanent difference: Non-deductible write-down and provisions in Germany	-75	-17
Changes in rates for deferred tax positions	17	-
Total income tax	367	-117
Income tax on income and expenses recognised in the other comprehensive income	-5	-

The corporate income tax is calculated on the basis of the applicable tax rates in the Netherlands, the United Kingdom and Germany (up to 30 June 2021), taking into account the tax provisions that give rise to permanent differences between the profit determination for commercial and tax purposes. The tax provisions include the participation exemption and the limitation of deductible expenses.

The effective tax burden on the profit before corporate income tax was -276% (2020: -5%). This low effective tax burden compared to the nominal tax burden is mainly caused by:

- The write-offs and provisions recorded in Germany as a result of the settlement of the insolvency proceedings are largely expected to be non-deductible for corporate income tax purposes and have been treated as a permanent difference.
- In 2020, the reserved termination payments in the United Kingdom that pertain to the ERMA contracts have been classified as a permanent difference. This also applies to the release of a major part of this reserve in 2021 (€86 million). For the part that has been paid, an assessment has been made of the tax deductibility and a receivable has been recognised for an amount of €17 million under measurement of deferred receivables.
- As a consequence of the amended tax regulations in the Netherlands, losses can be carried forward indefinitely. In the Netherlands, this resulted in an upward revaluation of the deferred receivables amounting to €367 million.

For the Dutch fiscal unity, the tax returns up to and including 2018 are agreed upon with the Tax Administration. A final assessment has been received for 2018, but not yet for the following years. In the financial statements of previous years and of this year, the tax has been recognised on the basis of the returns submitted up to and including 2020 and the assumptions made therein, as well as any corrections to previous years.

Measurement basis

Tax on profit or loss for the reporting period includes profit taxes payable and receivable for the reporting period and deferred profit taxes. Income tax is recognised in the income statement except to the extent that it relates to items recognised directly in equity through other comprehensive income, in which case it is recognised in equity through other comprehensive income. All tax items are recognised at nominal value.

Tax that is payable and available for set-off in respect of the financial year is the expected tax payable on the taxable profit for the reporting period, calculated using tax rates prevailing at the balance sheet date, and any adjustments to tax payable in respect of previous years.

Almost all subsidiaries belonging to the Group are included in the NS fiscal unity for corporate income tax purposes, with the exception of foreign group companies.

10. Deferred income tax

The movement of deferred tax assets and liabilities is as follows:

(in millions of euros)	Net balance as at 1 January 2021	Recognised in income statement	Recognised in other comprehensive income	Other movements/deconsolidation	Net positions	Deferred tax assets	Deferred tax liabilities
					Positions as at 31 December 2021		
Property, plant and equipment	22	276	-	-	298	322	24
Intangible assets	-17	61	-	-17	27	27	-
Right-of-use assets	-500	328	-	-	-172	-160	12
Financial fixed assets	-6	8	-5	-	-3	5	8
Receivables	-2	-	-	-	-2	3	5
Provisions	5	-3	-	-	2	2	-
Deferred credits	18	-29	-	4	-7	-6	1
Loans and other financial liabilities	-	-	-	-	-	-	-
Lease liabilities	502	-324	-	2	180	180	-
Other items	3	-1	-	1	3	3	-
Loss set-off	15	39	-	-15	39	39	-
Deferred tax assets (liabilities)	40	355	-5	-25	365	415	50
Set-off of receivables and liabilities						-48	-48
Deferred tax assets (liabilities) after set-off						367	2

(in millions of euros)	Net balance as at 1 January 2020	Recognised in income statement	Recognised in other comprehensive income	Other movements	Net positions	Deferred tax assets	Deferred tax liabilities
					Positions as at 31 December 2020		
Property, plant and equipment	84	(62)	-	-	22	45	23
Intangible assets	(19)	2	-	-	(17)	-	17
Right-of-use assets	(444)	(56)	-	-	(500)	(461)	39
Financial fixed assets	(3)	(4)	-	1	(6)	1	7
Receivables	-	(2)	-	-	(2)	4	6
Provisions	3	2	-	-	5	5	-
Deferred credits	38	(20)	-	-	18	19	1
Loans and other financial liabilities	-	-	-	-	-	-	-
Lease liabilities	450	50	-	2	502	502	-
Other items	3	(1)	-	1	3	3	-
Loss set-off	36	(21)	-	-	15	15	-
Deferred tax assets (liabilities)	148	(112)	-	4	40	133	93
Set-off of receivables and liabilities*						(92)	(92)
Deferred tax assets (liabilities) after set-off						41	1

* Adjusted for comparison purposes

As of 2021, the tax losses accumulated up to and including 2021 can be carried forward indefinitely in time, with only 50% per year being carried forward insofar as the taxed profit exceeds € 1 million. As a result, a review of projected profits for the years up to and including 2024 and projected profits for the term of the new franchise has led to an upward revaluation of the tax asset temporary differences and losses offset against tax in the amount of €367 million. The total amount of recognised deferred tax assets in the Netherlands is €340 million. See note 9 for an explanation of the tax burden.

At the end of 2020, the Group impaired deferred tax assets for temporary differences and losses offset against tax of the fiscal unity in the Netherlands due to insufficient projected profits over the period of loss set-off (six years) for an amount of €525 million.

The tax deductibility of the termination payments in the United Kingdom has been assessed and a partial tax asset recognised in 2021.

Unrecognised deferred tax assets

Deferred tax assets have not been recognised in respect of the following items because it is unlikely that future taxable profits will be available against which the Group can utilise the benefits. Unrecognised deferred tax assets by country are as follows:

(in millions of euros)	Offsettable losses	Temporary differences	Total
The Netherlands	-	252	252
United Kingdom	-	-	-
Germany	-	-	-
Total	-	252	252

Measurement basis

Deferred tax assets and liabilities are formed for temporary differences between the carrying amounts of assets and liabilities in the financial statements and the tax base of those items. The calculation is based on the tax rates expected to apply when the temporary differences are reversed, based on the tax rates enacted or substantively enacted at the reporting date.

Deferred tax assets, including those resulting from the carry-forward of losses, are measured if it is likely that sufficient taxable profit will be available with which to offset losses and make use of settlement possibilities.

Deferred tax assets and liabilities are offset if the entity has a legally enforceable right to set off current tax assets against current tax liabilities; and the deferred tax assets and the deferred tax liabilities relate to income taxes levied by the same taxation authority on the same taxable entity.

Section 3 Non-current assets and investments

11. Property, plant and equipment

(in millions of euros)	Land	Buildings	Other fixed installations	Rolling stock	Parts	Plant and equipment	Assets under construction	Total
Composition as at 1 January 2020								
Cost	131	880	180	6,777	58	558	949	9,533
Accumulated amortisation and impairments	36	388	107	4,440	32	270	-	5,273
Carrying amount as at 1 January 2020	95	492	73	2,337	26	288	949	4,260
Changes in 2020								
Investments	-	-	-	-	-	-	481	481
Capitalisations	3	46	32	262	-	80	(424)	(1)
Acquisitions	-	-	-	-	-	-	-	-
Depreciation	(3)	(30)	(12)	(239)	(3)	(48)	-	(335)
Exchange differences	-	-	-	-	-	(9)	(1)	(10)
Disposals	(6)	(1)	-	(1)	(1)	(1)	-	(10)
Impairments	(13)	(58)	(31)	(873)	(9)	(109)	(381)	(1,474)
Reversal of impairments	-	2	-	-	-	-	-	2
Other movements	1	1	-	1	-	(92)	95	6
Total changes during the financial year	(18)	(40)	(11)	(850)	(13)	(179)	(230)	(1,341)
Composition as at 31 December 2020								
Cost	129	928	209	6,863	58	549	1,105	9,841
Accumulated amortisation and impairments	52	476	147	5,376	45	440	386	6,922
Carrying amount as at 31 December 2020	77	452	62	1,487	13	109	719	2,919
Changes in 2021								
Investments	-	-	-	-	-	-	416	416
Capitalisations	24	15	4	291	-	25	(359)	-
Deconsolidation	-	(34)	-	(2)	-	(24)	(5)	(65)
Depreciation	(2)	(27)	(12)	(161)	(2)	(57)	-	(261)
Exchange differences	-	-	-	-	-	1	2	3
Disposals	(4)	(8)	(1)	(6)	-	-	(1)	(20)
Impairments	-	-	-	-	-	(2)	-	(2)
Reversal of impairments	-	5	-	-	-	92	1	98
Other movements	(4)	(17)	32	-	1	(88)	(39)	(115)
Total changes during the financial year	14	(66)	23	122	(1)	(53)	15	54
Composition as at 31 December 2021								
Cost	143	850	281	6,699	59	368	734	9,134
Accumulated amortisation and impairments	52	464	196	5,090	47	312	-	6,161
Carrying amount as at 31 December 2021	91	386	85	1,609	12	56	734	2,973

An amount of €60 million of the other movements in Property, plant and equipment are caused by the transfer of property, plant and equipment in the context of entering into NRCs in the United Kingdom, see note 14.

For the explanation of impairments, reference is made to note 14.

Measurement basis

Property, plant and equipment are measured at cost less accumulated depreciation and accumulated impairment losses. The cost of self-manufactured assets includes the cost of materials, direct labour costs, a reasonable proportion of indirect production costs and capitalised financing costs. Where relevant, the estimated costs of dismantling and removing the asset and restoring the site on which the asset is located are added to the cost.

Computer software that is an integral part of the computer equipment is capitalised as part of the related equipment. Only assets for which the Group holds the beneficial ownership are recognised on the balance sheet.

Gains and losses on the sale of an item of property, plant and equipment are determined by comparing the sales proceeds with the carrying amount of the item of property, plant and equipment and are recognised net under income in the income statement.

Components

If property, plant and equipment consist of components with different useful lives, these components are accounted for as separate items under property, plant and equipment.

The carrying amount of an item of property, plant and equipment includes the cost of renewing (part of) the item when that cost is incurred and when it is probable that the renewal will lead to future economic benefits. All other costs of maintaining the assets are recognised as an expense in the income statement as incurred.

Depreciation

Depreciation of property, plant and equipment is applied on a straight-line basis, less residual value and on the basis of the estimated useful life of each individual item of property, plant and equipment. Depreciation is charged to the income statement.

Land is not depreciated except for paving. The estimated useful life of property, plant and equipment is as follows:

Asset type	Depreciation period
Buildings	broken down into components (15 to 100 years); average of 40 years
Other fixed installations	10-25 years
Trains	20 years
Buses	6 to 15 years
Plant and equipment	3 to 10 years

The useful life indicated is an average of the assets included therein and of the components of the assets, if any. The depreciation method, remaining useful life and residual value are assessed annually.

If an item of property, plant and equipment is designated as a real estate asset due to a change in use, or if an item of property, plant and equipment is designated for own use, transfers are made to real estate assets or property, plant and equipment respectively. Since the measurement of both categories of non-current assets is the same, the transfer is made at the carrying amount.

12. Real estate assets

(in millions of euros)

Total investment property

Composition as at 1 January 2020

Cost	263
Accumulated amortisation and impairments	(128)
Carrying amount as at 1 January 2020	135

Changes in 2020

Investments	-
Depreciation	(8)
Disposals	-
Impairments	-
Reversal of impairments	3
Other movements	(1)
Total changes during the financial year	(6)

Composition as at 31 December 2020

Cost	260
Accumulated amortisation and impairments	(131)
Carrying amount as at 31 December 2020	129

Changes in 2021

Investments	1
Depreciation	(7)
Disposals	-
Impairments	-
Reversal of impairments	-
Other movements	1
Total changes during the financial year	(5)

Composition as at 31 December 2021

Cost	263
Accumulated amortisation and impairments	(139)
Carrying amount as at 31 December 2021	124

In addition to business premises on behalf of third parties, the real estate assets also include other properties that are leased to third parties or held as strategic real estate. In addition, the Group has real estate for its own use and is recognised under property, plant and equipment. The rental agreements usually contain a period of several years during which notice of termination is not possible. These real estate objects and property, plant and equipment (real estate for own use) are not part of the Main Rail Network cash-generating unit (as described in note 14).

In view of the nature, diversity and locations (station areas), the fair value of the real estate portfolio is not determined periodically, unless there is an impairment. No impairments have occurred on this portfolio and the fair value is expected to exceed the carrying amount of the real estate assets. The Group has reached this conclusion based on indicative management estimates from which there are no indications of impairment.

As a result of COVID-19, discounts of €17 million were granted for 2021 (2020: €19 million). These rent reductions have led to a write-down of the accounts receivable balance by € nil (31 December 2020): €13 million). €17 million will be amortised over the remaining term of the leases (2020: €6 million).

The total contractual rent until the end of the leases amounts to approximately €200 million at the end of 2021 (2020: €359 million). No contingent rent is charged.

The direct rental income amounts to €26 million (2020: €29 million). Direct rental costs include maintenance costs, property charges and direct management costs totalling €9 million (2020: €6 million).

Measurement basis

Real estate assets include real estate held to earn rental income or for capital appreciation, or both. Real estate assets are measured at cost less accumulated depreciation and accumulated impairment losses. The cost of self-manufactured assets includes the cost of materials, direct labour costs, a reasonable proportion of indirect production costs and financing costs. Where relevant, the estimated costs of dismantling and removing the asset and restoring the site on which the asset is located are added to the cost.

The following policies apply to real estate assets:

Components

If real estate assets consist of components with different useful lives, these components are accounted for as separate items under real estate assets.

The carrying amount of a real estate asset includes the cost of renewing (part of) the asset when that cost is incurred and when it is probable that the renewal will lead to future economic benefits. All other costs of maintaining the assets are recognised as an expense in the income statement as incurred.

Depreciation

Depreciation of real estate assets is applied on a straight-line basis, less residual value and on the basis of the estimated useful life of each individual item of property, plant and equipment. Depreciation is charged to the income statement.

The estimated useful life of real estate assets is as follows:

Asset type	Depreciation period
Foundations and underlying land	100 years
Structure and core	50 years
Facades and outer walls	33 years
Roofing	15 years
Interior finish	15 years
Technical equipment	15 years

The useful life indicated is an average of the assets included therein and of the components of the assets, if any. The depreciation method, remaining useful life and residual value are assessed annually.

13. Intangible assets

(in millions of euros)

	Goodwill	Software	Total
Composition as at 1 January 2020			
Cost	39	840	879
Accumulated amortisation and impairments	-	395	395
Carrying amount as at 1 January 2020	39	445	484
Changes in 2020			
Investments	-	121	121
Acquisitions	-	4	4
Depreciation	-	(84)	(84)
Disposals	-	-	-
Impairments	-	(148)	(148)
Reversal of impairments	-	-	-
Other movements	-	(1)	(1)
Total changes during the financial year	-	(108)	(108)
Composition as at 31 December 2020			
Cost	39	806	845
Accumulated amortisation and impairments	-	469	469
Carrying amount as at 31 December 2020	39	337	376
Changes in 2021			
Investments	-	138	138
Deconsolidation	(28)	(57)	(85)
Depreciation	-	(74)	(74)
Disposals	-	-	-
Impairments	-	(1)	(1)
Reversal of impairments	-	3	3
Other movements	-	(12)	(12)
Total changes during the financial year	(28)	(3)	(31)
Composition as at 31 December 2021			
Cost	11	827	838
Accumulated amortisation and impairments	-	493	493
Carrying amount as at 31 December 2021	11	334	345

For the explanation of impairments, reference is made to note 14.

The remaining goodwill at 31 December 2021 relates to our operations in the United Kingdom.

Measurement basis

Goodwill

All business combinations are accounted for by applying the acquisition method. Goodwill is the amount resulting from the acquisition of subsidiaries. Goodwill represents the difference between the cost of the acquisition and the fair value of the identifiable assets and liabilities acquired at the time of the acquisition. Goodwill is stated at cost less accumulated impairment losses.

Negative goodwill arising on an acquisition is recognised directly in the income statement.

Other intangible assets

Other intangible assets with a finite life acquired or produced by the Group are stated at cost less accumulated amortisation and accumulated impairment losses.

Subsequent expenditure on capitalised intangible assets is capitalised only when it increases the future economic benefits embodied in the specific asset to which it relates. All other expenditure, including internally generated goodwill and trademarks, is recognised as an expense in the income statement as incurred.

Amortisation is charged to the income statement on a straight-line basis over the estimated useful life of the intangible assets, except goodwill, from the date they are available for use. The estimated useful life is as follows:

- Software 3 - 10 years

14. (Reversal of) impairment of non-current assets/onerous contracts

Given the substantial impact of COVID-19 on passenger revenues, the Group has determined that there are indicators for (reversal of) impairment of assets of some of the Group's cash-generating units (CGUs). First of all, the various CGUs were identified by the Group, after which the assets of these CGUs were assessed for possible impairment. It was then assessed whether, in addition to the possible impairment to be recognised, the formation of a provision for onerous contracts was necessary.

The recoverable amount of the CGU was then determined based on the higher of value in use or fair value less costs to sell. The value in use was determined by discounting the expected cash flows at the balance sheet date.

The discount rate is determined after tax on the basis of the interest rate of government bonds issued by the most creditworthy government in the relevant market and in the same currency as the cash flows, adjusted by a risk premium to reflect both the increased risk of investing in shares in general and the risk of the specific CGU.

The following post-tax discount rate was used per country:

	31 December 2021	31 December 2020
The Netherlands	5.2%	5.0%
United Kingdom	6.0%	6.3%
Germany	N/A	1.9%

On balance, the assessment led to reversals of impairments.

(Reversal of) impairments 2021

(in millions of euros)

	The Netherlands	United Kingdom	Germany	Total 2021
Property, plant and equipment	-	-96	-	-96
Intangible assets	-	-2	-	-2
Right-of-use assets	-	13	-	13
Receivables	-	5	-	5
Total	-	-80	-	-80

Impairments 2020

(in millions of euros)

	The Netherlands	United Kingdom	Germany	Total 2020
Property, plant and equipment	1,376	95	3	1,474
Intangible assets	136	8	4	148
Right-of-use assets	50	-	61	111
Receivables	-	112	-	112
Total	1,562	215	68	1,845

Germany is included in the consolidation until 30 June 2021. Up to 30 June 2021, there were no changes in the recognised impairments. Consequently, there are no (reversals of) impairments in 2021.

In the Netherlands, too, there are no (reversals of) impairments in 2021.

In the United Kingdom, an impairment loss of €21 million was recognised in 2021 (€3 million in property, plant and equipment, €13 million in rights-of-use for non-current assets and €5 million in receivables). This amount is netted in the table above with the recognised reversals of impairments. On balance, there is a reversal of €80 million in 2021.

Netherlands

The COVID-19 crisis forced the Group to perform an impairment analysis in 2020. This led to an impairment loss of €1,562 million at the end of 2020. This impairment is attributed to all non-current assets on a straight-line basis. In 2021, due to the impairment an amount of €149 million less was written off compared to the situation before this impairment, leading to a net effect of €1,413 million.

As a result of the changed assumptions in terms of BVOV commitments and passenger forecast estimates, there is a trigger to reassess the impairment at year-end 2021. An impairment test based on the most likely scenario was performed at the end of 2021. At both year-end 2020 and year-end 2021, the impairment test was performed on the basis of the following assumptions:

- for the Netherlands, the Main Rail Network (HRN) contract has been designated as one cash-generating unit;
- the HRN contract runs until the end of 2024;
- the fair value of the assets in question cannot be reliably determined as the assets are strongly linked to the HRN contract, the trains are specifically produced for the Dutch railway network and no active market exists for these specific trains.

At year-end 2021, the following key assumptions were also used:

- expected passenger transport revenue over the remaining contract period; whereby in 2024 a recovery to 90% of the 2019 pre-COVID-19 level is assumed. The development of passenger transport depends, among other things, on macro-economic factors such as economic growth, congestion and developments in travel behaviour;
- the income from passenger transport partly depends on the choices regarding the timetable, which are coordinated with the Ministry of Infrastructure and Water Management;
- continuation of the current student public transport passes contract;
- an availability payment until 31 August 2022, which largely mitigates major risks with regard to passenger transport revenue for the first eight months of 2022. For the first eight months of 2022, an availability payment of €613 million is forecast. For the subsequent period (1 September 2022 to 31 December 2024), it is assumed, given current forecasts, that support in the form of an availability payment will be available. This position is also supported by the letter to the House of Representatives from the Ministry of Infrastructure and Water Management on 16 December 2021. An amount of €416 million has been included for the period from 1 September 2022 to 31 December 2024;
- estimates regarding the outcomes of adapting the organisation to the lower passenger income with related cost savings and reduction of investments;
- In June 2020, the Ministry of Infrastructure and Water Management announced its intention to award the franchise directly to NS from 2025. This was confirmed by the House of Representatives in September 2020. The duration and conditions of the franchise are not yet known and the programme of requirements and the (draft) franchise will follow in 2022. For the period after 2024, it is assumed that the main rail network contract will be awarded under conditions that enable NS to earn the 'cost of capital'.

The sensitivity of the cost of capital and recovery of passenger revenue/BVOV is as follows:

- increase/decrease in the cost of capital by one percentage point has a positive/negative effect of approximately €100 million in relation to the recognised impairment;
- lower passenger revenues in the years are fully compensated by a higher BVOV;
- increase/decrease of BVOV by one percentage point over the period 1 September 2022 to 31 December 2024 has a positive/negative effect on the impairment of approximately €10 million.

The Group notes that the underlying analyses contain significant estimation uncertainties, with these uncertainties magnified by uncertainties about how and when the Dutch economy will recover from COVID-19, the continued impact on passenger behaviour and how public transport companies will be supported in the future. The realisation may differ and the impairment may have to be adjusted in the future with a positive or negative result effect.

The reassessment as at 31 December 2021 did not lead to an adjustment of the recognised impairment. At year-end 2021, an amount of €1,413 million was recognised as an impairment.

The impairments recognised in 2020 have been proportionally deducted from the carrying amounts of the assets of the main rail network. The revised carrying amounts are depreciated over the remaining life of the assets.

No impairments occurred in the other activities in the Netherlands (Station Development and Operation).

Abellio United Kingdom

The COVID-19 pandemic in March 2020 resulted in an enormous decrease in passenger revenue. The existing rail franchise contracts in the United Kingdom, with the exception of Merseyrail, have been replaced by short-term emergency agreements (EMA) with effect from 1 March 2020.

With respect to the three Abellio Dft Franchises, the EMAs were replaced by Emergency Recovery Measures Agreements (ERMAs) on 20 September 2020. Depending on the operator, these contracts vary in length from six to 18 months. As with the EMAs, the costs are borne by the Dft with a management fee, albeit smaller. For East Midlands Railway (EMR), the ERMA contract expires in mid-October 2022, while for West Midlands and Greater Anglia this expires in September 2021. These ERMAs were converted into so-called NRCs (privately awarded contracts), subject to the payment of a termination sum.

An impairment test was performed at the end of 2020. For the impairment test of non-current assets, the carrying amount was assessed against either the value in use of the assets or the fair value less costs to sell, whichever was higher. Management's estimate of the fair value of the assets exceeds the value in use and thus was the basis for the impairment determination.

As a result of agreements under the NRCs, the assets were transferred to the Dft at carrying amount without impairment at the end of the original franchise (West Midlands and Greater Anglia). As a consequence, impairment losses of €101 million were reversed.

For ScotRail it has been agreed with Transport Scotland to extend the EMA until February 2022 and for the period 1 March to 31 March 2022 additional arrangements will be made in the form of a 'Temporary Measures Agreement'. These additional agreements were not yet known as at 31 December 2021 and were therefore not included in the reassessment of the impairment under IFRS. This is mainly the reason for recognising an impairment of €21 million.

Measurement basis

The carrying amount of the Group's non-current assets is reviewed every reporting date in order to determine whether there are indications of impairment. If such indications are found, an estimate is made of the recoverable amount of the asset concerned. For goodwill and intangible assets that are not yet available for use the recoverable amount is estimated at each reporting date.

The recoverable amount of an asset or a cash-generating unit is the higher of the value in use and the fair value less costs to sell. In assessing the value in use, the present value of the estimated future pre-tax cash flows is calculated using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. For the purpose of impairment testing, assets are grouped together into identifiable groups of assets that generate cash flows from continuing use and that are largely independent of other assets or groups of assets ('cash-generating units'). In impairment testing, the goodwill acquired in a business combination is allocated to the cash-generating units that are expected to benefit from the synergies of the combination.

An impairment loss is recognised if the carrying amount of an asset or the cash-generating unit to which it belongs exceeds its estimated recoverable amount. Impairment losses are recognised in the income statement. Impairment losses recognised in respect of cash-generating units are first deducted from the carrying amount of any goodwill allocated to the units, and then deducted from the carrying amount of the other assets in the unit or group of units on a pro rata basis.

After impairment, the remaining carrying amount is written down over the expected useful life of the related asset.

Impairment losses in respect of goodwill are not reversed. In respect of other assets, impairment losses recognised in prior periods are assessed at each reporting date for any indications that the loss has decreased or no longer exists. An impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

15. Investments accounted for using the equity method

The investments that are accounted for using the equity method have a carrying amount of €26 million (2020: €19 million). The financial information for these investments is as follows.

Name of entity (in millions of euros)	Merseyrail Ltd	Other participating interests	Total
Percentage interest	50.00%		
2021			
Current assets	51	20	
of which Cash and cash equivalents	25	16	
Non-current assets	13	7	
Current liabilities	38	3	
of which current financial liabilities	6	-	
Non-current liabilities	3	-	
of which non-current financial liabilities	3	-	
Net equity (based on 100%)	22	19	
Carrying amount of investments accounted for using the equity method	11	15	26
Revenue	189	22	
Additional government contributions in the context of COVID-19			
Cost of depreciation, amortisation and impairments	6	1	
Result from operating activities	10	(3)	
Finance income	-	1	
Finance expense	-	-	
Income tax	2	-	
Profit for the reporting period	8	(1)	
Total comprehensive income for the period	8	1	
Share in result of investments accounted for using the equity method	4	1	5
Share in other comprehensive income	-	-	-
Share in total comprehensive income of investments accounted for using the equity method	4	1	5
Dividend received	-	-	-

Name of entity (in millions of euros)	Merseyrail Ltd	Other participating interests	Total
Percentage interest	50.00%		
2020			
Current assets	36	23	
of which Cash and cash equivalents	17	12	
Non-current assets	18	5	
Current liabilities	33	7	
of which current financial liabilities	5	-	
Non-current liabilities	9	-	
of which non-current financial liabilities	9	-	
Net equity (based on 100%)	12	19	
Carrying amount of investments accounted for using the equity method	6	13	19
Revenue	164	44	
Additional government contributions in the context of COVID-19	-	-	
Cost of depreciation, amortisation and impairments	7	2	
Result from operating activities	1	6	
Finance income	-	-	
Finance expense	-	-	
Income tax	-	2	
Profit for the reporting period	1	5	
Total comprehensive income for the period	1	1	
Share in result of investments accounted for using the equity method	1	1	2
Share in other comprehensive income	-	-	-
Share in total comprehensive income of investments accounted for using the equity method	1	1	2
Dividend received	3	-	3

Interests in joint ventures

Merseyrail Services Holding Company Ltd

The Merseyrail franchise is operated under a 50:50 joint arrangement with Serco, a listed British company. NS and Serco have joint control, each with a 50% financial interest in the holding entity. The franchise is held by an independent entity in which the holding company concerned has a 100% interest. The profits of the holding company are distributed to NS and Serco in equal shares.

As regards the investments accounted for using the equity method, there are no material contingent assets and/or liabilities. As regards the measurement of the interests in the joint ventures, there are no significant estimates or assessments.

Pursuant to Sections 379 and 414 of Book 2 of the Netherlands Civil Code, a complete list of the Group's subsidiaries, associates and joint ventures has been filed with the office of the Trade Register in Utrecht.

From 1 June 2021 to October 2021, the equity interest in Abellio GmbH was accounted for as an investment using the equity method. The measurement of this capital interest for the period 1 June 2021 to October 2021 was kept unchanged at zero.

Measurement basis

The Group's interests in investments accounted for using the equity method consist of interests in associates and joint ventures.

Associates are entities in which the Group has significant influence on the financial and operational policy, but which it does not control. A joint venture is an agreement through which the Group shares in the control and in which the Group has rights to the net assets of the arrangement rather than rights with respect to the assets and obligations with respect to the liabilities.

Associates and joint ventures over which control is exercised jointly are accounted for using the equity method and measured at cost upon initial recognition. The cost of the investment includes the transaction costs. After initial recognition, the consolidated financial statements include the Group's share in the total comprehensive income of the investments accounted for using the equity method, up to the date on which it ceases to exercise significant influence.

Section 4 Working capital

16. Inventories

(in millions of euros)	31 December 2021	31 December 2020
Maintenance materials	152	154
Projects under construction, unsold	11	4
Trade goods	13	36
Total	176	194

The inventories of maintenance materials consist of raw materials and other materials for the production and maintenance of finished and semi-finished products for the maintenance centres. In 2021, the write-down of inventories to the net realisable value, which was recognised as an expense, amounted to €20 million (2020: €9 million). The accumulated impairment, after withdrawals, came to €100 million at the end of 2021 (2020: €95 million).

Measurement basis

Inventories are stated at the lower of cost and net realisable value. The net realisable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the costs to make the sale.

The cost of the inventories is based on the purchase prices or costs and includes expenses incurred in acquiring the inventories and the associated costs of purchase. The cost of inventories of finished products and work in progress includes a reasonable portion of the indirect costs based on normal production capacity.

17. Trade and other receivables

(in millions of euros)	31 December 2021	31 December 2020
Trade receivables	192	379
Unbilled revenue	182	117
Other taxes and social security charges	89	181
Other receivables	756	498
Total	1,219	1,175

Trade and other receivables includes an amount of €493 million (2020: €210 million) relating to ProRail and the Dutch central government. Of this amount, €481 million (2020: €202 million) relates to public transport availability payments to be received in the Netherlands (see note 1).

The ageing of receivables as at the reporting date was as follows.

(in millions of euros)	31 December 2021		31 December 2020	
	Gross	Provided for	Gross	Provided for
Not past due	120	5	144	21
Past due 0-30 days	65	13	98	18
Past due 31-120 days	72	59	162	14
Past due 121-180 days	8	3	6	2
Past due 181-360 days	6	3	23	2
Past due more than one year	8	4	5	2
Total	279	87	438	59

Impairment losses

Movements in the provision for impairments of trade receivables during the year were as follows:

(in millions of euros)	2021	2020
Balance as at 1 January	59	4
Additions	76	56
Use	-39	-1
Release	-12	-
Exchange differences	3	-
Balance as at 31 December	87	59

Other receivables

For the acquisition of the shares in Westfalenbahn GmbH and PTS GmbH, the Group paid €9 million and €1.75 million respectively in December 2021. These share prepayments were stated at fair value via the income statement as at 31 December 2021. This fair value was determined on the basis of expected cash flows from the companies to be acquired.

Measurement basis

Trade and other receivables are stated at fair value plus any directly attributable transaction costs upon initial recognition. After initial recognition, they are recognised at amortised cost using the effective interest method.

The Group has formed a provision for impairment equal to the size of the estimated credit losses from trade and other receivables. The most important elements of this provision are a specific loss provision for significant individual positions and a group loss provision for groups of comparable assets concerning losses that are expected but have not yet been identified. The group loss provision is determined on the basis of historic payment data for comparable financial assets.

Provisions for trade receivables are made in the case of an impairment, unless the Group is certain that it will not be possible to recover the amount owed. In that case, the amount is considered irrecoverable and is written off directly against the financial asset concerned.

18. Cash and cash equivalents

(in millions of euros)	31 December 2021	31 December 2020
Cash and bank balances	680	1,137

The cash and bank balances are at the free disposal of the company, with the exception of €28 million (31 December 2020: €129 million). The amount that is not at the free disposal of the company relates to season ticket payments received in advance in the activities in the United Kingdom. The Group's interest rate risk and a sensitivity analysis for financial assets and liabilities are given in note 25.

Measurement basis

Cash and cash equivalents are stated at fair value, which is normally the same as the nominal value.

19. Accrued and deferred items

Accruals and deferred income as at 31 December 2021 amounted to €10 million (31 December 2020: €14 million). The accruals include the non-current part of the outstanding pension contributions for employees amounting to zero (31 December 2020: €1 million) due to the pension agreement between the Railway and Public Transport Pension Fund and NS, as explained in note 28. Over the coming years up to 2022, the item will be settled with the employees based on the discount with respect to the nominal contribution as laid down in the NS collective labour agreement.

20. Trade and other liabilities

(in millions of euros)	31 December 2021	31 December 2020
Trade payables	446	389
Current portion of deferred credits	35	38
Other taxes and social security charges	107	499
Other liabilities	771	572
Accrued expenses and deferred income	288	524
Total	1,647	2,022

Trade and other payables includes an amount of €36 million (2020: €88 million) related to ProRail and the Dutch central government, of which €8 million relates to the NOW scheme (31 December 2020: €86 million). As at year-end 2021, NS had received €313 million (year-end 2020: €0 million) in collateral in the form of margin money from Eneco, which is recognised under other liabilities.

The Group's liquidity risk due to trade and other payables is stated in note 25 and the continuity section.

Other taxes and social security charges have decreased because the year-end balance includes the deferral of payroll taxes in the Netherlands. The Group fulfilled this obligation in 2021.

21. Deferred income

The deferred income of €645 million (2020: €562 million) consists mainly of amounts for student public transport passes in the Netherlands received in advance and season ticket payments received in advance in the United Kingdom and the Netherlands.

Measurement basis

This income concerns amounts received in a single payment under agreements with terms extending to future years. The income is credited to the income statement over the term of the agreements to which the income relates. The income is measured at amortised cost.

Section 5 Financing, financial risk management and financial instruments

22. Other non-current financial assets, including investments

(in millions of euros)	31 December 2021	31 December 2020	Measurement basis
Other non-current financial assets			
Interest in Eurofima	89	88	Fair value through other comprehensive income – equity investment
Interest in bonds	25	33	Fair value through other comprehensive income – investment in debt instruments
Loans and receivables	-	7	Amortised cost
Commodity derivatives	2	-	Derivatives - fair value
Other financial fixed assets	15	32	Amortised cost
Total	131	160	
Other current financial assets			
Deposits	-	34	Amortised cost
Interest in money market funds	448	-	Fair value through profit or loss
Other financial fixed assets	24	1	Amortised cost
Commodity derivatives	6	-	Derivatives - fair value
Total	478	35	

The interest in Eurofima is measured at fair value. The net asset value of this interest was used as the best approximation of fair value.

Measurement basis

On initial recognition, loans, receivables and deposits are accounted for by the Group from the date on which they first arose. All other financial assets are initially recognised on the transaction date. The Group derecognises a financial asset in the balance sheet once the contractual rights to the cash flows from the asset have expired, or if the Group transfers the contractual rights to the cash flows from the financial asset by means of a transaction in which virtually all risks and rewards of ownership of the asset are transferred or not retained, and control of the asset transferred is not retained either. If the Group retains or creates an interest in the financial assets being transferred, that interest is recognised as a separate asset or liability.

The Group derecognises a financial liability if the contractual obligations have been discharged or cancelled or have expired

Financial assets and liabilities are offset and the resulting net amount is recognised in the statement of financial position only if the Group has a legally enforceable right to set off the amounts and if it intends either to settle on a net basis or to realise the asset and settle the liability simultaneously.

The Group uses the following financial instruments:

Non-derivative financial instruments

Non-derivative financial instruments include investments in equity securities, deposits and bonds, trade and other receivables, cash and cash equivalents. Non-derivative financial instruments are initially recognised at fair value. After initial recognition, non-derivative financial instruments are measured as described below.

Financial assets at fair value through profit or loss (including money market funds)

These assets are subsequently measured at fair value. Net gains and losses, including any interest or dividend income, are recognised in the income statement.

Financial assets at amortised cost

These assets are subsequently measured at amortised cost using the effective interest method. Amortised cost is reduced by impairment losses. Interest income, foreign exchange gains and losses and impairments are recognised in the income statement. Any gain or loss arising on derecognition is recognised in the income statement.

Fair value through other comprehensive income – investment in debt instruments

These assets are subsequently measured at fair value. Interest income is calculated using the effective interest method, foreign exchange gains and losses and impairments are recognised in the income statement. Other net gains and losses are recognised in other comprehensive income. On derecognition, the gains and losses accumulated in other comprehensive income are reclassified to the income statement.

Fair value through other comprehensive income - equity investment (interest in Eurofima)

These assets are subsequently measured at fair value. Dividends are recognised as income in the income statement, unless the dividend clearly represents a recovery of part of the cost of the investment. Other net gains and losses are recognised in other comprehensive income and are never reclassified to the income statement.

Impairment of financial assets

At each reporting date, financial assets are assessed to determine whether they might be impaired on the basis of expected credit losses.

The Group recognises a provision for expected credit losses for all debt instruments that are not held at fair value through profit or loss. The expected credit losses are based on the difference between the contractual cash flows and all cash flows expected to be received by the Group, discounted at an approximation of the original effective interest rate.

Financial assets that are significant are individually tested for impairment. Other financial assets are assigned to groups with similar credit risk characteristics and are assessed collectively.

Fair value versus the carrying amount

The carrying amounts of the financial assets and liabilities recognised in the balance sheet do not differ materially from the fair values.

For bonds, the fair value is calculated using the available current market prices/closing prices. In principle, the interest in Eurofima is measured at fair value. The net asset value of this interest was used as the best approximation of fair value.

When determining the value of interest swaps and currency derivatives, the Group uses measurement methods in which all significant data required are derived from observable market data (Level 2).

The Group's credit risks, currency risks and interest rate risks associated with the other investments are explained in more detail in note 25.

23. Equity

See the consolidated statement of changes in equity for the movements in equity.

The authorised capital as at both 31 December 2021 and 31 December 2020 consisted of 4 million ordinary shares with a nominal value of €453.78 (originally NLG 1,000). There are 2,230,738 issued and fully paid up shares. All issued shares are held by the State of the Netherlands. The shareholders are entitled to a dividend, which is declared annually based on the resolution of the Annual General Meeting of Shareholders regarding the profit appropriation. The shareholders have the right to cast one vote per share at meetings of the company.

The financial statements for 2020 and the appropriation of the profits were adopted at the shareholders' meeting on 2 March 2021. In accordance with the proposal, the negative result of €2,378 million attributable to the company's shareholders was withdrawn from the general reserve.

The movements in the other reserves were as follows:

(in millions of euros)	Reserve for translation differences	Hedging reserve	Fair value reserve	Actuarial reserve	Revaluation reserve for associates	Total other reserves
Balance as at 1 January 2020	-12	-5	52	-	13	48
Other comprehensive income	-9	-18	1	-1	-	-27
Other movements	-	-	-	-	-	-
Balance as at 31 December 2020	-21	-23	53	-1	13	21
Other comprehensive income	-14	29	-	-	-	15
Other movements	-	-	-	-	-	-
Balance as at 31 December 2021	-35	6	53	-1	13	36

Profit appropriation as stipulated by the Articles of Association

In accordance with Article 21(2) of the Articles of Association of NV Nederlandse Spoorwegen, the Annual General Meeting of Shareholders decides on the appropriation of any positive balance in the income statement.

Proposal for profit appropriation

It will be proposed to the Meeting to add the positive result of €339 million to the general reserve.

Minority interests

The minority interest in Abellio West Midlands Ltd decreased from 30% in 2020 to 14.95% in 2021 as a result of the transfer of 15% of JR East Midlands' equity interest to the Group. The change in value of this decrease has been recognised as other movement.

Measurement basis

Translation reserve

The translation reserve consists of all exchange rate differences arising as a result of the translation of the financial statements of foreign operations and the translation of liabilities hedging the company's net investment in a foreign group company.

Hedging reserve

The hedging reserve consists of the cumulative change in the fair value of hedging instruments (derivatives) where the hedged transaction has not yet taken place or the hedged position has not yet been settled.

Fair value reserve

The fair value reserve comprises the cumulative change in the fair value of investments measured at fair value - total comprehensive income and the cumulative change in the fair value of investments measured at fair value - debt investment, until the investment is derecognised.

Actuarial reserve

The actuarial reserve relates to the actuarial gains and losses, which comprise the difference between the actual and projected changes in the pension liabilities and investment returns on pension assets (see note 28).

Revaluation reserve for associates

The revaluation reserve for associates comprises the cumulative unrealised results, recognised directly in the equity of associates accounted for using the equity method.

General reserve

The recognition in equity is after deduction of taxes. Dividends are recognised in the period in which the profit appropriation is decided upon and the dividends are declared.

24. Loans and other financial liabilities, including derivatives

This note contains information concerning the contractual provisions for the Group's interest-bearing loans and other financial liabilities that are measured at amortised cost.

(in millions of euros)	31 December 2021	31 December 2020
Non-current liabilities		
Private loans	1,593	1,113
Currency derivatives	5	2
Commodity derivatives	-	15
Total	1,598	1,130
Current liabilities		
Private loans	170	50
Bank overdrafts	18	17
Currency derivatives	8	-
Commodity derivatives	-	14
Total	196	81
Total liabilities	1,794	1,211

In 2021, the Group had a net amount of €676 million in new private loans.

The 'Private loans' item includes a debt payable by the Group to the Ministry of Infrastructure and Water Management of €83 million (2020: €114 million) associated with the deferred payments of franchise fees. Of that amount, €50 million has been included under 'Non-current liabilities', for the portion that is due to be paid after 2022. The portion that will be paid in 2022 (€33 million) is recognised in 'Current liabilities'. The interest rate is fixed at 3.027%. The terms and conditions of the loan were agreed in detail with effect from 1 January 2015 under the main rail network franchise.

The other private loans have terms expiring between 2022 and 2032 and interest rates ranging from 0% to 1.7%.

The reconciliation of changes in liabilities resulting from financing activities is as follows:

(in millions of euros)	Private loans	Bank overdrafts	Other financial liabilities	Currency derivatives	Commodity derivatives	Lease commitments	Total
Balance as at 1 January 2020	658	40	39	9	9	2,109	2,864
Repayment of borrowings	-494	-	-	-	-	-481	-975
Addition of loans	1,001	-	-	-	-	-	1,001
Total net cash flow from financing activities 2020	507	-	-	-	-	-481	26
New leases	-	-	-	-	-	518	518
Movements in working capital	-	-23	-	-	-	-	-23
Currency differences	-	-	-	-	-	-51	-51
Other movements	-2	-	-39	-7	20	-29	-57
Balance as at 31 December 2020	1,163	17	-	2	29	2,066	3,277
Repayment of borrowings	-78	-	-	-	-	-478	-556
Addition of loans	676	-	-	-	-	-	676
Total net cash flow from financing activities 2021	598	-	-	-	-	-478	120
New leases	-	-	-	-	-	277	277
Movements in working capital	-	1	-	-	-	-	1
Currency differences	3	-	-	-	-	51	54
Deconsolidation	-	-	-	-	-	-993	-993
Other movements	-1	-	-	11	-29	7	-12
Balance as at 31 December 2021	1,763	18	-	13	-	930	2,724

Measurement basis

Non-derivative financial instruments

On initial recognition, these instruments are measured at fair value plus any directly attributable transaction costs. After initial recognition, loans and receivables are measured at amortised cost using the effective interest method.

Derivative financial instruments (derivatives)

The Group holds derivatives to hedge its foreign currency, interest rate and commodity risks. On initial recognition, derivatives are measured at fair value, which is the same as the cost applicable on that date. Attributable transaction costs are charged to the income statement when they are incurred. After initial recognition, derivatives are measured at fair value and any changes are accounted for as described below.

Hedge accounting

The method for recognition of the result depends on whether hedge accounting is used and, if so, whether the hedging relationship is effective. If the hedging relationship is effective, hedge accounting is used for these derivatives. When a hedging transaction is entered into, the hedging relationship is documented. Regular assessments are performed to determine if the hedging transaction was effective throughout the past period and whether the hedging transaction is expected to be effective throughout the coming period. If the hedging instrument expires, is sold, terminated or exercised or no longer meets the criteria for hedge accounting, application of hedge accounting ends with immediate effect.

Cash flow hedges

If a derivative is classified as a hedge for variability in cash flows ensuing from a particular risk associated with a recognised asset or liability, or if a highly probable forecast transaction could affect profit or loss, the effective portion of the changes in the fair value of the derivative is recognised in other comprehensive income and presented in the hedging reserve in equity. Any ineffective portion of the changes in the fair value of the derivative is recognised directly in the income statement. The accumulated amount is reclassified to the income statement in the same period in which the hedged position affects the income statement.

If a hedging instrument no longer meets the criteria for hedge accounting, expires or is sold, hedge accounting is discontinued prospectively. The cumulative gain or cumulative loss that was previously recognised in equity remains in equity until the forecast transaction has occurred. The amount recognised in equity is reclassified to the income statement (under net change in the fair value of the cash flow hedges reclassified from equity) in the same period in which the hedging instrument affects the income statement.

Fair value hedges

Changes in the fair value of a derivative hedging instrument that is classified as a fair value hedge are charged or credited to the income statement together with the changes in the fair value of the assets and liabilities (or groups thereof) insofar as they are attributable to the hedged risk.

Economic hedges

Hedge accounting is not applied to derivatives that are used as economic hedges of assets and liabilities denominated in foreign currencies. Changes in the fair value of such derivatives are recognised in the income statement as part of exchange rate gains and losses.

Energy hedging

The Group uses accrual accounting for commodity derivatives intended for its own use, under the exception allowed by IFRS 9.2.4 insofar as the requirements of IFRS 9.2.4 are met. This is applicable to purchases of diesel and fuel oil and energy in the Netherlands and is discussed in the section on risks and in 'Off-balance sheet commitments'. The other commodity derivatives, which do not meet the criterion of being intended for the Group's own use, are measured at fair value, and hedge accounting is used where possible.

25. Financial instruments – Risk management and fair value

Because financial instruments are used, the Group is exposed to the following risks:

- market risks, consisting of:
 - Interest rate risk
 - Currency risk
 - Energy price risk
- Credit risk
- Liquidity risk
- Insurance risks

Risk management framework

The Executive Board bears the final responsibility for the design and supervision of the Group's risk management framework. The Risk and Audit Committee and the Supervisory Board ensure that the risk management framework is adequate in view of the risks to which the Group is exposed. The Group's Risk and Audit Committee is supported in its supervisory role by NS Audit, NS Risk and the Group Control & Expertise department. NS Audit provides additional assurance concerning effective control of all NS business processes by performing regular and ad hoc evaluations. The findings of NS Audit are reported to the Risk and Audit Committee.

The Group's risk policy aims to identify and analyse the risks confronting the group, establish suitable risk limits and controls and monitor compliance with the limits. Policy and systems for financial risk management are regularly assessed and, where necessary, adjusted to allow for changes in market conditions and the Group's activities. Financial risk management is one element of the NS risk framework.

In order to ensure adequate risk management, additional policies have been defined for a number of business units. For instance, NS Insurance and Abellio have specific risk controls reflecting the nature of their activities, unlike the other business units, where Corporate Treasury determines the substance of the financial risk management.

The Group is involved in transport franchises abroad (the United Kingdom and Germany) through Abellio. These operations are primarily in the United Kingdom, mainly on an independent basis or with minority shareholders, and in part through a joint venture with the partner Serco, in which both partners have an equal share. The activities in Germany were deconsolidated as of 30 June, as a result of which control over these group companies was lost and these activities no longer fall under Abellio's financial risk management. Abellio's financial risk management is part of the Abellio risk framework and therefore the NS risk framework Agreements were reached in 2016 with the shareholder about the amount of the financial resources permitted to be involved in the Group's activities abroad.

Market risks

Market risk is the risk that the Group's income and expenditure, or the value of investments in financial instruments, will be negatively affected by changes in market prices, such as commodity prices, currency exchange rates and interest rates. The management of market risk aims to keep the market risk position within acceptable limits while optimising return on investment. Market risk comprises three types of risk: interest rate risk, currency risk and price risk.

Interest rate risk

The Group's policy is aimed at ensuring that at least 50% of the interest rate risk on borrowings is based on a fixed rate of interest. When determining the interest rate risk on borrowings, the Group can take account of the cash and cash equivalents available that can neutralise the interest rate risk of loans at variable rates. The Group uses derivatives such as interest rate swaps to limit the interest rate risks. Interest rate risks are predominantly managed centrally. Regulations and defined position limits apply to interest rate positions held with regard to foreign units within the Group. No speculative positions are held.

Exposure to interest rate risks

The interest rate profile of the interest-bearing financial instruments is as follows:

(in millions of euros)	31-Dec-21	31-Dec-20
Liabilities with a variable interest rate		
Financial liabilities	350	-
Effect of interest rate swaps	-	-
	350	-
Liabilities with a fixed interest rate		
Financial liabilities	1,431	1,180
Lease liabilities	930	2,066
Effect of interest rate swaps	-	-
	2,361	3,246
Financial assets		
Financial assets with a fixed interest rate	39	40
Financial assets with a variable interest rate (especially cash and cash equivalents)	1,128	1,137

The increase/decrease in interest rates by 100 basis points results in a higher/lower interest expense of €4 million.

Currency risk

The Group is exposed to currency risks on purchases, trading activities, cash and cash equivalents, borrowings, other balance sheet positions and off-balance sheet commitments denominated in currencies other than the euro. Because of its business activities, the Group mainly has currency positions in pounds sterling (GBP) and Swiss francs (CHF).

The risk of fluctuations in exchange rates on repayments, interest and dividend flows within the Group is hedged by means of forward exchange contracts, spot and/or forward purchases and sales and swaps, thereby hedging one or more of the risks to which the primary financial instruments are exposed. Purchases and sales, investment and financing commitments and settling accounts with foreign railway companies mainly take place using the functional currencies of the Group's business units, namely euros (EUR) and pounds sterling (GBP).

The currency risk on the capital interests denoted in a foreign currency (pounds sterling and Swiss francs) is not hedged. The foreign exchange gains or losses for the regular balance sheet items in the value of the participating interest are recognised in equity through the legal reserve for exchange differences.

At the end of 2021 and 2020, no materially significant positions were held in currencies other than the functional currency of the business units concerned.

At the end of 2021, the Group entered into a number of forward contracts and currency swaps in GBP to hedge specific currency positions relating to loans to group companies. The nominal value of the hedged positions as at the end of 2021 was €216 million (year-end 2020: €278 million). The fair value of these currency derivatives at the end of 2021 was €13 million (2020: €2 million negative).

Sensitivity analysis for foreign currencies

Given that no materially significant items in financial instruments were held in foreign currencies at the end of 2021 or the end of 2020, a change in the value of the euro with respect to a foreign currency at the end of the year will not have any material impact on equity and profits over the reporting period.

Energy price risk

Netherlands

The Group is affected by market fluctuations in the price of energy. In 2014, the Group signed a ten-year contract (2014-2024) with Eneco for the supply of 'green' traction electricity for the rolling stock fleet in the Netherlands. From 2015 onwards, 50% of the trains in the Netherlands ran on 'green' electricity. Since 2017, the Group's traction has been entirely green. The contract covers the following risks (in whole or in part):

- Price risk: the fees for the Programme for Responsibility and Guaranteed Origins are fixed for the entire contractual period. The contract offers the option of purchasing the requisite electricity for future years based on a hedging strategy, which limits the exposure to market prices.
- Credit risk: the credit risk is limited to the thresholds that depend on the credit rating. If the exposure (which allows for aspects such as the difference between market values and contract values of electricity covered using a hedging strategy) exceeds a certain threshold (that depends on the credit rating), the Group or Eneco must give the other party guarantees or provide cash collateral.
- Volume risk: the volume risk is limited because the volume for the previous year is given as the volume required in each new year. In addition, a range also applies in the year in question, within which fluctuations in the volume consumed do not affect the price.

The contract complies with the 'own use' criteria and is not classified as a derivative.

The United Kingdom

Abellio has entered into fuel hedging contracts for a number of subsidiaries to partially hedge movements in fuel prices and the associated currency risks. To this end, monthly forward contracts are used for a proportion of its fuel costs for a future period (ranging from 2022 to 2023) in order to cover the risks relating to the fuel costs and the associated currency risks. No guarantees have been given with respect to the hedge contracts.

Sensitivity of commodity (fuel) derivatives

The sensitivity of the commodity derivatives with a carrying amount as at 31 December 2021 of €8 million positive (31 December 2020: €29 million negative) is as follows: a rise of €0.10 in the fuel price would cause an increase in the positive value of the commodity derivatives of approximately €12 million (31 December 2020: €30 million) and equity would increase by €9 million (31 December 2020: €24 million). If the fuel price were to fall, an opposite effect would be seen.

Credit risk

Credit risk is the risk of financial loss by the Group if a customer or counterparty to a financial instrument does not meet its contractual obligations. Credit risks mainly arise from receivables from customers and from investments. There was no significant concentration of credit risks as at the balance sheet date.

The carrying amounts of the financial assets represent the maximum credit risk. For details of the credit risk regarding Eurofima, see note 31. The maximum exposure to credit risk at the reporting date was as follows:

(in millions of euros)	Note	31 December 2021	31 December 2020
Interest in Eurofima	22	89	88
Interest in bonds	22	25	33
Interest in money market funds	22	448	-
Loans and receivables	22	-	7
Commodity derivatives	22	8	-
Other financial fixed assets	22	15	32
Trade and other receivables	17	948	877
Cash and cash equivalents	18	680	1,137
Total		2,213	2,174

Investments

The Group limits its credit risk in its investments by only investing with other parties that comply with the policy drawn up by the Group. Regular checks are performed to establish whether the contractual parties still comply with the policy or whether further action is needed.

Given the creditworthiness of the counterparties, the Group expects that those counterparties will fulfil their obligations. No impairment losses were incurred on the investments, bonds and deposits in 2021 or 2020. Investments, except investments in money market funds, are in principle made with counterparties that have a credit rating of at least A- from Standard & Poor's and a long-term credit rating of at least A3 from Moody's, or with a number of Dutch municipalities. If a counterparty only has a single credit rating, it must satisfy Standard & Poor's or Moody's rating requirements as stated above. Investments that no longer comply with this policy are either permissible as exceptions and monitored

frequently or reduced (generally through normal progression), which may persist for some time after the balance sheet date. For investments in money market funds there is no rating requirement, the fund is selected on the basis of the investment policy of the fund and NS periodically monitors the developments of the money market fund. The Group's foreign companies do not have significant long-term material cash surpluses, unless this is the result of their normal business activities (monies received in advance).

Trade and other receivables

The Group's credit risk relating to trade and other receivables is mainly determined by the individual characteristics of the separate customers. The demographic features of the customer base, including the risk of non-payment in the sector and the country in which the customers are active, have less impact on the credit risk. About 8% (2020: 9%) of the Group's revenues are from sales transactions with the Dutch Education Executive Agency (DUO). As part of the credit policy applied by the business units, the individual creditworthiness of each new customer is assessed before standard payment and delivery conditions are offered to the customer. In the case of contract renewals, figures from the business unit's own experience are also used in assessing creditworthiness. In the assessment of the credit risk, customers are divided into groups based on credit characteristics; these groups include government, companies, private individuals and customers with possible financial problems in the past. Deliveries to customers with a high risk profile are only made after approval by the Executive Board. Business has been conducted with the majority of customers for many years, with only occasional (non-material) losses having been incurred.

Liquidity risk

The liquidity risk is the risk that the Group will have difficulty meeting its obligations. Based on the principles underlying liquidity risk management, sufficient liquid assets must be retained, as far as possible, to be able to meet the current and future financial obligations in the short term, under both normal and difficult circumstances, without any unacceptable risks being incurred or the Group's reputation being jeopardised. The Group has sufficient cash or assets that are readily convertible into cash. In addition, the Group has access to committed credit facilities of which as at 31 December 2021 €300 million up to May 2022 and €345 million up to May 2023. The credit facility of €300 million was reduced to €200 million on 31 January 2022 and the maturity was extended to 29 May 2024. In addition, there is a €250 million loan facility under which a long-term loan can be drawn until 17 December 2024.

For the assumptions regarding the availability of cash, please refer to the section 'Impact of COVID-19 and important (result) developments' and the going concern assumptions used.

The Group manages the cash and cash equivalents on the basis of regular liquidity forecasts using a bottom-up approach. On the basis of this forecast, financing limits are set for the business units that are clients of Corporate Treasury's in-house bank. The bank monitors these limits and they cannot be exceeded unless authorisation has been obtained. This gives Corporate Treasury an early warning system. The liquidity forecast and the aforementioned financing limits let Corporate Treasury manage the cash and cash equivalents by lending and withdrawing funds.

The following table shows the contractual maturities of the financial liabilities, including the estimated interest payments. The sums are gross amounts and have not been discounted.

31 December 2021							
(in millions of euros)	Carrying amount	Contractual cash flows	< 6 months	6-12 months	1-2 years	2-5 years	> 5 years
Non-derivative financial liabilities							
Private loans	1,763	1,803	121	58	276	637	711
Lease liabilities	930	965	161	162	209	347	86
Bank overdrafts	18	18	18	-	-	-	-
Trade and other liabilities	1,217	1,217	1,217	-	-	-	-
Derivative financial liabilities							
Currency derivatives	13	13	13	-	-	-	-
Commodity derivatives	-	-	-	-	-	-	-
Total	3,941	4,016	1,530	220	485	984	797
31 December 2020							
(in millions of euros)	Carrying amount	Contractual cash flows	< 6 months	6-12 months	1-2 years	2-5 years	> 5 years
Non-derivative financial liabilities							
Private loans*	1,163	1,206	20	36	90	328	732
Lease liabilities	2,066	2,288	242	242	325	657	822
Bank overdrafts	17	17	17	-	-	-	-
Other financial liabilities	2	2	2	-	-	-	-
Trade and other liabilities	961	961	961	-	-	-	-
Derivative financial liabilities							
Currency derivatives	-	-	-	-	-	-	-
Commodity derivatives	29	29	7	7	15	-	-
Total	4,238	4,503	1,249	285	430	985	1,554

* Adjusted for comparison purposes

The above items have been netted off, because the contract requires the hedging transactions to be settled on a net basis. When calculating the future cash flows, it is assumed that the future variable interest rates are the same as the last known variable interest rates.

As regards the risks relating to capital, the Group has agreed a dividend policy with the shareholder.

Insurance risks

In the course of its operational activities, the Group is exposed to risks that can be insured against. Risks beyond the scope of the business units are managed via the subsidiary NS Insurance. This refers to the risk of losses due to collisions, fire and liability as well as direct trading loss. The maximum extent of these losses is calculated by external specialists once every three years, or more often if changed circumstances make this necessary. The subsidiary, NS Insurance, insures the above risks for the business units. It does not insure third parties. If the total claims burden in any year exceeds NS Insurance's own internal cover, the additional cover required is provided by reinsurance. The Group's loss claims are paid from the premium income and investment income of NS Insurance. If the total costs including the claims burden exceed the revenue, these costs are paid from the distributable reserve of NS Insurance (if this is sufficient).

NS Insurance uses stop-loss reinsurance contracts for reinsurance. MPL (maximum possible loss) studies are carried out regularly to determine limits for the insurance. Provided market conditions allow, NS Insurance only takes out reinsurance with parties that have at least an A- rating. If the rating drops below A-, it has the option of cancelling the reinsurance agreement. This has as yet never happened. The reinsurers of NS Insurance had ratings of at least A- as at the end of 2021.

NS Insurance is an insurance company and is supervised by De Nederlandsche Bank and the Netherlands Authority for the Financial Markets (AFM). Insurers must hold sufficient capital reserves to satisfy the minimum solvency requirement of Solvency II (SCR, the Solvency Capital Requirement). Insurers are also required to determine their own standard solvency requirement. NS Insurance has determined its standard solvency requirement in such a way that it will still be able to satisfy the SCR even if the stress scenario arises. Its standard solvency requirement is €44 million. NS Insurance comfortably meets this requirement. NS Insurance is fully consolidated in the Group figures.

26. Net financing result

(in millions of euros)	2021	2020
Interest income from financial assets	1	1
Exchange differences	2	-
Other interest income	1	38
Finance income	4	39
Interest expense on financial liabilities measured at amortised cost	-10	-10
Interest expense on lease liabilities	-21	-34
Exchange differences	-	-3
Interest expense from discounting of provisions/other employee benefits	-5	-4
Other financial expenses	-317	-9
Finance expense	-353	-60
Net finance result included in the income statement	-349	-21

The increase in financing expenses in 2021 was mainly caused by the write-down of a participating interest and loans to zero, costs of restructuring and terminating a number of franchises and provisions made regarding guarantees and settlement of possible other liabilities related to the insolvency proceedings concerning Abellio Germany. The interest expense on lease liabilities in 2021 is substantially lower due to the deconsolidation of the German entities as of 30 June 2021.

The other financial income of €38 million in 2020 relates to changed estimates regarding future dividend cash flows payable in connection with the minority interest Abellio East Anglia Ltd (see note on minority interests).

Measurement basis

Finance income includes the interest income from monies invested, lease income, gains from the sale of available-for-sale financial assets and gains on hedging instruments that are recognised in the income statement. Interest income is recognised in the income statement as it accrues, using the effective interest method. Dividend income is recognised in the income statement when the right to the dividend payment is established.

Finance expenses include the interest expenses on borrowings, lease contracts, interest accrual on provisions and losses on hedging instruments that are recognised in the income statement. All borrowing costs that are not directly attributable to the acquisition, construction or production of a qualifying asset are recognised in the income statement using the effective interest method. No borrowing costs were capitalised in 2021 or 2020.

Exchange rate gains and losses are included in the finance income and expense respectively.

Section 6 Other notes

27. Deferred credits

(in millions of euros)	31 December 2021	31 December 2020
Lump sum payments	142	162
Adjustment mechanism for franchise fee	54	73
Deferred credits	196	235
Less: current	-35	-38
Total non-current as at 31 December	161	197

The lump-sum payment for wage increases resulting from making the Railway and Public Transport Pension Fund independent in 1994 is expected to be released up to 2035, and to be credited to the income statement. The franchise fee adjustment mechanism is included in the implementation agreement for the main rail network franchise (see note 32). The amounts will be released in equal instalments and be credited to the income statement during the term of the franchise up to and including 2024.

Measurement basis

This income concerns amounts received in a single payment under agreements with terms extending to future years. The income is credited to the income statement over the term of the agreements to which the income relates. The income is measured at amortised cost.

28. Employee benefits

The non-current employee benefits comprise:

- other long-term employee benefits, including long-service awards;
- obligations resulting from occupational disability and supplements to social security payments;
- obligations relating to defined benefit plans.

(in millions of euros)	31 December 2021	31 December 2020
Defined benefit plans	6	5
Long-service award obligations	31	32
Obligation in connection with temporary early retirement scheme	17	-
Total	54	37

Pension liabilities

The staff of the NS Group companies are covered by the pension plans of the following pension funds. The table also shows the numbers of active members.

(numbers)	31 December 2021	31 December 2020
Rail and Public Transport pension fund	16,328	16,839
Hotel & Catering industry pension fund	1,187	1,338
Food business industry pension fund	569	832
Servex supplementary pension plan	41	48
ScotRail	5,170	5,170
East Anglia/Greater Anglia	1,768	1,768
Abellio Transport Holdings	16	16
Abellio London & Surrey	1,941	1,890
Abellio East Midlands	2,349	2,349
Abellio West Midlands	2,832	2,426

The total amount of the pension contributions charged to the income statement in 2021 was €131 million (2020: €148 million).

Railway and Public Transport Pension Fund pension plan (defined contribution plan)

The pension plan for the railway industry is administered by the Railway and Public Transport Pension Fund (*Pensioenfonds Rail en OV*). As of 1 April 2020, the Railway Pension Fund (*Spoorwegpensioenfond*s) merged into the Railway and Public Transport Pension Fund. The plan qualifies for recognition in the financial statements as a defined contribution plan. The contribution agreed with the Railway and Public Transport Pension Fund is a fixed annual contribution agreed in advance and expressed as a percentage of the pensionable earnings. In 2021, NS paid the nominal pension contribution of 24% to the pension fund. Two-thirds of the pension contributions paid to the Railway and Public Transport Pension Fund are paid by the company and one-third is paid by the employees. After payment of the agreed contribution, the company has no obligation to pay additional amounts should there be a deficit in the pension fund. The actuarial risks and investment risks are borne by the pension fund and its members.

At the end of 2015, the Group made new agreements with the pension fund for dealing with the contribution build-up that came into effect on 1 January 2017. This led to a receivable from Railway and Public Transport Pension Fund of about €240 million that was received in two years (2016 and 2017). The employees' part of the contribution build-up (one third of the amount) is recognised as a debt and will be settled with the employees over the next few years up to and including 2022. The employer's part of the contribution build-up (two thirds of the amount) has been added to the lump-sum payment for wage increases and will be credited to the pension costs up to 2035 (note 27).

There is a defined contribution plan for Abellio London & Surrey and the Servex supplementary pension plan.

Industry pension funds (hotel and catering, food)

The basic pension for each employee is covered by multi-employer funds in which other companies also participate on the basis of legal obligations. These funds have an indexed average salary scheme and are therefore defined benefit plans. Since these funds are not equipped to provide the required information on the Group's proportionate share of the pension liabilities and plan assets, the defined benefit plans are accounted for as defined contribution plans. The Group is obliged to pay the predetermined contribution for these plans. The Group is not allowed to not recover any surplus. The Group cannot recover excess payments and is not obliged to make up any shortfall except through adjustment of future contributions.

Defined benefit plans United Kingdom

Abellio Greater Anglia, Abellio ScotRail, Abellio West Midlands, Abellio East Midlands and Abellio Transport Holdings have arranged for pensions for their staff to be administered by the Railways Pension Scheme. The fund in question can be considered as a company pension fund and the pension plan as a defined benefit plan.

Every company is a designated employer for one or more cost-sharing agreements within the Railways Pension Scheme. Such cost-sharing agreements are geared to a lifelong pension. The amount of the pension depends on how long an employee was an active member of the pension plan and on their salary when leaving the plan (final salary plan).

Because of the nature of the cost-sharing agreements, the amounts payable to cover both the costs of the accrued pension entitlements and any shortfall between the value of the assets and the value of the pension liabilities are borne jointly by the employer and the contributing members in a ratio of 60% to 40% respectively. As a consequence, the employer recognises 60% of the total pension costs and pension liabilities in the balance sheet. The Railways Pension Scheme is administered by the Trustee, the Railways Pension Trustee Company Limited. The plans' assets are invested via investment funds, each with a different risk and return profile.

The pension liabilities and the pension assets are based on actuarial calculations that were performed as at 31 December. At year-end 2021, the net liabilities of Abellio Transport Holdings Limited were €7 million (year-end 2020: €5 million). The average term for the pension liabilities is about 24 years.

To reflect the nature of the franchise, the shortfalls between the pension liabilities and the pension assets for Abellio Greater Anglia, Abellio ScotRail, Abellio East Midlands and Abellio West Midlands have been included in 'Non-current liabilities' to the extent that they concern the term of the franchise. The remaining amount at the end of the term of the franchise is not recognised in the balance sheet because it will constitute part of the debts of the next franchise holder. At year-end 2021, the net liabilities were nil (year-end 2020: nil). The average term for both pension liabilities is about 20 years.

In determining the pension costs, only the costs that are expected to be borne by the franchisee (the Group) during the term of the franchise are recorded in the income statement. These net pension costs are therefore calculated while taking into account that part of the costs that will be borne by the employees (40%) and by other parties after the end of the current term of the franchise. This net calculation also takes into account any allocation within the term of the franchise that may possibly occur in connection with the triennial assessments during the term of the franchise, as well as any adjustments to the annual contributions over the term of the franchise.

Basic assumptions for defined benefit plans

The following assumptions were used for determining the pension liabilities and the pension assets (based on a weighted average):

	31 December 2021	31 December 2020
Discount rate	1.7%	1.6%
Total wage increase	3.0%	2.4%
Increase of pension benefits	3.0%	2.4%
Inflation	3.5%	2.9%

Mortality table: S3NA tables with CMI 2019 projections plus long-term expectation of +1.25%.

Breakdown

The breakdown of the pension liabilities is as follows.

(in millions of euros)	31 December 2021	31 December 2020
Fair value of plan assets	3,519	2,767
Present value of defined benefit obligations	5,746	4,694
Deficit	2,227	1,927
Employees' share	(891)	(771)
Deficit at the end of the franchise period	(1,330)	(1,151)
Group's net commitments concerning franchise period	6	5

Sensitivity analysis

Reasonably likely changes in one of the relevant actuarial assumptions on the balance-sheet date, while keeping all other assumptions constant, would have the following effect on the gross liability pursuant to the defined benefit entitlements.

(adjustment by 0.25%) (in millions of euros)	Increase	Decrease
Discount rate	(339)	363
Inflation	357	(336)
Future salary increases	93	(91)

A change in life expectancy of one year would lead to a change in the gross liability of about €160 million (31 December 2020: €150 million).

The impact of these changes on the Group's net liabilities during the term of the franchise is expected to be limited, given the transfer of liabilities at the end of the franchise.

Movement

The changes in the pension assets and liabilities are as follows.

(in millions of euros)	2021	2020
Plan assets as at 1 January	2,767	2,727
Addition of new fund	-	-
Interest income	45	56
Pension contributions (including employees' share)	79	73
Pension benefits paid	(119)	(84)
Administration expenses	(10)	(13)
Return on plan assets, excluding interest income	581	154
Exchange results	176	(146)
Plan assets as at 31 December	3,519	2,767
Defined benefit obligations as at 1 January	4,694	3,764
Addition of new fund	-	-
Pension costs	218	151
Interest expenses	77	76
Pension benefits paid	(119)	(84)
Net actuarial gain or loss	578	988
Exchange results	298	(201)
Defined benefit obligations as at 31 December	5,746	4,694

Breakdown of pension assets

The breakdown of the pension assets is as follows.

(in millions of euros)	31 December 2021	31 December 2020
Shares	2,518	1,914
Fixed-income securities	19	174
Property	274	240
Cash	482	261
Other	226	178
Total	3,519	2,767

Pension costs recognised in the income statement

(in millions of euros)	2021	2020
Pension costs (employer's share)	128	91
Interest expenses	-	-
Administration expenses	6	8
Adjustment due to limitation of franchise period	(87)	(52)
Total	47	47

Based on current accounting policies, the Group expects to recognise pension costs for Abellio of €36 million for the above defined benefit plans in 2022.

Unrealised actuarial gains and losses

(in millions of euros)	2021	2020
Net actuarial gain or loss due to:		
- Demographic assumptions	(10)	(14)
- Financial assumptions	589	999
- Experience adjustments	-	4
Return on plan assets, excluding interest income	(581)	(154)
Adjustment due to limitation of franchise period	2	(462)
Changes in members' share	-	(373)
Total	-	-

Long-service award obligations

The AG2020 mortality table is used for the calculation of the long-service award obligations.

The changes in the provision were as follows:

(in millions of euros)	2021	2020
Long-service award obligation as at 1 January	32	32
Payments	(3)	(3)
Actuarial gains and losses	2	2
Accrued interest	-	1
Long-service award obligation as at 31 December	31	32

The current portion of this provision is €3 million.

The sensitivities are as follows.

	2021	2020
Discounting (-0.5%)	4.4%	4.3%
Total wage increase (0.5%)	4.5%	4.3%
Career opportunities (+25%)	2.5%	1.3%
Probability of resignation/dismissal (+25%)	-6.2%	-6.1%

Temporary early retirement scheme

At the end of 2021, an amount of €17 million was added to the liability related to the temporary early retirement scheme that came into effect in 2021.

The sensitivities are as follows.

	2021	2020
Discounting (-0.5%)	1.1%	-
Participation rate (+10%)	21.9%	-

Measurement basis

'Employee benefits' includes pension liabilities for pension plans and other obligations relating to employee benefits, consisting of long-service awards, early retirement payments and obligations due to employees' occupational disability.

Defined contribution plans are plans under which the Group has no obligations other than to pay the contractual contributions. These contributions are recognised in the income statement in the period for which the contribution is payable.

Defined benefit plans are those plans in which the Group's obligations extend beyond payment of the mandatory, contractually agreed contribution to pension funds or insurance companies. The Group's net liability is determined individually for each plan by estimating the pension entitlements that employees have accrued in the reporting period and the preceding years. The present value of these pension entitlements is determined and netted off against the fair value of the invested pension assets. The discount rate is the interest rate as at the balance sheet date for high-grade fixed income securities for which the term to maturity is approximately the same as that of the pension liabilities. The calculation takes account of elements such as future wage increases resulting from general developments in wage levels and career opportunities, inflation and current life expectancies. The calculation is performed annually by a qualified actuary using the projected unit credit method. If the calculation results in a benefit to the Group, the recognised asset cannot exceed the net value of any unrecognised past-service pension costs and the present value of any future refunds from the plan or reductions in future contributions to the plan. The employee's portion is deducted from the liability.

The pension liabilities relating to the Group business units that are based in the United Kingdom have been included for the period during which the transport franchises operate.

The change in pension liabilities and investment returns anticipated at the start of the year, based on the actuarial calculations, is included as a change in the net liabilities and recognised in the income statement. Contributions paid by employers and employees are deducted from the net liabilities. The actuarial gains and losses, which comprise the difference between the actual and anticipated changes in the pension liabilities and investment returns, are recognised in other comprehensive income.

Liabilities relating to long-service awards and early retirement are calculated actuarially and recognised at the present value. This takes account of developments in wages and prices, recent mortality tables and estimates of the employment contract. Any actuarial gains or losses are recognised in the income statement in the period in which they occur. The liabilities due to occupational disability are determined in a similar fashion.

Short-term employee benefits

Any entitlements to time off that have not been taken are converted to the present value, taking account of future salary increases. Other short-term employee benefits are measured without being converted to the present values and recognised when the service associated with them is rendered.

29. Provisions

(in millions of euros)	Provisions for reorganisation costs	Provision for soil remediation	Termination payments/net asset payments	Provision for the continued payment of unsocial hours during holidays	Provisions Abellio Germany and other provisions	Total
Balance as at January 2021	33	74	487	37	129	760
Addition	22	5	-	29	386	442
Accrued interest	-	-	-	1	-	1
Deconsolidation	-	-	-	-	-115	-115
Withdrawal	-18	-	-144	-	-78	-240
Exchange differences	-	-	19	-	1	20
Release	-11	-2	-362	-	-78	-453
Balance as at 31 December 2021	26	77	-	67	254	424
Presented under:						
Non-current	7	71	-	67	71	216
Current	19	6	-	-	183	208

Provision for reorganisation costs

The purpose of the provision for reorganisation costs is to cover the costs arising from reorganisation measures. Most of the provision is needed for redundancy schemes, bridging payments and the redeployment of staff whose jobs have been eliminated as a result of reorganisations. Important starting points for determining the provisions for reorganisation costs at year-end 2021 and 2020 in the Netherlands are:

- the final collective bargaining offer submitted by NS to the parties to the collective labour agreement was accepted by the trade unions in February 2021;
- estimates with respect to advancement and outflow during the reorganisation.

Provision for soil remediation

The provision for soil remediation is for managing and remedying environmental damage. The provision is calculated using an average discount rate of 1.5% (2020: 1.5%).

Termination payments/net asset payments

The Dft determined termination payments in November 2020. Negotiations have taken place and arguments put forward in response to this determination. This led to a downward adjustment of the termination payment in May 2021 and a release of the provision of €362 million.

Provision for the continued payment of unsocial hours during holidays

The Group has made a provision for the claimed unsocial hours allowance during holidays over the non-statutory holiday entitlement. The legal proceedings with respect to this topic have not yet been completed.

Provisions Abellio Germany and other provisions

As at 30 June 2021, the Group has estimated the expected outflow of funds arising from the termination and winding up of the activities in Germany. Provisions have been made for this. These estimates were updated as at 31 December as a result of the developments explained under 'Deconsolidation'. At the end of 2021, the Group reassessed its position and adjusted the provisions accordingly. These provisions, with the exception of €10 million (which was charged to other operating expenses), were charged to its financing result and are included in provisions for Abellio Germany and other provisions at the end of 2021. These provisions are made for outflows of funds in respect of guarantees and settlement of other possible liabilities related to the insolvency proceedings. In addition, a provision has been made for expected legal and litigation costs. The provision for guarantees is part of the total guarantees issued as disclosed in note 31 to the financial statements.

The Group's legal negotiating position is expected to be severely damaged if further information is provided on the nature and extent of the Abellio Germany provisions and other provisions made. The Group therefore makes use of the provisions of IAS 37.92 and confines itself to the above explanation.

The outcome of the solvency proceedings in Germany is inherently unpredictable and it is possible that cash flows or operating results in future years could be materially affected positively or negatively as a result of an outcome that is favourable or unfavourable to the Group compared to the current estimates made in these financial statements.

'Other provisions' include provisions for losses arising from accidents and fire, uncertainties concerning settlements with carriers, provisions for maintenance in connection with lease contracts and provisions for staff-related matters.

Individual Compensation for Victims of WWII Transport

During the Second World War, NS operated trains on instructions from the occupying forces. NS has expressed its willingness to grant individual financial compensation on moral grounds to those most directly affected by its actions. The right to enter into legal proceedings on liability has been collectively waived. NS made a provision of €47 million in 2019 to account for the expected compensatory payments and costs of execution (recognised under other operating expenses). The entire provision has been settled at the end of 2021.

Measurement basis

A provision is recognised in the balance sheet whenever the Group has a legal or constructive obligation as a consequence of a past event and it is probable that the settlement of that obligation will entail an outflow of funds.

Provisions are determined by calculating the net present value of expected future cash flows based on a pre-tax discount rate that reflects both the current market valuations of the time value of money and, where necessary, the specific risks relating to the liability.

Reorganisation costs and non-activity schemes

Provisions are made in connection with reorganisations if a formal, detailed plan has been drawn up for the reorganisation, and the reorganisation is either under way or has been publicly announced. No provision is made for future operating expenses. Provisions for reorganisations relate mainly to redundancy schemes, bridging payments and the redeployment of redundant staff.

Provision for soil remediation

The provision for soil remediation work is intended to cover the costs incurred for the upkeep or repair of operating assets. In line with the Group's published environmental policy and the applicable legal requirements, provisions for the control and remediation of environmental contamination are formed when the contamination occurs or is found to have occurred.

Onerous contracts

A provision for onerous contracts is included in the balance sheet if the economic benefits that the Group expects to derive from a contract are exceeded by the unavoidable costs of meeting the obligations under the contract.

The provision is measured at the present value of the anticipated net costs of continuing the contract or, where this is lower, the present value of the anticipated costs of termination of the contract, being any compensation or penalty entailed by the breach of contract. Before the provision is formed, an impairment loss is applied to the assets to which the contract relates.

Other provisions

Provisions are formed for losses arising from fire, accidents, guarantees issued, claims, provisions for maintenance in connection with lease arrangements and other risks.

30. Leases

Group as lessee

The Group has lease contracts for rolling stock, real estate and other operating assets that are used in its operations. The Group's obligations under the leases are safeguarded by the lessor's right to the ownership of the leased assets. Generally, the Group's possibilities for subleasing the leased assets are restricted. There are various lease contracts that contain renewal and termination options. These are discussed in more detail below.

The Group also has certain lease contracts for machines with a lease term of 12 months or less and lease contracts for office equipment of low value. The Group applies the recognition criteria for exemptions for 'short-term leases' and 'leases of low-value assets' for these lease contracts.

The carrying amounts of the recognised right-of-use assets and the changes during the period are stated below.

(in millions of euros)	Rolling stock	Property	Other	Total
Composition as at 1 January 2020				
Cost	2,291	208	21	3,220
Accumulated amortisation and impairments	1,149	45	4	1,198
Carrying amount as at 1 January 2020	1,842	163	17	2,022
Changes in 2020				
Additions	504	14	-	518
Disposals	-43	-	-1	-44
Depreciation	-461	-18	-3	-482
Impairments	-83	-27	-1	-111
Exchange differences	-46	-1	-1	-48
Other movements	10	-3	3	10
Total changes during the financial year	-119	-35	-3	-157
Composition as at 31 December 2020				
Cost	2,977	214	27	3,218
Accumulated amortisation and impairments	1,254	86	13	1,353
Carrying amount as at 31 December 2020	1,723	128	14	1,865
Changes in 2021				
Additions	255	15	8	278
Disposals	-1	-	-1	-2
Deconsolidation	-890	-	-	-890
Depreciation	-458	-15	-3	-476
Impairments	-13	-	-	-13
Reversal of impairment	-	-	-	-
Exchange differences	44	2	-	46
Other movements	37	-17	-1	19
Total changes during the financial year	-1,026	-15	3	-1,038
Composition as at 31 December 2021				
Cost	2,006	195	27	2,228
Accumulated amortisation and impairments	1,309	82	9	1,400
Carrying amount as at 31 December 2021	697	113	18	827

The carrying amounts of the lease liabilities and the changes during the period are stated below.

(in millions of euros)	2021	2020
Lease commitments as at 1 January	2,066	2,109
Additions	277	518
Deconsolidation	-993	-
Interest allocated	21	34
Payments	-499	-515
Other movements	7	-29
Currency differences	51	-51
Lease commitments as at 31 December	930	2,066

Presented under:

Non-current	634	1,601
Current	296	465

The lease liabilities can be subclassified into the following countries:

(in millions of euros)	31 December 2021	31 December 2020
United Kingdom	784	844
Germany	-	1,042
The Netherlands	146	180
Total	930	2,066

The maturity analysis of lease liabilities is disclosed in note 25.

The following amounts are recognised in the income statement:

(in millions of euros)	2021	2020
Cost of depreciation of right-of-use assets	476	482
Impairments of right-of-use assets	13	111
Reversal of impairments	-	-
Interest expense on lease contracts	21	34
Costs relating to short-term lease arrangements (Other operating expenses)	1	30
Costs relating to leases of low-value assets (Other operating expenses)	-	1
Variable lease payments (Other operating expenses)	20	17
Total recognised in the income statement	531	675

The incremental borrowing rate of interest used is as follows:

Incremental borrowing rate (in percentages)	range	applied
The Netherlands	-0.5%-1.5%	0.5%
United Kingdom	0.1%-5.3%	1.7%
Germany	0.1%-2.7%	1.6%

The Group has no lease arrangements with material variable lease payments.

Measurement basis

The Group recognises a right-of-use asset and a lease liability at the commencement date of the lease arrangement. The right-of-use asset is initially measured at cost, comprising the initial amount of the lease liability, adjusted for any lease payments made at or before the commencement date of the lease arrangement, plus any initial direct costs incurred and an estimate of the costs of dismantling and removing the underlying asset or restoring the underlying asset or restoring the site on which it is located, less any lease incentives received.

The right-of-use asset is subsequently depreciated on a straight-line basis from the commencement date until the end of the lease term. The average depreciation periods are as follows:

- Rolling stock 6 years
- Real estate 11 years
- Other 9 years

In addition, the right-of-use asset is periodically reduced by any impairment losses and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the Group's incremental borrowing rate. The incremental borrowing rate of interest consists of the risk-free rate plus a surcharge for country risk with account being taken of the object. The lease liability is measured at amortised cost using the effective interest method. It is remeasured if there is a change in the future lease payments as a result of a change in an index or rate, if there is change in the Group's estimate of the amount expected to be payable under a residual value guarantee or if the Group changes its assessment of whether it will exercise a purchase, extension or termination option.

31. Off-balance sheet arrangements

A number of investigations are under way against NS and/or group companies and various claims have been submitted which are being contested by the company. Where deemed necessary, provisions have been made for this. A number of important subjects are explained below.

Authority for Consumers and Markets (ACM)

In 2015, the ACM concluded that NS had violated a number of articles of the Railways Act in connection with the Limburg tendering process. In addition, the ACM imposed a fine of €40.95 million on NS in 2017 for acting in violation of Section 24 of the Competition Act and Article 102 of the Treaty on the Functioning of the European Union. NS accounted for this in the 2017 result. NS submitted a notice of objection, asking the ACM to reconsider its decision. In 2018, the ACM dismissed NS's objections. NS lodged an appeal against the ruling on the objection. On 27 June 2019, the District Court of Rotterdam set aside the ACM's decision. The fine was annulled and repaid to NS in July 2019 and recognised in the income statement in 2019. The ACM has lodged an appeal. On 1 June 2021, the Trade and Industry Appeals Tribunal upheld the court's decision. The case is hereby closed.

Chromium 6

On Thursday, 31 January 2019, the National Institute for Public Health and the Environment (RIVM) presented the results of the Chromium-6 investigation into the reintegration project tROM in Tilburg. In that project, people on unemployment benefit worked on trains belonging to NS and the Dutch Railway Museum at the then NedTrain workshop in Tilburg between 2004 and 2011. The RIVM carried out an investigation in which NS cooperated. An independent committee drew conclusions on the basis of the results of the investigation and formulated ad hoc recommendations. The committee drew firm conclusions, including about the role of NS in the Tilburg project. According to the committee, the municipality of Tilburg, NS and the Railway Museum all cut corners. At the beginning of February 2019, the parties announced that they would come to an arrangement jointly and each on the basis of its own responsibility. The aim is to provide clarity to those involved as quickly as possible.

NS already provided for its share of the expected costs as at 31 December 2019 and remeasured this based on its understanding as at 31 December 2021. The movement in the provision is recognised in other operating expenses.

Furthermore, the police carried out a criminal investigation on the instructions of the Public Prosecution Service, in which NedTrain was one of the suspects. The investigation has been completed and the Public Prosecution Service has announced that it will prosecute NedTrain for complicity in violation of the Working Conditions Act (*Arbeidsomstandighedenwet*). The outcome of the criminal prosecution is still uncertain.

Long-term contracts

There were a number of long-term financial commitments to third parties at year-end 2021, mainly concerning lease arrangements for trains, company cars and copiers. There are also long-term contracts for services by third parties in the areas of IT, maintenance and cleaning.

The Group has various lease contracts that have not yet commenced as at 31 December 2021. The future payments under these non-cancellable lease contracts are €1 million within no more than one year, €18 million within no more than five years and €3 million thereafter.

Energy contracts

As at the end of 2021, the purchase commitments under the energy contract in the Netherlands for the volumes already covered, the payments for the Programme for Responsibility and the surcharge for green electricity for the period 2022-2024 (the remainder of the 10-year contract) came to €176 million (compared with €205 million at the end of 2020). The amount expected to be required for 2022 and 2023 is fully covered. The volume expected for 2024 is largely covered. Transport costs and energy taxes are not included in the purchase commitments shown. If the difference between the market values and the contract value exceeds a given threshold, the Group or Eneco has to give the other party guarantees or provide cash collateral. Any payments and liabilities are netted, as they are both inextricably linked. As at year-end 2021, NS had received €313 million (year-end 2020: €0 million) in collateral in the form of margin money.

For more detailed information about the energy contracts, see note 25.

Tax group

For the purpose of corporation tax, all the Dutch subsidiaries belonging to the Group are part of the NV Nederlandse Spoorwegen tax entity. As a result, the Group is jointly and severally liable for all tax liabilities of the subsidiaries included in the tax entity.

Investment commitments

At the end of 2021, the Group had outstanding investment commitments of €911 million (2020: €1,184 million), primarily for purchasing and upgrading trains and investments in the areas around the stations.

Contingent liabilities

The Group has paid €29 million (translated) of its share in the issued share capital (€145 million after translation) of EUROFIMA AG. The Group has a liability for full payment on demand of the shares and other guarantee commitments totalling €262 million (after translation). Payment of the liability can be demanded if EUROFIMA AG's own equity position gives reason to do so.

As a result of the agreements made with the Belgian carrier regarding the IC Brussels service in the context of the main rail network, the Group is making allowances for a negative balance for the Group in the settlement of the costs of commercial operation for this route. The amount of that negative balance depends on the commercial results on that route. The expected outcomes are part of the main rail network impairment test as explained in note 14.

Contingent assets

The Group has various outgoing claims and/or disputes that have not been measured because their outcome is uncertain.

Guarantees

The Group has issued guarantees totalling €781 million (31 December 2020: €734 million) relating to the operation of the franchises in the United Kingdom and Germany. Some of the guarantees relating to Abellio Germany have been provided for (see note 29).

Franchises

The Group had the following franchises during 2021. The entities holding the German franchises have been deconsolidated as of 30 June 2021.

Franchises in 2021

Expiry date

The Netherlands

Main Rail Network/HSL South 31 December 2024

Gouda-Alphen aan den Rijn train service 11 December 2031

United Kingdom

Merseyrail franchise around Liverpool 20 July 2028

Greater Anglia franchise (East Anglia) 19 September 2026

Abellio London franchises (bus) see below

ScotRail franchise in Scotland 31 March 2022

West Midlands train franchise 19 September 2026

East Midlands train franchise (from 18 August 2019) 16 October 2022

*

Germany

Ruhr Sieg Netz 1 February 2022

Der Mungstener 1 February 2022

Saale-Thüringen-Südharz December 2030

Niederrhein-Netz 1 February 2022

Rhein-Ruhr-Express 1 February 2022

Stuttgarter Netze 1 January 2022

Dieselnetz Sachsen-Anhalt December 2032

S-Bahn Rhein-Ruhr 1 February 2022

** The franchise will expire in October 2022 after the ERMA emergency contract ends; the award of a subsequent NRC contract is currently under negotiation.*

Netherlands

Main rail network

The main rail network franchise is awarded by the Ministry of Infrastructure and Water Management. It covers passenger transport by rail on the main rail network in the Netherlands. The old main rail network franchise and the HSL franchise (see the paragraph below) ended in 2014 and the ministry decided in December 2014 to award a new integrated main rail network franchise to NS for the period from 1 January 2015 to 31 December 2024. The train services on the HSL South have also been covered by this franchise from 1 January 2015 onwards. The franchise agreement stipulates that performance must improve during the term of the franchise. The evaluation will take place during 2024. If NS does not achieve the target values for 2024, NS will be obliged to pay a sum of €1.5 million for each performance indicator not attained up to a maximum of €19.5 million per evaluation. If NS does meet the conditions, a maximum bonus of €10 million can be earned for each evaluation. In addition, the Ministry can impose a fine of up to €6.5 million a year on NS if NS does not achieve the minimum baseline values for the franchise performance indicators. The performance indicators are measured for the following performance areas: general (customer satisfaction), the door-to-door journey, ease of travelling (transport capacity at peak times), journey information (in the event of disruptions), safety (including personal safety) and reliability (punctuality for passengers).

The agreements made with the government include agreements on the production assets (rolling stock in particular) that are to be used for operating the main rail network franchise. Depending on the ownership situation and the form of tender, the production assets may be leased in the event of complete or partial loss of the main rail network franchise to a subsequent franchise holder, or sold at the carrying amount, and/or their leases may be transferred unchanged to the subsequent franchise holder.

The overall fees for track use and the franchise for the integrated main rail network/HSL South franchise were €178 million in 2021. The negotiation agreement of 2011 included an adjustment mechanism to avoid the liquidation of HSA. This adjustment mechanism has been included in the implementation agreement for the franchise. It works as follows. If the average return on investment for the franchise holder over a fixed period turns out to be lower than the threshold value (4%), the holder will be entitled to an adjustment to the franchise price (equal to the difference between the actual return and 4%, with the adjustment over the entire duration of the franchise being capped at the equivalent of €144 million at 2010 prices). There was no entitlement to any such adjustment over 2015. Any entitlement to an adjustment was first calculated in 2016 using the average return on investment for 2015 and 2016, and thereafter on a rolling basis using the previous three years. An entitlement to an adjustment to the franchise price deriving from the implementation agreement does not lapse if at any point in subsequent years the return on investment exceeds the threshold value. Payment of any entitlement that may have arisen through an adjustment to the franchise price will be spread in instalments, as per the implementation agreement. The adjustment mechanism for the average profitability is recognised during the franchise on a straight-line basis covering the entire franchise term.

The franchise also includes an adjustment mechanism for a settlement of any windfalls in energy price changes over the franchise period. This adjustment will be calculated cumulatively, with NS owing the Ministry of Infrastructure and Water Management 75% of the difference between the actual energy prices and the forecast energy prices according to the business case, with no adjustment being made if the cumulative actual return on investment falls below the cumulative norm return. Apart from the calculation outlined above, NS owes an unconditional one-off sum of €56 million to the ministry for 2016. This payment is amortised on a straight-line basis over the entire term of the franchise. This arrangement is capped at €290 million (including the one-off payment) and will never result in a payment to NS by the Ministry of Infrastructure and Water Management. No energy cost adjustment is owed for 2021 and previous years.

In June 2020, the Ministry of Infrastructure and Water Management announced its intention to award the franchise privately to NS with effect from 2025. This was confirmed by the House of Representatives in September 2020. The term and conditions of the franchise are not yet known.

Gouda-Alphen aan den Rijn franchise

In 2021, NS operated the Gouda – Alphen aan den Rijn franchise, which runs until 11 December 2031.

The franchise was awarded by the relevant province. A fee is received from the franchise authority for the operation of the franchise.

The United Kingdom

Merseyrail franchise

This franchise is operated as a 50:50 joint venture with Serco, a listed UK company. This is for passenger transport on the railway network in the region around Liverpool. There is an obligation to operate well-defined services (timetable, quality of the service) at a fixed fee that is paid by the regional authorities. An evaluation is carried out every five years, which reviews, among other things, whether the activities continue to be 'efficient'. The annual payment from the government (the subsidy) is determined in the contract and is indexed annually.

Greater Anglia franchise (East Anglia)

Abellio won the new Greater Anglia franchise in August 2016. It is operated by full subsidiary Abellio East Anglia Ltd. The franchise operates passenger transport in the railway network in the Anglia region in the eastern part of England. The original franchise contract was changed to an EMA, and subsequently to an ERMA, before being terminated in September 2021. The contract is now a 'National Rail' contract that expires in September 2026.

ScotRail franchise

Abellio was awarded the ScotRail franchise in October 2014. The franchise commenced on 1 April 2015 and has a term of seven years. The ScotRail franchise was awarded by Transport Scotland and is operated by the full subsidiary Abellio ScotRail Ltd, which provides intercity, regional and provincial passenger transport by train on the Scottish national railway network. There is an obligation to provide the specified services (timetable, quality of the services) at a fee determined in advance that is paid by the government (subsidy) and that is indexed on an annual basis. In December 2019, the Scottish government decided not to agree to our commercially viable option to extend the franchise until 2025 and subsequently exercised the break clause in the franchise agreement to terminate the ScotRail franchise at the beginning of March 2022. The contract was amended in 2020 with both an EMA and an EMA 2 contract until 28 February 2022 and for the period from 1 March to 31 March 2022 additional arrangements will be made in the form of a 'Temporary Measures Agreement'.

West Midlands franchise

Abellio started operating the West Midlands franchise on 10 December 2017. The franchise runs until 31 March 2026. It covers the area around Birmingham and the services from London Euston to Crewe and from Liverpool to Birmingham. The franchise agreement stipulates that new trains need to be introduced in 2021 to provide room for more passengers during peak periods in Birmingham and London. The long trains offer more seats and more space for passengers. In this franchise, investments are also being made in a better ticket system and better journey information as part of the changes intended to improve passengers' journeys. The original franchise contract was changed to an EMA, and subsequently to an ERMA, before it expired in September 2021. The contract is now a National Rail contract that ends in September 2026.

East Midlands franchise

Abellio started operating the East Midlands franchise on 18 August 2019. The franchise runs until 21 August 2027. The franchise comprises the Midland Main Line, which terminates at London St Pancras, from where the services to Derby, Leicester, Sheffield and Nottingham are operated. It also covers a network of local railway lines serving destinations including Grantham, Lincoln and Mansfield. The routes also comprise services to Luton Airport and East Midlands Parkway. The franchise agreement provides for the introduction of new trains to replace the entire existing intercity fleet and passengers will benefit from an 80% increase in the number of morning rush-hour seats in Nottingham, Lincoln and St Pancras. Passengers

will also benefit from shorter travel times over long distances, a new express service from Corby via Luton to London, the introduction of improved compensation for delays and flexipass tickets for improved value for money. The original franchise contract was changed to an EMA, and subsequently to an ERMA. For East Midlands, the ERMA ends in October 2022, after which a 'National Rail' contract will be offered by the Dft there too.

London

Abellio London operates bus services in London from a number of depots (with a market share of 8%). The franchises have an average term of five years with an option for extension by two years, depending on the achievement of various performance criteria.

32. Related parties

Transactions with related parties are conducted on an arm's-length basis.

All issued shares are held by the State of the Netherlands. One significant transaction with an enterprise that has a relationship with the State (DUO, the Dutch Education Executive Agency) concerns the consideration received for student public transport cards (2021: €525 million, 2020: €459 million).

Payments of the infrastructure charge for the Dutch infrastructure are made to ProRail BV, a State-affiliated company. This is explained in note 31.

Furthermore, the Group received a sum of €962 million (2020: €843 million) in grants from the State in 2021 through various schemes (availability payments, NOW and other schemes). These are recognised as revenue.

TLS is wholly owned by Coöperatie Openbaar Vervoerbedrijven, of which NS is a member, and Translink Systems BV is therefore a related party. For the performance of the activities by Translink Systems BV, the Group paid Translink an amount of €0.1 million in 2021 (2020: €0.1 million) for products and services provided. Translink Systems BV engages in the development, implementation and use of the electronic registration and payment system for public transport in the Netherlands.

The transactions with the Executive Board and the Supervisory Board members are disclosed in note 2.

There were no significant transactions in 2021 or 2020 with joint ventures and other participating interests.

Group companies

The main companies included in the consolidated financial statements are:

	Percentage interest		Registered office
	2021	2020	
Operating companies			
NS Reizigers BV*	100.0	100.0	Utrecht
Abellio Transport Holding BV	100.0	100.0	Utrecht
NedTrain BV*	100.0	100.0	Utrecht
NS Financial Services (Holdings) Ltd (being wound up)	100.0	100.0	Dublin
NS Stations BV*	100.0	100.0	Utrecht
NS Vastgoed BV*	100.0	100.0	Utrecht
NS Insurance NV	100.0	100.0	Utrecht
NS Opleidingen BV*	100.0	100.0	Utrecht
NS Lease BV* (as of 1 January 2021 merged with NS Reizigers BV)	100.0	100.0	Utrecht
Subsidiaries of operating companies			
Thalys Nederland NV*	100.0	100.0	Utrecht
NS Internationaal BV*	100.0	100.0	Utrecht
NS Stations Retailbedrijf BV*	100.0	100.0	Utrecht
NS Fiets BV*	100.0	100.0	Utrecht
NS OV-Fiets BV*	100.0	100.0	Utrecht
Stationsfoodstore BV*	100.0	100.0	Utrecht
NS Poort Ontwikkeling BV	100.0	100.0	Utrecht
NS Financial Services Company (being wound up)	100.0	100.0	Dublin
Abellio Nederland BV	100.0	100.0	Utrecht
Abellio Transport Group Ltd	100.0	100.0	Glasgow
Abellio Transport Holdings Ltd	100.0	100.0	London
Abellio Greater Anglia Ltd	100.0	100.0	London
Abellio East Anglia Ltd	60.0	60.0	London
Abellio West Midlands Ltd	85.1	70.1	Birmingham
Abellio West Midlands Ltd	100.0	100.0	London
Abellio Rail Baden-Wurttemberg GmbH**	-	100.0	Stuttgart
Abellio Rail Mitteldeutschland GmbH**	-	100.0	Halle
Abellio Rail NRW GmbH**	-	100.0	Essen
WestfalenBahn GmbH	-	100.0	Bielefeld
Abellio GmbH	-	100.0	Essen
Abellio ScotRail Ltd	100.0	100.0	Glasgow
Abellio West London Ltd	100.0	100.0	London
Abellio London Ltd	100.0	100.0	London
Transport Holding Germany BV	100	0	Utrecht
ATH Rail Beteiligungsgesellschaft Deutschland GmbH	100	0	Berlin
Joint ventures			
Merseyrail Services Holding Company Ltd	50	50	Hampshire
Other interests			
Reisinformatiegroep BV	41.7	41.7	Utrecht
Eurofima AG	5.8	5.8	Basel
NS Mobiliteitsdiensten BV	90	90	Utrecht

* Pursuant to the provisions of Section 403 of Book 2 of the Netherlands Civil Code, NS Groep NV has assumed liability in respect of the debts arising from legal acts.

*** The German entities are no longer included in the consolidation with effect from 30 June 2021. For an explanation, see the general information.*

Pursuant to Sections 379 and 414 of Book 2 of the Netherlands Civil Code, a complete list of the Group's subsidiaries, associates and joint ventures has been filed with the office of the Trade Register in Utrecht.

33. Events after the balance sheet date

1. Events after the balance sheet date

With regard to ScotRail, additional agreements will be made for the period from 1 March to 31 March 2022 in the form of a 'Temporary Measures Agreement'. These additional agreements were not yet known as at 31 December 2021 and were therefore not included in the reassessment of the impairment under IFRS (see note 14).

The Group committed itself to acquiring the shares of the companies Westfalenbahn GmbH and PTS GmbH in 2021. For the acquisition of these shares, the Group paid €9 million and €1.75 million for Westfalenbahn GmbH and PTS GmbH respectively in December 2021. The actual transfer of shares can only be effected once the insolvency proceedings of the companies concerned are completed. The transfer of the PTS GmbH shares took place in January and the shares of Westfalenbahn GmbH will be transferred at the end of February 2022 (see 'Deconsolidation' section). At that time, the Group will have acquired the shares and gained control over these companies.

The Baden-Württemberg company was transferred to another party on 1 January 2022, thus completing the insolvency proceedings for that company (see 'Deconsolidation' section).

Company financial statements

Company statement of financial position as at 31 December 2021

(before profit appropriation)

(in millions of euros)	31 December 2021	31 December 2020
Financial fixed assets	1,695	1,352
Total assets	1,695	1,352
Equity		
Issued share capital	1,012	1,012
Statutory hedging reserve	6	-23
Statutory fair value reserve	53	53
Actuarial reserve	-1	-1
Statutory reserve for development costs	302	240
Statutory revaluation reserve for participating interests	64	64
Statutory reserve for translation differences	-35	-21
General reserve	-45	2,406
Unappropriated result	339	-2,378
Total liabilities	1,695	1,352

Company income statement 2021

(in millions of euros)	2021	2020
Other result	-	-
Result of group companies after tax	339	-2,378
Net result	339	-2,378

Accounting policies applied for the financial statements

General

In determining the accounting policies for the valuation of assets and liabilities and determining the result for the company financial statements, NV Nederlandse Spoorwegen makes use of the option provided by Section 362(8) of Book 2 of the Dutch Civil Code. This means that the accounting policies for the measurement of assets and liabilities and determination of the result (hereinafter the 'accounting policies') for the company financial statements of NV Nederlandse Spoorwegen are the same as those used for the consolidated financial statements. Participating interests in which significant influence is exercised are valued using the equity method.

In accordance with Section 2:402(1) of the Netherlands Civil Code, the separate financial statements of NV Nederlandse Spoorwegen only include an income statement in abbreviated form.

Participating interests in group companies

The participating interests in group companies are measured according to the equity method, whereby, at the time the participating interest is written down, losses are only taken into account to the extent that the shareholder is obliged to make good these losses.

Result of group companies

The result of group companies consists of the result after income tax.

Notes to the company statement of financial position and income statement

The amounts included in the notes are in millions of euros, unless stated otherwise.

Non-current financial assets

Participating interests in group companies

(in millions of euros)	2021	2020
Balance as at 1 January	1,352	3,763
Share in result	339	-2,378
Dividend distributed for the previous reporting period	-	-
Other movements	4	-33
Balance as at 31 December	1,695	1,352

Equity

(in millions of euros)	Share capital	Statutory hedging reserve	Statutory fair value reserve	Actuarial reserve	Statutory reserve for development costs	Statutory revaluation reserve for participating interests	Statutory reserve for translation differences	General reserve	Unappropriated result	Total equity
Balance as at 1 January 2020	1,012	-5	52	-	350	59	-12	2,099	208	3,763
Changes in revaluation reserves	-	-18	1	-1	-	-	-9	-	-	-27
Dividend paid to shareholder	-	-	-	-	-	-	-	-73	-	-73
Reversal of dividend paid to shareholder	-	-	-	-	-	-	-	73	-	73
Result for the financial year	-	-	-	-	-	-	-	208	-2,378	-2,170
Other movements	-	-	-	-	-110	5	-	307	-208	-6
	-	-18	1	-1	-110	5	-9	307	-2,586	-2,411
Balance as at 31 December 2020	1,012	-23	53	-1	240	64	-21	2,406	-2,378	1,352
Changes in revaluation reserves	-	29	-	-	62	-	-14	-62	-	15
Dividend paid to shareholder	-	-	-	-	-	-	-	-	-	-
Reversal of dividend paid to shareholder	-	-	-	-	-	-	-	-	-	-
Result for the financial year	-	-	-	-	-	-	-	-	339	339
Other movements	-	-	-	-	-	-	-	-2,389	2,378	-11
	-	29	-	-	62	-	-14	-2,451	2,717	343
Balance as at 31 December 2021	1,012	6	53	-1	302	64	-35	-45	339	1,695

The legal reserve was formed for software development costs. The statutory revaluation reserve was formed for direct changes to the equity in joint ventures and for the non-distributable portion of the equity of NS Insurance. The legal reserve for translation differences comprises all foreign exchange differences arising from the translation of the financial statements of foreign operations, as well as from the translation of liabilities that hedge the company's net investment in a foreign group company.

The statutory hedging reserve consists of the cumulative change in the fair value of hedging instruments (derivatives) where the hedged transaction has not yet taken place or the hedged position has not yet been settled.

The statutory fair value reserve comprises the cumulative change in the fair value of investments measured at fair value - total comprehensive income and the cumulative change in the fair value of investments measured at fair value - debt investment, until the investment is derecognised.

Off-balance sheet commitments

No claims have been brought against NV Nederlandse Spoorwegen and the consolidated participating interests, other than as indicated in note 32, that have not been recognised appropriately in the balance sheet.

For the purpose of corporation tax, both NV Nederlandse Spoorwegen and its Dutch subsidiaries are part of the NV Nederlandse Spoorwegen tax entity. Consequently, NV Nederlandse Spoorwegen is jointly and severally liable for the tax liabilities of the subsidiaries included in the tax entity.

Key participating interests

NV Nederlandse Spoorwegen is the holding company of NS Groep NV. NS Groep NV is the sole subsidiary of NV Nederlandse Spoorwegen. Please refer to note 32 for an overview of the participating interests

Utrecht, 24 February 2022

Supervisory Board

Mr G.J.A. van de Aast
Chair

Ms M.E. van Lier Lels

Mr H.H.J. Dijkhuizen

Ms N. Albayrak

Ms J.L. Stuijt

Mr W.J. van der Feltz

Executive Board

Ms M.E.F. Rintel
CEO

Mr H.L.L. Groenewegen
Finance Director

Mr E.F.W. van Asch
Operations Director

Ms A.M.E. de Vries
Stations and Risk Management Director

Mr T.B. Smit
Commerce & Development Director

Other information

Other information

Profit appropriation as stipulated by the Articles of Association

In accordance with Article 21(2) of the Articles of Association of NV Nederlandse Spoorwegen, the Annual General Meeting of Shareholders decides on the appropriation of any positive balance in the income statement.

Combined independent auditor's report and assurance report

To: the shareholders and supervisory board of N.V. Nederlandse Spoorwegen

Our conclusions

We have audited the financial statements 2021 of N.V. Nederlandse Spoorwegen (NS) based in Utrecht. The financial statements comprise the consolidated and company financial statements.

In our opinion:

- The accompanying financial statements give a true and fair view of the financial position of N.V. Nederlandse Spoorwegen as at 31 December 2021 and of its result and its cash flows for 2021 in accordance with International Financial Reporting Standards as adopted by the European Union (EU-IFRS) and with Part 9 of Book 2 of the Dutch Civil Code
- The accompanying company financial statements give a true and fair view of the financial position of N.V. Nederlandse Spoorwegen as at 31 December 2021 and of its result for 2021 in accordance with Part 9 of Book 2 of the Dutch Civil Code

We have reviewed the non-financial information in the annual report 2021 of N.V. Nederlandse Spoorwegen based in Utrecht. The scope of the review is describe in the section "The scope of our procedures". A review is aimed to obtain limited level of assurance.

Based on our review procedures performed, nothing has come to our attention that causes us to believe that the accompanying non-financial information does not present, in all material aspects, a reliable and adequate view of:

- The policy and business operations with regard to Corporate Social Responsibility;
- The thereto related events and achievements for the year 2021;

in accordance with the Sustainability Reporting Standards (option Core) of the Global Reporting Initiative (GRI Standards) and the applied supplemental reporting criteria as disclosed in section "Scope and reporting criteria" of the annual report.

Basis for our conclusions

We conducted our assurance procedures in accordance with Dutch law, including the Dutch Standards of Auditing and the Dutch Standard 3810N, "Assurance-opdrachten inzake maatschappelijke verslagen" (Assurance engagements relating to sustainability reports). Our responsibilities under those standards are further described in the Our responsibilities section of our report.

We believe the assurance evidence we have obtained is sufficient and appropriate to provide a basis for our conclusions.

Our independence

We are independent of N.V. Nederlandse Spoorwegen in accordance with the Wet toezicht accountantsorganisaties (Wta, Audit firms supervision act), the Verordening inzake de onafhankelijkheid van accountants bij assurance-opdrachten (ViO, Code of Ethics for Professional Accountants, a regulation with respect to independence) and other relevant independence regulations in the Netherlands.

This includes that we do not perform any activities that could result in a conflict of interest with our independence assurance procedures. Furthermore, we have complied with the Verordening gedrags- en beroepsregels accountants (VGBA, Dutch Code of Ethics).

Appointment

We were engaged by the supervisory board as auditor of N.V. Nederlandse Spoorwegen on 3 September 2013 as of the audit for the year 2014 and we have operated as statutory auditor ever since that date.

The scope of our procedures

The consolidated financial statements comprise:

- The consolidated statement of financial position as at 31 December 2021
- The following statements for 2021: The consolidated income statement, consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated cash flow statement
- The notes comprising a summary of the significant accounting policies and other explanatory information

The company financial statements comprise:

- The company statement of financial position as at 31 December 2021
- The company statement of income 2021
- The notes comprising a summary of the significant accounting policies and other explanatory information

The non-financial information consists of the information included in the following chapters in the 2021 annual report of N.V. Nederlandse Spoorwegen: "About NS", "Our activities and achievements in the Netherlands", "Our activities and achievements abroad", "Our impact" and the sections "Our strategy", "How NS adds value to society", "Material relevance matrix", "Dialogue with our stakeholders in the Netherlands", "About the scope of this report" and "Scope and reporting criteria".

Limitations to the scope of our review of the non-financial information

The non-financial information includes prospective information, such as ambitions, strategy, plans, expectations and estimates and risk assessments. Inherent to prospective information, the actual future profitability are uncertain. We do not provide any assurance on the assumptions and achievability of prospective information in the sustainability information.

In the section "Our impact" on the Netherlands the calculations were mostly made using sources from external parties, and on the basis of various assumptions. The sources and assumptions used are explained in section "Our Impact" section on www.ns.nl/mvoberekeningen. We have not performed any work with respect to the content of these external sources and assumptions, other than assessing their suitability and plausibility.

The references to external sources or websites in the non-financial information, except for the 2021 Transport Franchise Definitions, are not part of the non-financial information reviewed by us. Therefore, we do not provide assurance on this information.

Our conclusion on the non-financial information has not been modified as a result of these matters.

Information in support of our opinion on the financial statements

We designed our audit procedures in the context of our audit of the financial statements as a whole and in forming our opinion thereon. The following information in support of our opinion was addressed in this context, and we do not provide a separate opinion or conclusion on these matters.

Our understanding of the company

The activities of N.V. Nederlandse Spoorwegen mainly consist of passenger transport, the management and development of property and the operation of station locations in the Netherlands, Germany and the United Kingdom. The activities in Germany are no longer included in the consolidation as of 30 June 2021 due to an initiated insolvency process.

The group structure consists of several group entities and we have designed our procedures accordingly. We have paid special attention in our procedures to a number of issues based on the Group's activities and our risk analysis, which are explained in more detail in the section Key audit matters.

We begin by determining materiality and identifying and assessing the risks that the financial statements may contain material misstatements due to fraud, or due to errors, in order to determine, in response to those risks, the audit procedures to obtain assurance information that is sufficient and appropriate to provide a basis for our opinion.

The risk of not detecting a material misstatement resulting from fraud is higher than for errors.

Fraud may involve collusion, forgery, intentional omissions, misrepresentations or the override of internal control.

In 2021, due to COVID-19 measures, we were forced to perform remote work, as well as during the annual audit 2020. This limited observations and increased the likelihood of missing certain signals. To compensate for these limitations on physical contact and direct observation, we performed according to previous year alternative work to obtain sufficient and appropriate audit evidence as a basis for our opinion.

Materiality

Materiality	€50 million (2020: €50 million)
Applied benchmark	0.8% of total operating expenses (€6.0 billion) excluding (the reversal of) the impairment losses and the release of the provision for termination fees related to the concessions in the United Kingdom (of €0.5 billion).
Further explanation	Given the nature of the activities of NS, her goals, and the importance of her operating performance in the Netherlands and abroad, the operating expenses is activity based the most relevant basis for the materiality. The way in which we have determined materiality is consistent with the previous financial year. We take into account the exceptional items mentioned in "applied benchmark".

We have also taken into account misstatements and/or possible misstatements that in our opinion are material for the users of the financial statements for qualitative reasons.

We agreed with the supervisory board that misstatements in excess of €2.5 million, which are identified during the audit, would be reported to them, as well as smaller misstatements that in our view must be reported on qualitative grounds.

Scope of the group audit

N.V. Nederlandse Spoorwegen is at the head of a group of entities. The financial information of this group is included in the consolidated financial statements of N.V. Nederlandse Spoorwegen.

Because we are ultimately responsible for the opinion, we are also responsible for managing, supervising and performing the group audit. In this respect, we have determined the nature and extent of the audit procedures to be carried out for group entities. The size and/or the risk profile of the group entities or operations were decisive in this regard. On this basis, we selected group entities for which an audit or review had to be carried out on either the complete set of financial information or specific items.

The group audit mainly focused on significant group entities, the main rail network operations in the Netherlands and Abellio in the United Kingdom and Germany. For the Dutch group entities we have performed the audit procedures by ourselves. We used auditors from our international network during the audit of the foreign group entities. In total, the above-mentioned activities represent 89.1% of total assets and 89.4% of operating expenses of the group in our applied benchmark.

By performing the procedures mentioned above at group entities, together with additional procedures at group level, we have been able to obtain sufficient and appropriate audit evidence about the group's financial information to provide an opinion about the consolidated financial statements.

Engagement team and use of the work of specialists

We have ensured that the engagement team has the appropriate knowledge and skills required for the audit of N.V. Nederlandse Spoorwegen, both at the group level and at the group entity level. We have included specialists in the engagement team or we have deployed our experts in the fields of:

- IT audit;
- Cybersecurity;
- Forensic audit;
- Sustainability reporting;
- Taxes;
- Pensions;
- Valuation and disclosures of financing and derivatives;
- Valuation of the main rail network ('HRN') concession related assets and liabilities including the cost of capital used;
- Testing the forecasts for passenger revenues in the Netherlands;
- Legal analysis including insolvency; and
- Financial restructuring.

Our focus on fraud and non-compliance with laws and regulations

Our responsibility

Although we are not responsible for the prevention of fraud or non-compliance with laws and regulations, and we cannot be expected to detect non-compliance with every law and regulation, our responsibility is to obtain reasonable assurance that the financial statements taken as a whole are free from material misstatement, whether due to error or fraud.

Our audit response to fraud risks

We identify and assess risks of material misstatement of the financial statements due to fraud. During our audit, we obtained an understanding of N.V. Nederlandse Spoorwegen and its environment, the entity's internal control, including the risk assessment process and the way in which the executive board responds to fraud risks and monitors the internal control system and the way in which the supervisory board supervises and the results thereof. We refer to the "risk management" section in the annual report, in which the executive board has included its risk analysis, including risks related to fraud or non-compliance with laws and regulations.

We have evaluated the design and relevant aspects of the internal control system and in particular the fraud risk analysis, as well as, for example, the code of conduct, whistleblower policy and incident registration. We have evaluated the design and existence and, insofar as we deem necessary, tested the operation of internal controls aimed at mitigating fraud risks.

As part of our procedures of identifying fraud risks, we evaluated fraud risk factors with respect to financial reporting fraud, misappropriation of assets and bribery and corruption in close co-operation with our forensic and legal specialists.

In the process of identifying fraud risks, we considered whether the COVID-19 pandemic led to specific fraud risk factors because of possible pressure on the executive board to demonstrate that loss mitigation measures were successful or to meet certain performance indicators. We also examined whether the executive board might have been conservative in forming her significant estimates and judgements in the perspective of releasing them in favour of the future profitability. We evaluated whether these factors were indicative of the presence of the risk of material misstatement due to fraud.

We incorporate elements of unpredictability in our audit. We considered the outcome of our other audit procedures and evaluated whether any findings were indicative of fraud or non-compliance with laws and regulations.

Risk of management override of internal control

Fraud risk	<p>In identifying and assessing fraud risks, we assume that management can override internal controls. In our audit approach, we take into account that this fraud risk would primarily manifest itself in:</p> <ol style="list-style-type: none">1. Valuation of the main rail network concession assets and the future profitability;2. Abellio United Kingdom: Processing and valuation of legacy assets and claims;3. Abellio Germany: Justification and presentation of the restructuring and the valuation of the provision related to financing, guarantees and claims and explanations thereto. <p>We also considered whether judgments and assumptions in determining the above items indicate a management bias that may present a risk of material misstatement.</p>
Our audit approach	<p>We describe our audit approach to these fraud risks as part of the key audit matters of the same name.</p>

Due to the risk of management override of internal controls, we have also reviewed estimates for biases, particularly in key areas that require judgment, as explained in the section "Estimates and Assessments" in Chapter 1 of the Financial Statements. We also used data analysis to identify and test journal entries with an increased risk of fraud. In our audit, we identified revenue recognition as a significant risk. A more detailed description of this significant risk is included in the key audit matter "Revenue recognition and complexity and effectiveness of the NS IT-environment in the Netherlands".

We have taken note of the information available and requested information from members of the executive board, the supervisory board, management and also, for example, the internal auditor, legal affairs, the compliance department and human resources.

The fraud risks identified by us, information received and other available information do not lead to specific indications of fraud or suspected fraud that may be material to the presentation of the financial statements.

Our audit response related to the risk of non-compliance with laws and regulations

We assessed factors related to the risks of non-compliance with laws and regulations that could reasonably be expected to have a material effect on the financial statements from our general industry experience, through discussions with the executive board, reading minutes, inspection of internal audit and compliance reports and performing substantive tests of details of classes of transactions, account balances or disclosures.

We also inspected lawyers' letters and correspondence with regulatory authorities and remained alert to any indication of (suspected) non-compliance throughout the audit. Finally we obtained written representations that all known instances of non-compliance with laws and regulations have been disclosed to us.

Our audit approach with regard to the going concern assumption

In the section Key audit matters we included the key audit matter NS liquidity forecast and going concern assumption, in which our audit procedures with respect of the going concern assumption and our observations thereon are described.

We consider, based on the audit evidence obtained, whether there are events and circumstances that could cast reasonable doubt on the ability of the company to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion.

Key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial statements. We have communicated the key audit matters to the supervisory board.

The key audit matters are not a comprehensive reflection of all matters discussed.

In 2020, these included "Abellio United Kingdom: valuation of assets, accounting for termination fees, future profitability and financing due to the impact of COVID-19" and "Abellio Germany: valuation of assets, future profitability and financing" key audit matters. As the termination fees and net asset payments for Abellio United Kingdom have been finalized and settled, this is no longer a key audit matter. "Abellio Germany: asset valuation, future profitability and financing" is also a key audit matter in 2021, but made specific on the basis of developments during 2021 and the applicable risk factors in 2021.

The developments concerning the COVID-19 pandemic have a major impact on the operational and financial performance of N.V. Nederlandse Spoorwegen and inherently leads to uncertainty for the company. The following key audit matters for our audit are primarily related to the impact of COVID-19:.

- valuation of the main rail network assets and estimated future profitability;
- Revenue recognition from support measures in the Netherlands;
- NS liquidity forecast and going concern assumptions due to COVID-19.

Valuation of main rail network assets and estimated future profitability

Risk	Our audit approach	Key observations
<p>NS has recorded an impairment loss in relation to the main rail network-concession related assets for €1.6 billion in the account depreciation, amortization and impairments in 2020. This impairment was reassessed in 2021 and no additional impairment or reversal of the impairment recognized in 2020 has been recognized.</p>	<p>We have evaluated whether the accounting policies applied by NS are in accordance with IAS 36 Impairment of Assets and whether these accounting policies have been applied consistently.</p>	<p>We concur with the conclusion by NS of the accumulated impairment loss pertained and the disclosures provided in Note 14 to the financial statements.</p>
<p>COVID-19 and the associated measures have caused a sharp decrease in passenger revenue compared to the period before COVID-19. As requested by the Ministry of Infrastructure and Water Management, NS largely continued its regular train services. Due to the impact of the COVID-19 crisis, there is an uncertainty about the passenger revenue and related cash flows for the coming years.</p>	<p>We have discussed the scenario analyses, cash flow forecasts and cost-savings programs with NS and evaluated them with professional skepticism, devoting specific attention to the processes underlying the analyses and forecasts, trends that pose potential risks, the impact of current events and circumstances on the scenarios and the company's projected cash flows.</p> <p>We performed substantive tests of the scenario analyses, cash flow forecasts and cost-saving programs so as to evaluate the reasonableness of the underlying assumptions.</p>	
<p>NS is entitled to a Public Transport Availability Payment (Beschikbaarheidsvergoeding Openbaar Vervoersbedrijven) for the period up to and including 31 August 2022. Under these measures, 93% of the qualifying costs less 100% of the generated revenue will be compensated. There are currently no formalized support measures in the Netherlands for the period after 31 August 2022. NS expects that there will still be significantly lower passenger flows in the period after 31 August 2022 and expects that the Availability Payment for Public Transport Companies will be extended in some form. NS has made estimates for this in determining the recoverable amount as at 31 December 2021.</p>	<p>We included specialists in our audit team with a view to assessing the assumptions concerning projected passenger revenues.</p> <p>In addition, we included specialists in our team to test the calculation model used and the reasonableness of NS's cost of capital.</p> <p>We have assessed the results of our audit procedures in a professional and critical manner. Finally, we have reviewed the disclosure in Note 14 of the financial statements.</p>	
<p>NS has also set up and implemented cost-savings programs.</p>		
<p>All these developments have resulted in an indication of revaluation of an impairment loss.</p>		
<p>As a consequence, NS calculated the recoverable amount of assets related to the main rail network franchise on the basis of multiple scenario analyses and compared the outcome with the carrying amount. The scenario analyses, cash flow forecasts and the implementation of the cost-savings programs all involve inherent and/or significant uncertainties, bandwidth which</p>		

Risk	Our audit approach	Key observations
<p>results in a significant bandwidth. We have recognized this as a specific fraud risk and also as a key audit matter for our audit. In Note 14 to the financial statements, NS explained the results and bandwidth of the impairment analysis of the assets related to the main rail network franchise. The main assumptions, estimation uncertainties and sensitivity of the analyses have been explained. Based on this reassessment, NS concluded that no adjustment of the impairment loss on the main rail network related assets will have to be recognized per 31 December 2021.</p>		

Abellio United Kingdom: Recognitions and valuation of legacy assets and claims

Risk	Our audit approach	Key observations
<p>COVID-19 has resulted in a significant decrease in passenger revenue in the United Kingdom. As a result, Abellio and the UK franchising authorities have agreed on amended franchise conditions.</p>	<p>We evaluated whether the accounting policies applied by NS with regard to the recognition and valuation of legacy assets and claims have been applied correctly and consistently.</p>	<p>We concur with the accounting and valuation of the legacy assets and claims of Abellio in the United Kingdom.</p>
<p>Although the temporary concession contracts have been fully settled during COVID-19, discussions and claims (hereafter: legacy assets and claims) still remain in the United Kingdom, which largely relate to the period before COVID-19. Based on discussions that NS conducts with its franchise authorities, source documents and legal opinions and estimates, NS has made a best estimate with regard to these legacy assets and claims and partly recognized them.</p>	<p>On the basis of the amended franchise conditions and other source documents, we have verified the agreements that exist between NS and the various franchising authorities and which are further determined in 2021.</p>	
<p>Since the legacy assets and claims involve a high degree of estimation uncertainty and Abellio's management has an important role in realizing these legacy assets and claims and we have identified a specific fraud risk, we identified this as a key audit matter.</p>	<p>Based on management and executive board inquiries, retrospective analyses, auditing of source documents and legal opinions, we have tested the reasonableness of the assumptions underlying the estimates regarding the legacy assets and claims.</p> <p>We have also verified that no developments have taken place after the balance sheet date that have a significant impact on the estimate as at the balance sheet date.</p>	
<p>Disclosures regarding the valuation of the legacy assets and claims of Abellio in the United Kingdom are included in Note 31 to the financial statements.</p>	<p>We have assessed the results of our audit procedures in a professional and critical manner.</p>	

Abellio Germany: Recognition and presentation of the restructuring and measurement of the provision related to financing, guarantees and claims and explanations thereto

Risk	Our audit approach	Key observations
<p>In the section “deconsolidation” in section 1 of the financial statements, NS has set out the developments with regard to Abellio Germany in 2021. The insolvency proceedings initiated in 2020 has resulted in Abellio Germany being deconsolidated from 30 June. NS subsequently estimated the fair value of Abellio Germany (Abellio GmbH) in the context of the valuation of the participating interest as at 30 June 2021. As from 30 June 2021, the fair value was estimated to be zero.</p> <p>The “deconsolidation” section also explains the status of the various concessions in Germany in relation to the initiated insolvency proceedings, which concessions will be transferred to third parties and which activities will be continued by NS. For each concession, NS has made a best estimate of the expected outflow of resources as a result of these developments. In note 29 of the financial statements, NS has further explained the provisions made.</p> <p>When estimating the provisions, NS has made a best estimate of the expected outflow of resources based on, among other things, negotiations with the grantors of concessions, opinions of internal and external lawyers, reports from external experts, applicable (conditional) obligations and guarantees. Various scenarios have been prepared for this.</p> <p>These estimates contain inherent and/or significant uncertainties and therefore have significant bandwidth. To this end, we have identified a specific fraud risk and identified this as a key audit matter.</p> <p>In the paragraphs “ Impact of COVID-19 and important (result) developments ”, “Deconsolidation” of section 1 and Notes 26 and 29 to the financial statements, NS has described the developments with regard to Abellio Germany and explained the results of the analysis with regard to the provisions. The main assumptions, estimation uncertainties and sensitivity of the analyses are also included.</p>	<p>We have evaluated whether the accounting policies applied by NS with regard to the recognition and measurement of provisions are in accordance with IAS 37 'Provisions, contingent liabilities and contingent assets' and whether these accounting policies have been applied consistently.</p> <p>Among other things, we obtained information from the executive board and management of Abellio, took note of the internal and external legal opinions and agreements, external reports from experts and took note of minutes of executive board and supervisory board meetings. In particular, due to the legal complexity, lawyers and other specialists have been added to our audit team in the field of insolvency proceedings and restructuring.</p> <p>We discussed and further investigated the scenario analyses with NS. We have paid specific attention to the process of preparing the analyses and forecasts, trends that pose a potential risk, the impact of current events and conditions on the scenarios, the expected cash flows of the company.</p> <p>We have also conducted a professional-critical assessment of the aforementioned reports as well as the audit results of lawyers and other specialists engaged by us, in which we paid specific attention to the (probability of) claims, contingent liabilities, guarantees issued and reasonableness of the positions taken.</p> <p>We performed substantive procedures on the contingent liabilities, guarantees issued, scenario analyzes and cash flow forecasts to test the reasonableness of the assumptions applied. We have assessed the results of our audit procedures in a professional and critical manner.</p> <p>Finally, we have reviewed the disclosures in the paragraphs “Impact of COVID-19 and important (result) developments”, “Deconsolidation” of section 1 and Notes 26 and 29 of the financial statements.</p>	<p>We concur with the accounting treatment and disclosures of NS in the chapters “Impact of COVID-19 and important (result) developments”, “Deconsolidation” in section 1 and Notes 26 and 29 to the financial statements.</p>

Revenue recognition from support measures in the Netherlands

Risk	Our audit approach	Key observations
<p>In the financial statements item Revenue under Note 1 to the financial statements, the Dutch income from support measures for an amount of € 920 million Public Transport Availability Payment (BVOV) and € 15 million Emergency Bridging Measures for Sustained Employment (NOW) are included.</p>	<p>We have taken note of the BVOV and NOW schemes and the conditions and obligations that apply to qualify for the schemes. Both schemes depend on the realized revenues. Our audit approach with regard to the recognition of passenger revenues in the Netherlands is included under the key item "Revenue recognition and complexity and effectiveness of the NS IT-environment in the Netherlands".</p>	<p>We concur with the recognition and disclosures of the Dutch income from support measures in the financial statement account Revenue in Note 1 to the financial statements</p>
<p>NS will be entitled to an Availability Payment for Public Transport Companies for 2021. As a result of this scheme, 93% of the indexed cost level eligible for the scheme, less 100% of the realized turnover, is compensated. In order to claim the BVOV, further conditions apply, such as a ban on dividends, severance payments and bonuses to key officials.</p>	<p>We have performed substantive procedures on the BVOV cost accounting to determine that there are no costs in the accounting that do not qualify for the BVOV accounting. We have also performed substantive procedures on compliance with the other conditions that apply to qualify for the BVOV scheme. This ensures, among other things, whether no severance pay or bonuses have been paid to key officials and whether the ban on dividends applicable to BVOV has been complied with.</p>	
<p>NS Stations has applied for NOW on the basis of Article 6a of the NOW scheme (operating company scheme). As a result of this scheme, wage costs are reimbursed on the basis of the percentage decrease in turnover in the various NOW periods. To qualify for the NOW, further conditions apply, such as a group-wide ban on dividends, severance pay and bonuses to directors.</p>	<p>For NOW, we tested whether NS correctly applies the application of Article 6a (operating company scheme) within NS Stations. Taking into account the materiality that we apply for the annual accounts audit, we have performed analytical procedures on the recognized decreases in turnover in the various NOW periods. In order to examine the applications for the adoption of the NOW, further substantive procedures with a lower materiality must be performed. We have also performed substantive procedures on the further terms and conditions that apply. This partly concerned the same activities as described above in the context of the BVOV, such as checking severance pay and bonuses. We performed additional procedures, among other things with regard to compliance with the group-wide obligation not to pay dividends.</p>	
<p>There is a risk that NS will not meet all the conditions and obligations for BVOV and/or NOW, as a result of which the accounting for support measures in the annual accounts is incorrect.</p>		
<p>There is also an inherent risk that corrections will follow from the checks that are carried out for the BVOV and NOW statements in order to be able to submit the application.</p>		

NS liquidity forecast and going concern assumption

Risk	Our audit approach	Key observations
<p>The impact of COVID-19 resulted in a significant drop in passenger revenues, while NS has largely continued its regular train services at the request of the Ministry of Infrastructure and Water Management.</p> <p>The impact of COVID-19 affects the liquidity position as at 31 December 2021 and the liquidity forecast of NS for the coming years. Due to the importance of the going concern assumption for the financial statements, this is a key audit matter.</p> <p>Until 31 August 2022, NS is entitled to an Availability Payment for Public Transport Companies in the Netherlands. This scheme reimburses 93% of the costs that qualify for the scheme, less 100% of the realized revenues. For the period after 31 August 2022, there is currently no agreement on possible additional support measures for public transport companies. NS expects that there will still be significantly lower passenger flows in the period after 31 August 2022 and it expects that the Availability Payment for Public Transport Companies will be extended. This has been taken into account in the liquidity forecast.</p> <p>In the paragraph "going concern assumption" in section 1 of the financial statements, NS has concluded that it is acceptable to apply the going concern assumption in the financial statements.</p> <p>NS has reached this conclusion on the basis of the liquidity forecast for the period up to and including March 2023, as well as scenario analyses. These scenario analyses take into account the impact of COVID-19 and contingent liabilities or guarantees issued to (subsidiaries of) Abellio Transport Holding. Attention was also paid to the possible consequences of the insolvency proceeding in Germany.</p>	<p>NS has assessed the company's ability to continue as a going concern and to continue its activities for at least twelve months after the preparation of the financial statements.</p> <p>We have considered whether this going concern assessment of NS, based on our knowledge and understanding, obtained from the financial statements audit or otherwise, contains all events and circumstances that could give rise to reasonable doubt as to whether the company can continue its business activities as a going concern. We have performed the following procedures to identify and estimate the risks related to going concern and to establish that the going concern assumption used by NS is acceptable.</p> <p>We also discussed the continuity assessment of NS with NS and evaluated it critical-professionally, paying specific attention to the process of preparing the assessment, trends that pose a potential risk, the impact of current events and circumstances on the activities and the company's expected cash flows, focusing on whether the company will have sufficient liquidity to meet all of its obligations.</p> <p>We paid specific attention to amendments to agreements between NS and the concession providers in 2021, expected cash flows from support measures and expected cash flows from guarantees issued by NS, including to (subsidiaries of) Abellio Transport Holding. When auditing the scenario analyses, we retrospectively tested the liquidity forecast at year-end 2020 and evaluated the extent to which there is room for negative effects in the current forecast.</p> <p>We have deployed specialists in the field of financing and restructuring for this work. The restructuring specialists deployed have also assessed the extent to which cash outflows from the current scenarios of Abellio in Germany have been adequately taken into account as a result of the insolvency proceedings.</p> <p>We have assessed the results of our audit procedures in a professional and critical manner. Finally, we reviewed the adequacy of disclosures</p>	<p>Based on our procedures, we conclude that the extent to which NS has taken into account all available information in its assessment of the going concern assumption and the related disclosures in the financial statements, these are appropriate in the circumstances and in accordance with EU-IFRS and Part 9 of the Dutch Civil Code.</p> <p>Our conclusions are based on audit evidence obtained up to the date of our auditor's report. However, future events or conditions could mean that a company can no longer continue as a going concern.</p>

Risk	Our audit approach	Key observations
	in the financial statements with respect to key assumptions and assumptions, considering in particular whether the disclosures adequately reflect the degree of estimation uncertainty.	

Revenue recognition and complexity and effectiveness of the NS IT environment in the Netherlands

Risk	Our audit approach	Key observations
<p>Dutch revenue of €1.5 billion from passenger services is included in the item Revenue in the financial statements. This amount consists of revenue from the sale of various types of tickets entitling passengers to transport services (passenger revenue).</p> <p>The diversity in ticket types, combined with the high volume of transactions and cut-off aspects that apply to various ticket types, requires high standards of reliability and continuity of transaction processing systems in order to guarantee that individual transactions will result in correct and complete revenue recognition. For this reason, we consider the complexity and effectiveness of NS's IT-environment a key matter of our audit, in conjunction with revenue recognition. There is also a risk that revenue recognition has not been applied consistently or not in accordance with IFRS 15 Revenue from Contracts with Customers.</p> <p>In recent years, NS has invested in the simplification, standardisation and improvement of its IT infrastructure, systems and processes, focusing on increasing the effectiveness, reliability and continuity of automated data processing. We refer to the section on Risk management included in the NS annual report.</p> <p>The disclosure regarding revenue recognition for passenger transportation is included in Note 1 to the financial statements.</p>	<p>Our activities include testing of internal controls, performing data analysis procedures such as trend analyses and analysis of manual journal entries, performing sample testing of correct and complete transaction processing, audits on the basis of third-party confirmations and testing management's estimates with regard to revenue allocation of the governmental contributions.</p> <p>We reviewed the reliability and continuity of the automated data processing - also focusing on information security risks - only insofar as necessary within the scope of the audit of the financial statements.</p> <p>For this purpose, we included specialised IT auditors in our audit team.</p> <p>Furthermore, our procedures consisted of an assessment of developments in the IT infrastructure, including an audit of the systems and applications modernised in 2021 and the associated conversions, as well as testing of the internal control procedures relating to IT systems and processes relevant to our audit.</p> <p>We further evaluated whether the accounting policies applied by NS with regard to revenue recognition are in accordance with IFRS 15 "Revenue from contracts with customers" and whether these accounting policies have been applied consistently.</p>	<p>As a result of our procedures, we note that NS has further increased the quality of IT management and information security during 2021. Our procedures have not revealed any significant shortcomings in the continuity and reliability of automated data processing.</p> <p>We concur with the accounting treatment by NS and the disclosures in Note 1 to the financial statements.</p>

Information in support of our conclusion on non-financial information

Our understanding of the company

As a starting point for our review, we conduct an environmental analysis and gain insight into the relevant social themes and issues and the characteristics of N.V. Nederlandse Spoorwegen. The activities of N.V. Nederlandse Spoorwegen mainly concern passenger transport, property management and development and operation of station locations in the Netherlands and the United Kingdom. In addition, we evaluate the appropriateness of the reporting criteria used, their consistent application and the disclosures in the non-financial information. This includes evaluating the outcomes of the stakeholder dialogue. We paid particular attention in our review to a number of topics based on the activities and characteristics of the company and its environment.

After determining the materiality and identifying and assessing the risks that the non-financial information may be materially misstated, whether due to fraud or error, we determine review procedures in response to those risks to obtain evidence that is sufficient and appropriate for the basis for our conclusion. In case of fraud, the risk that sustainability information is misleading, unbalanced or that material misstatement is not detected is greater than with errors.

Materiality

Based on our professional judgement we determined materiality levels for each relevant part of the non-financial information and for the non-financial information as a whole. When evaluating our materiality levels, we have taken into account quantitative and qualitative considerations as well as the relevance of information for both stakeholders and the organization.

We have agreed with the supervisory board that we will report any misstatements identified during our review that we believe are relevant for quantitative or qualitative reasons.

Reporting criteria

The non-financial information within the scope of our review should be read and understood together with the reporting criteria. N.V. Nederlandse Spoorwegen is responsible for selecting and applying the reporting criteria, taking into account the applicable laws- and regulations in respect to reporting.

The absence of an established practice on which to draw, to evaluate and measure non-financial information allows for different, but acceptable, measurement techniques and can affect comparability between entities and over time.

Conclusion on the other information in the annual report

The annual report includes other information in addition to the financial statements, the non-financial information and our combined auditor's report and assurance report thereon.

- Based on the procedures below, we believe that the other information:
- Is consistent with the financial statements and does not contain material misstatements;
- Contains the information as required by Part 9 of Book 2 of the Dutch Civil Code.

We have read the other information. Based on our knowledge and understanding obtained through our audit of the financial statements or otherwise, we have considered whether the other information contains material misstatements. By performing these procedures, we comply with the requirements of Part 9 of Book 2 of the Dutch Civil Code and the Dutch Standard 720. The scope of the procedures performed is substantially less than the scope of those performed in our audit of the financial statements or in our review of the non-financial information.

The executive board is responsible for the presentation of other information, including the management report and other information in accordance with Part 9, Book 2 of the Dutch Civil Code.

Description of responsibilities regarding the financial statements and non-financial information

Responsibilities of the Executive Board and the Supervisory Board

The executive board is responsible for the preparation and fair presentation of the financial statements in accordance with EU-IFRS and with Part 9 of Book 2 of the Dutch Civil Code.

The executive board is also responsible for preparation of reliable and adequate non-financial information in accordance with the GRI Standards and the additional reporting criteria used as disclosed in the Scope and reporting criteria chapter of the annual report, including the identification of stakeholders and determination of material issues. The choices made by the executive board regarding the scope of non-financial information and the reporting policy are set out in the Scope and reporting criteria chapter of the annual report.

In this context, the executive board is responsible for such internal control as the executive board determines is necessary to enable the preparation of the financial statements and non-financial information that are free from material misstatement, whether due to fraud or error.

As part of the preparation of the financial statements, the executive board is responsible for assessing the company's ability to continue as a going concern. Based on the financial reporting frameworks mentioned, executive board should prepare the financial statements using the going concern basis of accounting, unless executive board either intends to liquidate the company or to cease operations, or has no realistic alternative but to do so. The executive board should disclose events and circumstances that may cast significant doubt on the company's ability to continue as a going concern in the financial statements.

The supervisory board is responsible for overseeing the company's financial reporting process of the company.

Our responsibilities

Our responsibility is to plan and perform an audit and review engagement in a manner that allows us to obtain sufficient and appropriate assurance evidence for our conclusions.

Our audit of the financial statements has been performed with a high, but not absolute, level of assurance, which means we may not detect all material errors and fraud during our audit.

Our review of the non-financial information is aimed to obtain a limited level of assurance.

The procedures performed to obtain a limited level of assurance are aimed to determine the plausibility of information and vary in nature and timing from, and are less in extent, than for a reasonable assurance engagement. The level of assurance obtained in a review is therefore substantially less than the assurance obtained in an audit.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements. The materiality affects the nature, timing and extent of our audit procedures and the evaluation of the effect of identified misstatements on our opinion.

We apply the Regulations for Quality Systems (Nadere Voorschriften Kwaliteitssystemen: NVKS).

This provides us with a coherent quality control system, including established guidelines and procedures regarding compliance with ethical requirements, professional standards and other relevant laws and regulations.

An informative summary of our work performed as a basis for our conclusions is included in the annex.

Amsterdam, 24 February 2022

Ernst & Young Accountants LLP

Signed by J. Verhagen

Annex to the combined independent auditor’s report

Work performed

We have exercised professional judgment and have maintained professional skepticism throughout the assurance engagements performed by a multi-disciplinary team, in accordance with the Dutch Standards on Auditing and the Dutch assurance standards, ethical requirements and the independence requirements. The “Information in support of our opinion on the financial statements” and “Information in support of our opinion on the non-financial information” sections of the combined auditor’s report and assurance report provide an informative summary of our responsibilities and the work performed as the basis for our opinion and conclusion.

Our audit to obtain reasonable assurance about the financial statements (consolidated and corporate) included amongst others:

- Obtaining audit evidence that is sufficient and appropriate to provide a basis for our opinion.
- Obtaining an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the company’s internal control
- Evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management
- Evaluating the overall presentation, structure and content of the financial statements, including the disclosures
- Evaluating whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

Our review to obtain limited assurance about the non-financial information included amongst others:

- Obtaining an understanding of the reporting processes for the non-financial information, including obtaining a general understanding of internal control relevant to our review
 - Evaluation of the reasonableness of the estimates by the executive board.
- Identifying areas of the non-financial information with a higher risk of misleading or unbalanced information or material misstatements, whether due to fraud or errors. Designing and performing further procedures aimed at determining the plausibility of the non-financial information responsive to this risk analysis.
These further review procedures consisted amongst others of:
- Interviewing management and relevant staff at corporate and local level responsible for the sustainability strategy, policies and results
 - Interviewing relevant staff responsible for providing the information for, carrying out internal control procedures on, and consolidating the data in the non-financial information
 - Obtaining assurance information that the non-financial information reconciles with underlying records of the company
 - Reviewing, on a limited test basis, relevant internal and external documentation

Work performed

- Evaluating the suitability and plausibility of the assumptions and the external sources used in the calculations on which the impact analysis is based as included in chapter “Our impact on the Netherlands”, which are included in the document Methodologie impactanalyse jaarverslag 2021 on www.ns.nl/mvoberekeningen
- Evaluating the definitions of the performance indicators related to the transport franchise in the Transport Plan 2021 as included in the Downloads on nsjaarverslag.nl/jaarverslag-2021
- Performing an analytical review of the data and trends in the information submitted for consolidation at corporate level
- Evaluating the consistency of the non-financial information with the information in the annual report which is not included in the scope of our review
- Evaluating the overall presentation, structure and content of the non-financial information
- Considering whether the non-financial information as a whole, including the disclosures, reflects the purpose of the reporting criteria used

Communication

We communicate with the supervisory board regarding, among other matters, the planned scope and timing of the audit and review procedures and significant findings, including any significant findings in internal control that we identify during our audit and review engagement.

We provide the supervisory board with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the supervisory board, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit and review matters.

We describe these matters in our combined independent auditor’s report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, not communicating the matter is in the public interest.

NS ten-year summary

(in millions of euros)	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Balance sheet										
Assets										
Property, plant and equipment	2,973	2,919	4,260	3,979	3,845	3,654	3,296	3,157	3,115	3,405
Real estate assets	124	129	135	151	170	197	194	196	169	314
Intangible assets	345	376	484	416	357	257	225	174	125	117
Right-of-use assets	827	1,865	2,022	-	-	-	-	-	-	-
Investments accounted for using the equity method	26	19	19	17	26	39	183	185	197	14
Other financial fixed assets, including investments	131	160	159	159	158	267	340	226	205	176
Deferred tax assets	367	133	202	196	260	229	278	295	385	346
Total non-current assets	4,793	5,601	7,281	4,918	4,816	4,643	4,516	4,233	4,196	4,372
Inventories	176	194	184	169	161	139	138	119	109	134
Other investments	-	-	-	-	-	-	270	223	231	279
Trade and other receivables	1,219	1,175	1,144	830	648	724	659	499	545	509
Income tax receivables	22	13	13	16	24	4	32	32	30	11
Other current financial assets, including investments	478	35	8	-	-	-	-	-	-	-
Cash and cash equivalents	680	1,137	818	906	565	709	671	775	759	948
Assets held for sale	-	-	-	191	-	140	-	-	-	-
Total current assets	2,575	2,554	2,167	2,112	1,398	1,716	1,770	1,648	1,674	1,881
Total assets	7,368	8,155	9,448	7,030	6,214	6,359	6,286	5,881	5,870	6,253
Equity and liabilities										
Equity	1,689	976	3,781	3,627	3,477	3,511	3,309	3,216	3,044	3,168
Deferred credits	161	197	240	275	314	328	263	112	122	134
Loans and other financial liabilities, including derivatives	1,598	1,130	656	740	551	293	440	867	730	577
Lease liabilities	634	1,601	1,676	-	-	-	-	-	-	-
Employee benefits	54	37	35	30	30	31	30	33	33	35
Provisions	216	179	126	119	114	100	155	140	182	277
Accrued and deferred items	10	14	32	42	42	36	55	1	23	39
Deferred tax liabilities	2	93	54	48	59	160	168	169	158	153
Total non-current liabilities	2,675	3,251	2,819	1,254	1,110	948	1,111	1,322	1,248	1,215
Loans and other financial liabilities	196	81	99	98	201	77	488	60	57	48
Lease liabilities	296	465	433	-	-	-	-	-	-	-

(in millions of euros)	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Income tax payable	12	14	10	12	26	7	22	8	8	12
Trade and other liabilities	1,647	2,022	1,497	1,315	1,105	1,023	1,060	868	1,003	1,248
Deferred income	645	562	738	694	246	641	260	372	314	387
Provisions	208	581	71	24	49	37	36	35	196	175
Liabilities held for sale	-	-	-	6	-	115	-	-	-	-
Total current liabilities	3,004	3,725	2,848	2,149	1,627	1,900	1,866	1,343	1,578	1,870

Total equity and liabilities	7,368	8,155	9,448	7,030	6,214	6,359	6,286	5,881	5,870	6,253
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in millions of euros	2,021	2,020	2,019	2,018	2,017	2,016	2,015	2,014	2,013	2,012
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Consolidated income statement

Revenue	6,486	6,601	6,661	5,926	5,121	5,093	4,973	4,144	3,873	4,638
Operating expenses	6,009	9,046	6,382	5,745	5,084	4,965	4,876	3,863	3,990	4,284
Share in result of investments accounted for using the equity method	5	2	8	14	20	142	70	40	47	-
Result from operating activities	482	-2,443	287	195	57	270	167	321	-70	354
Net financing result	-349	-21	-51	-14	-5	-9	-23	-35	-26	-25
Share in result of investments accounted for using the equity method	-	-	-	-	-	-	-	-	-	1
Result before income tax	133	-2,464	236	181	52	261	144	286	-96	330
Income tax	367	-117	-21	-65	-5	-49	-26	-106	53	-67
Result for the reporting period	500	-2,581	215	116	47	212	118	180	-43	263

List of definitions

5-minute norm

A European punctuality standard stating that a train is only deemed to have been delayed if it arrives at least five minutes late.

A2 corridor

The rail line between Eindhoven and Amsterdam.

Focus routes

Routes with systematic problems in terms of punctuality, connections or smooth progress of the journey for specific groups of passengers. NS and ProRail are jointly putting in extra effort on these routes to reduce the delays and improve customer satisfaction.

Modified timetable

Controlled changes in the train traffic when there is an impending threat of a situation to which it is vulnerable, e.g. snowfall, extreme cold or a major storm front. A modified timetable creates more space on the tracks. Fewer trains will be running, which reduces the chance of train traffic getting clogged up.

Punctuality of arrival

The extent to which train arrival times in practice match up with the timetable. In general, punctuality is an important way to measure the implementation of the planned process for the timetable.

ATB-vv

The ATB-vv (automatic train protection and warning system – improved version) is a system that also automatically stops trains in front of signals at danger at speeds of under 40 km/h. The system is an adaptation of the ATBEG (automatic train protection and warning system – first generation).

Minimum baseline

Value for the yearly minimum level of performance required for a performance indicator.

Withdrawal from service

A planned train-free period in the timetable for maintenance, renovation or repair work. This means infrastructure is allocated for track renovation and not for train traffic. Withdrawals from service are arranged by ProRail in consultation with the carriers.

Franchise

An agreement by which a governmental body outsources all or part of the commercial operation of an economic activity to a third party, which then bears the risk of that commercial operation. The Dutch authorities have awarded the commercial operation of the main rail network to NS for the period from 2015 to 2025.

Timetable

The planning of a transport service in terms of times and places.

Dossier Duurzaam

The 'Sustainability Dossier', an annual monitor that NS uses to assess its reputation for sustainability among consumers.

Energy efficiency

The objective is to reduce the amount of energy needed to supply products or services. NS is improving its energy efficiency by maximising the use of modern trains with lower energy consumption, such as the Sprinter Light Train (SLT), and by upgrading old trains to modern trains that are more economical in energy terms. Energy consumption is also reduced through energy-efficient driving and energy-efficient stabling of trains. To this end, we keep track of the Energy Efficiency Index.

ERTMS

European RailTraffic Management System. The new European safety system on the railways that will in the longer term replace the ATB (automatic train protection and warning) system.

E-ticket

An e-ticket or online ticket is an access or travel ticket that is ordered and provided over the Internet.

FLIRT

The NS FLIRT is an electrically powered type of train used by Nederlandse Spoorwegen. These trains were built by the Swiss train builder Stadler Rail and are based on that company's FLIRT 3 platform. The trains are intended in the first instance to relieve the rolling stock shortages and to cope with growth in passenger numbers on the main rail network. The FLIRT (*Flinker Leichter Innovativer Regionaltriebzug*) features light and space in the interior.

Main rail network

The rail network on which Nederlandse Spoorwegen (NS) has the exclusive right to run passenger trains.

HSL South

The 125-km line [suitable for high speeds](#), running from [Schiphol](#) to the Belgian border, with a branch to [Breda](#).

Boarding Zone

A delimited zone indicated by blue signs within which a train always stops. One sign shows the start of this boarding zone and the other sign shows the end. By placing this boarding zone differently at every station (at the front, middle or back of the train), it should be possible to distribute passengers much more effectively over the length of the train.

Intercity

A passenger train that provides a rapid connection between locations, stopping in principle only at the larger, more important stations. This means that the Intercity (IC) is highly suited to long-distance travel.

Impact analysis

By analysing our impact on the materially relevant themes and providing information about it, we can enter into a dialogue with our stakeholders about those themes and target our efforts to increase our positive impact and decrease our negative impact.

Integrity portal

A platform that NS staff can go to if they have any questions about integrity, compliance and risks, or where they can report any such issues.

Customer satisfaction

The opinions formulated by passengers about the services provided by NS.

Hub

A place where numerous roads, tracks or other modalities come together.

Long-Term Rail Agenda

A step forward in quality on the railways is needed if all these wishes and ambitions are to be met. With that in mind, the Ministry of Infrastructure and the Environment drew up the Long-Term Rail Agenda in 2012.

Level playing field

A fairness principle that focuses on creating conditions in which different bidders are able to make competitive bids based on their specific characteristics and starting from the same baseline.

Deregulation

Removal of limitations and barriers to access to the transport market by governmental bodies, which makes competition possible.

LOCOV

LOCOV, the national public transport users' forum, is where consumer organisations represent the interests of rail passengers. They do so by holding discussions with and advising Nederlandse Spoorwegen (NS), ProRail and the Ministry of Infrastructure and the Environment. The consumer organisations advise NS, ProRail and the ministry.

Market regulation

The entirety of legislation and regulations that describes which companies may be active on the market and under what conditions. Proper market regulation aims to set up the markets in such a way that their social functioning is optimised. The aim must be to find a balance between market forces and regulation.

Withdrawal of rolling stock

Taking rolling stock out of service for maintenance or repairs.

Materiality

The mix of the importance to stakeholders on the one hand and the actual impact that NS can have on the topic on the other.

Midterm review

A check to assess whether the execution of the franchise activities by NS has resulted in the improvements required for the Long-Term Rail Agenda.

Environmental profit and loss statement

A profit and loss statement in which the 'value' of environmental impacts on society is calculated.

NS Extra

A free programme for passengers with a personal public transport card (*OV-chipkaart*), allowing them to benefit throughout the year from personalised services, exclusive benefits and special offers.

NS Flex

Service enabling passengers to travel on all public transport without a balance. Payment is made in arrears via direct debit.

Public transport card (OV-chipkaart)

Means of payment for public transport in the Netherlands. The public transport card is valid for train, bus, tram and metro services.

OV Service Shop

A new service concept with service shops – information desks at stations where customers can get help with all their questions about travelling by train straight away. The various carriers are cooperating closely in the OV Service Shops.

Pit stop

A maintenance method in which fault repairs on a train take place in a specially configured rail pit, which shortens the throughput time of the repairs and increases seating capacity for passengers.

Pre-mobility

If there is a specific threat of redundancy for a group of employees or an individual employee, the pre-mobility phase will start based on a decision to be taken by the employer.

Performance indicator: general customer satisfaction with the domestic main rail network

The general customer satisfaction figure gives the percentage of passengers who give their journey a score of 7 out of 10 or higher.

The scope covers passengers in trains operated by NS under the franchise for the main rail network for 2015-2025. These are all domestic trains that serve the stations mentioned in the Main Rail Network Decree. The Intercity direct, Thalys, IC Berlin, IC Brussels and ICE trains are covered by a different customer satisfaction survey and are not included in this customer satisfaction figure.

Performance indicator: general customer satisfaction with HSL South services

The general customer satisfaction figure for HSL South services gives the percentage of passengers who give the services for their journey a score of 7 out of 10 or higher.

The scope covers trains that NS operates as HSL South services, namely Intercity direct and Thalys. Passengers are asked (only while on Dutch territory) whether they are prepared to take a customer satisfaction survey.

Performance indicator: customer satisfaction with personal safety on the train and at the station

The customer satisfaction figure for personal safety on the train and at the station is the percentage of customers who give a score of 7 out of 10 or higher for their perception of safety in the train and on the station respectively during daytime or in the evenings after 7:00 p.m. The scope covers passengers in trains operated by NS under the franchise for the main rail network for 2015-2025. These are all domestic trains that serve the stations mentioned in the Main Rail Network Decree. The Intercity direct, Thalys, IC Berlin, IC Brussels and ICE trains are covered by a different customer satisfaction survey and are not included in this customer satisfaction figure.

Performance indicator: passenger capacity at peak times

Passenger transport capacity at peak times gives an indication of the likelihood of a passenger finding a spot during the rush hour in any arbitrarily chosen train. The number of places available at peak times includes standing room in second class.

The scope of the indicator covers all trains operated by NS under the franchise for the main rail network for 2015-2025. These are all domestic trains that serve the stations mentioned in the Main Rail Network Decree, with the exception of Intercity direct, Thalys, IC Berlin, IC Brussels and ICE.

Performance indicator: focus routes for passenger capacity at peak times

This percentage indicates the probability of a passenger being unable to get a seat on one of the preselected 10 busiest routes during the rush hour.

Performance indicator: passenger capacity at peak times on HSL South services (domestic)

Passenger capacity at peak times on domestic HSL South services indicates the likelihood that passengers in the Intercity direct in second class can get a seat during rush hour in the busiest train on working days on the route used most by passengers (Schiphol to Rotterdam and vice versa). The chance of getting a seat is expressed as a percentage.

This indicator only applies to the Intercity direct. Seats can be reserved on the Thalys, so passengers are guaranteed a seat; this therefore falls outside the scope of this indicator.

Performance indicator: punctuality for passengers (indicator to be achieved jointly with the infrastructure operator)

Punctuality for passengers gives an indication of the percentage of passengers for whom the train journey went as scheduled in terms of the journey time. That means the train actually ran, that the train was delayed by less than five minutes on arrival at one of the 35 measured points and that people changing trains were able to make their connections.

The scope covers all trains operated by NS under the franchise for the main rail network for 2015-2025. These are all domestic trains that serve the stations mentioned in the Main Rail Network Decree, with the exception of Intercity direct and Thalys, but including IC Berlin, IC Brussels and ICE.

Performance indicator: punctuality for passengers on the HSL South services (insofar as attributable to NS)

Punctuality for passengers on the HSL South services gives an indication of the percentage of Intercity direct and Thalys (domestic part of the route) passengers for whom the train journey went as scheduled. That means the train actually ran and that it was not delayed by an amount of time exceeding the norm, insofar as this is attributable to NS.

The scope covers Intercity direct and Thalys at all stations where the arrival statistics are measured (Amsterdam Central Station, Schiphol, Rotterdam Centraal and Breda).

Performance indicator: information on the train and at the station about disruptions

This indicator is an unweighted average of the information provided about disruptions inside the train or at the station respectively and it gives the percentage of the total number of measured disruptions in train services for which information is given inside the train or at the station respectively through announcements and/or screens.

Scope: Quality measurements are also made for all trains and stations where the questionnaire staff go for customer surveys. Measurements are made for trains operated by NS under the franchise for the main rail network for 2015-2025. These are all domestic trains that serve the stations mentioned in the Main Rail Network Decree.

Performance indicator: journey information in the train travel chain

Journey information in the train travel chain gives a picture of the accuracy and timeliness of journey information that NS sends via the InfoPlus system to all subscribers, such as the screens at stations. Journey information in the train travel chain is specifically about delayed departures and changes to departure platforms.

This indicator states whether the journey information provided five minutes before the actual departure of the train was correct if there was a delayed departure or a platform change with respect to the annual plan. The information is deemed correct if it is determined after the event that the actual measured departure time deviated by less than three minutes from the information provided and the actual departure platform as measured matches the information provided. This performance indicator gives insights into the extent to which correct information is sent to the subscribers. This does not take account of any faults in the signs at the stations.

The scope covers all stops made by passenger trains of all operators in the Netherlands that have a planned departure time and departure track.

Punctuality

The extent to which train departure and/or arrival times in practice match up with the timetable. Punctuality is an important way to measure the implementation of the planned process for the timetable.

Travelling on account

A payment method for public transport in which passengers pay after the event and therefore do not need to have a balance on their public transport card.

Passenger-kilometre

A unit for the distance that an individual passenger covers using a particular mode of transport.

Punctuality for passengers

The journey time of the customer including all connections with respect to their journey plan (travel advice that was issued, for instance). This is measured at 47 points.

Risk appetite

The risk appetite of an organisation expresses the nature and scale of the risks that an organisation is prepared to accept in order to realise its business objectives.

Service Forum

The NS Service Forum is a place where customers can go with questions or tips about travelling with NS. They can discuss things with other passengers here. In addition, the NS social media team is present in order to answer questions.

Spoorslags Beter ('On track for improvement')

Name of the new strategy that was presented on 1 March 2016. With this strategy, we are focusing on our core activities with the aim of improving performance for passengers.

Spoorslags Beter focuses on achieving the agreed franchise KPIs by 2019.

New Generation Sprinter

Working title for the third generation of the NS Sprinter trains. These new trains will be available from 2018 onwards for passenger transport.

Stakeholders

The people or groups who are affected by our actions and whose actions have an effect on our organisation and services.

Stakeholder dialogue

A stakeholder dialogue is an essential element of the sustainability report. In a stakeholder dialogue, all the groups of stakeholders are asked questions based on influence. A stakeholder dialogue gives an organisation a clear picture of what is important for its stakeholders. On the one hand, it helps in determining the focus of accountability for social matters. On the other, it provides inspiration and input for further development of strategic sustainability policy.

Station Experience Monitor

A tool used for measuring how passengers perceive the stations. Passengers at all railway stations in the Netherlands are asked to give an assessment and perception of the stations and station areas.

Target value

Value for the level of performance required for a performance indicator in 2019 and 2024.

SPAD

An undesired, non-technical case of a red sign not being observed (signal passed at danger).

TechniekFabriek

The NedTrain vocational school for train technology where pupils work and learn at the same time, with a job as the end result.

Transparency Benchmark

The Transparency Benchmark is a tool provided by the Ministry of Economic Affairs and Climate Policy for improving reporting on social matters within the Netherlands. The Transparency Benchmark gives a picture of the way in which the largest Dutch businesses report their CSR activities.

Train Experience Monitor

A tool for studying how changing elements in the train can affect the scores passengers give for the quality of the trains.

TRR

This gives the number of accidents resulting in sickness absence (including those accidents where it was possible to find replacement work) expressed in numbers per million hours worked.

Transport capacity

The capacity of a train to carry a number of passengers.

Fourth European Railway Package

On 30 January 2013, the European commissioner Siim Kallas presented the Fourth European Railway Package. The European Commission is aiming to use the Fourth Railway Package for further reforms of the railway sector, which it believes is performing poorly, to promote innovation and encourage better services in order to stimulate growth.

WACC

The weighted average cost of capital.

Sickness absence

Sickness absence is the time during which a permanent employee is absent due to illness. The sickness absence commences on the first day on which the person concerned should be working but is absent. The sickness absence ends on the day on which the person concerned has recovered, or after 730 days. Working a limited number of hours (not under a therapeutic return to work programme) is not qualified as sickness absence but as a light shift.

Seating capacity

The capacity in terms of numbers of seats in a train for carrying passengers.

Seat availability

Standard in which the numbers of passengers are compared against the number of available seats in the train.

Seatfinder

Functionality in the NS Extra app that passengers can use to see where seats might still be available in the train.

