

FINANCIAL
REPORT
FOR THE YEAR
ENDED
31 DECEMBER 2016

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MANAGEMENT STATEMENT ON THE FINANCIAL REPORT 2016

This is a free translation into English of the statement issued in the French language and is provided solely for the convenience of English-speaking readers. This statement should be read in conjunction and construed in accordance with French law.

We attest that, to the best of our knowledge, the financial statements have been prepared in accordance with the applicable accounting principles and give a true and fair view of the assets and liabilities and the financial position of the Group as of 31 December 2016 and of the results of its operations for the year then ended, and that the accompanying management report fairly presents the changes in operations, results and financial position of the Group and a description of its main risks and uncertainties.

LA PLAINE SAINT-DENIS, 24 FEBRUARY 2017

PATRICK JEANTET
CHAIRMAN

ODILE FAGOT
DEPUTY CHIEF EXECUTIVE OFFICER,
FINANCE & PROCUREMENT

31 DECEMBER 2016

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EDITORIAL OF PATRICK JEANTET



PATRICK JEANTET
DEPUTY CHAIRMAN OF THE SNCF BOARD
OF DIRECTORS AND CHIEF EXECUTIVE OFFICER
OF SNCF RÉSEAU

As the first full year since the reform's implementation and the creation of SNCF Réseau, 2016 was highly eventful. I would like to cite some great achievements.

First, despite a difficult context marked by floods, strikes and terrorist attacks in the first half, we completed over €5 billion in network maintenance and renewal work. This represents over 1,500 projects throughout France, of which half carried out at night. We owe this success to all our employees, who have mobilised to create a safer and more efficient network, offering better service quality to our clients.

Investments in safety, an absolute priority for the Group, were boosted, through the PRISME Safety Excellence programme for example. As part of the Vigirail plan, 463 switches were renewed in 2016, following 405 renewals in 2015 and 363 renewals in 2014.

In addition, pursuing its commitment to "tighten" its maintenance rules, SNCF Réseau has accelerated the pace of replacement for certain components and applied the principle of anticipation for fault correction (predictive maintenance). By way of example, we have processed the replacement of 15,300 rail sections in 2016 of which nearly 4,000 in the Île-de-France region.

The dense Île-de-France zone is characterised by exceptional traffic concentration. In 2016, nearly €700 million was devoted to the renewal of the Île-de-France network, a significant increase over the 2015 investment effort. SNCF Réseau thus upgraded 172 points and crossings as part of the Vigirail plan, following the 150 points and crossings upgraded in 2015, and renovated 214 km of track, compared to 123 in 2015 (+74%). The Île-de-France teams also continued to modernise several signalling stations whose commissioning in 2017 will improve train reliability.

SNCF Réseau also boosted its investments for the development of Île-de-France mobility. The extension of the Eole line westward has now reached the active phase with the signature of the NExTEO contracts (future automated system for train spacing, intended for the central track section of the RER E) and financing agreement now being concluded by all public partners. With Gares & Connexions, the company has also contributed to accessibility improvements for 12 stations. Despite a significant rise in the work volume and an Île-de-France network that continues to age, SNCF Réseau does its utmost to maintain train reliability and a high safety level.

Among the highlights in the other regions, was the elimination of rail gridlock in Bordeaux in early May following eleven years of work and an investment of €435 million. The final phase of work will enable the introduction of the Tours-Bordeaux high-speed line as early as 2017. Other work, specifically in connection with the Grand Projet ferroviaire du Sud-Ouest, (major Southwest rail project) contributed to the overhaul of freight, Intercités and TER services throughout the Nouvelle-Aquitaine region. Likewise, the maintenance reliability plan for the Lyon rail hub has been launched.

Lines 7 to 9 and the capillary freight lines have also benefited from our efforts: lines such as Oloron-Bedous, Chartres-Voves or Fécamp-Breauté were reopened, and the Bec d'Ambès freight line was reopened in 2016.

Fiscal 2016 was also a significant year in terms of innovating and modernising our systems. The industrial transformation of SNCF Réseau in support of performance is driven by the development of new technologies:

— we have extended the scope of two network command centres in Dijon and Lyon, thus marking the transition towards remote control switching at the regional level and automated route planning;

— among the many information system developments, I would like to cite the SIPH project—industrial hourly production system—which will be the first major information system to be based on a single infrastructure digital framework (GAIA), which is being prepared for all the SNCF Réseau business lines;

— continued development and deployment of a computerised maintenance management system (CMMS);

— engines to automate and modernise network surveillance are being tested, including the Surveillance train (automated tail tours);

— digital technology within our maintenance business lines: production agents received nearly 14,000 tablets and phablets; applications were rolled out for these tools, particularly in regard to tail tours for catenaries, rails, standard linesides and the monitoring of points and crossings; each business line will gradually integrate new functionalities.

Innovation is not simply a matter of introducing new technological objects, it is also the profound process of transforming our business liens and the way we do things.

The collective vitality of SNCF Réseau in support of effective network management relies on employees. Fiscal 2016 marked a historical level of recruitment to accompany the ambition of these shared challenges over the long term. Over 3,000 new employees were recruited. SNCF Réseau has thus increased its workforce for the third year running bringing the number to 54,027 employees.

With respect to traffic, and beyond the economic context, the passenger component fell up to the end of summer, a decline that was more structural than was the case last year. However, this drop in traffic has slowed since September. With respect to freight, traffic in 2016 declined overall compared to last year, except for a few market players.

In addition, nine years after the commissioning of the LGV Est, an additional 106 km was commissioned on 3 July 2016. The extension of the LGV Est has accelerated the links between Alsace and central Europe. A time gain that places Strasbourg, with 16 daily returns, at less than two hours from Paris by TGV (1h48 compared to 2h20 previously).

Moreover, fiscal 2016 was an opportunity to overhaul the SNCF Réseau financing policy to take into account the trend in terms of the market and investor expectations. The company has put an emphasis on the diversification of its financing, in geographical and format terms, in order to further diversify its financing sources, market depth and the company's financing capacity.

Accordingly, in 2016 we launched two new financing programmes:

— an inaugural foreign currency (US Dollar) public issue with a three-year maturity for USD 1 billion—57% of this issue was distributed in North America, Asia and the Middle East, three zones where SNCF Réseau had little or no presence previously (10% of total RFF/SNCF Réseau issues since 1997);

— an inaugural Green Bond public issue with a 15-year maturity for €900 million in order to finance the primary network's priority modernisation. This inaugural transaction was very well met by the market (order book of €1.4 billion) and enabled a diversification with Socially Responsible Investors (who represented 62% of acquirers). SNCF Réseau has thus become the number 1 rail infrastructure manager in the world and the first transport sector company in Europe to issue a Green Bond.

The great significance of fiscal 2016 was also underscored by the Board of Directors, which approved the ten-year performance contract at the year-end. It provides investment trajectories with growing resources in volume and duration and an unprecedented scope. The contract provides SNCF Réseau with a new impetus for a new phase, the means to initiate its industrial transformation and accomplish the tasks assigned by the French State with the long-term visibility that is necessary for an infrastructure manager and its partners. This vote of confidence from the French State is a call to commitment and duty. We have the means for an ambitious vision: to become the reference in rail infrastructure management.

In conclusion, we must never forget that we are building for the long-term. This is the majesty of our mission and our definition of sustainable development. More than ever before, the great network of tomorrow will be human in its greatness. It is with this ambition in mind that we must build this project: no matter the technological and industrial extent of our activity, it remains above all a daily adventure of men and women. Through their commitment, devotion, know-how, effort, and public service culture, they have made us an exemplary network that is resolutely turned towards the future.

SNCF RÉSEAU IN 2016: OUR KEY INDICATORS



€6.4 billion

in revenue,
including €3.5 billion in services
re-invoiced to SNCF Mobilités
(infrastructure fees)



€1.9 billion

gross profit



€42 billion

in borrowings*



€2.8 billion

invested in network renewal
and performance



54,027

employees



Over **3,000**

recruitments in 2016



1,067 km

in upgrade track,
including 214 km in Île-de-France



Over **1,500**

modernisation projects



38

SNCF Réseau clients



471 Mtkm

track attributed in 2016



30,000 km of lines

including 2,100 high-speed lines

* Borrowings: net borrowings in repayment value—excluding accrued interest payable.

1 SNCF RÉSEAU IN 2016

1.1 PRESENTATION OF THE ACTIVITY

On 1 July 2015, following the rail reform law enacted on 4 August 2014, SNCF Réseau combined the teams of Réseau Ferré de France and the Infrastructure division of SNCF (SNCF Infra and Rail network operation and management) under a single public entity within the SNCF Group. In February, the SNCF Réseau Board of Directors set up its head office at 15-17 rue Jean-Philippe Rameau in Saint-Denis, which marked a major step in the creation of a unified infrastructure manager with the physical merger of the RFF and SNCF teams.

SNCF Réseau manages, maintains, develops and markets the services offered by the National Rail Network. It manages safety and performance for nearly 30,000 km of rail lines, of which 2,100 high-speed lines. It also manages customer access to the network and service infrastructures under transparent and non-discriminatory conditions: 26 rail companies circulate on the network and 12 other companies, known as candidates (combined transport operators, ports, etc.), order train paths which they then assign to the rail company of their choice.

SNCF Réseau is organised according to four business lines and an Île-de-France Executive Management Department:

SNCF RÉSEAU

MAINTENANCE & WORKS

Network maintenance, operational security

TRAFFIC

Rail traffic management

ENGINEERING & PROJECTS

Delegated project ownership, project management and site logistics engineering services, in France and abroad

NETWORK ACCESS

Network access management in accordance with the essential functions

The latter combines the four business lines under the authority of a General Director in order to respond to the specificities of this high-density rail zone.

There are also 11 regional departments that are directly attached to the General Secretariat. Within their respective regions, they oversee the company's institutional representation in dealing with local partners, and particularly the transport organising authorities, under the management of Deputy General Directors.

SNCF Réseau acts as the intermediary between the transport organising authorities and the French State for all the regional and national rail network development projects that it undertakes and leads.

In addition, its three subsidiaries (SFERIS, Eurailscout BV and CDG Express Études) are involved in the following activities: work and support services for projects in France, on-board track inspection and analysis, and a rail link project in France, between Paris-Est Station and Paris-Charles-de-Gaulle Airport (joint venture with Aéroports de Paris).

Lastly, on the decision of the French and Spanish States, concession grantors for the Perpignan-Figueras line, SNCF Réseau and ADIF were tasked with the line's operational management in December 2016, via the creation of a new joint subsidiary, Linea Figueiras Perpignan SA. The States guarantee that operations will break even. The Board of Directors voted to acquire an interest in the joint company for €30,000 representing 50% of the capital.

1.2 CORPORATE STRATEGY

The corporate strategy is part of the Réseau 2020 ambition: "Build an industrial champion together for an efficient, innovative and ever safer network."

The national rail network must transform itself to accompany a rapidly changing world. It must meet the challenges of these times: demographic growth, climate change, technological revolutions, the complexity of flows, the opening of competition in Europe, export development, rail Europe and new societal aspirations, etc.

Wishing to best meet the expectations of this new world, SNCF Réseau has co-produced a Réseau 2020 strategy with three major commitments:

- strengthen the fundamentals of industrial and social excellence;
- initiate a transformation to support the industrial and economic performance;
- develop cooperation within SNCF Réseau, the public Group and stakeholders.

1.3 HIGHLIGHTS

1.3.1 Appointment of the SNCF Réseau Chairman and CEO

Jacques Rapoport, the Chairman of the Board of Directors, resigned on 18 February 2016. He continued to carry out his duties until his successor Patrick Jeantet was appointed on 25 May 2016.

1.3.2 Finalisation of the company labour framework and branch agreement

The new employee work regime for Public Rail Group employees was adopted.

The core decree of the French State following discussions with company and union representatives of the rail division was published on 9 June; it shall apply to all rail companies in France.

The rail branch collective agreement was signed by the Union des transports publics et ferroviaires (UTP) and the union organisations. The SNCF company agreement was signed by the management of the Public Rail Group and the union organisations.

The new work regime will enter into effect at the time of the changeover to the 2017 annual service.

1.3.3 Measures for financing the rail system

Pursuant to the rail reform law, measures for financing the rail system were introduced to:

- guarantee a high level of safety for persons and goods on the network;
- improve the quality of service offered to transport operators, particularly freight;
- facilitate the financial recovery of SNCF Réseau: financial trajectory agreement that should cover, within a period of ten years from the effective date of the multi-year performance contract, the full cost of the network and control the change in debt carried by SNCF Réseau.

These measures are essentially reflected in:

- the conclusion of a multi-year performance contract (2017-2026) with the French State;
- the institution of the golden rule principle.

1.3.3.1 Multi-year performance contract

On 20 December 2016, the SNCF Réseau Board of Directors approved a draft version of the multi-year performance contract (2017-2026). It was submitted to Autorité de régulation des activités ferroviaires et routières (Arafer) for an advisory opinion prior to the joint signing with the French State. A public consultation was launched in January 2017.

Over a period of ten years, the contract provides for the increase in budgets earmarked for the modernisation of the primary network, thus providing SNCF Réseau with a long-term view of the available resources:

— nearly €34 billion will be invested in renewal and compliance upgrades for the primary network over a period of ten years:

- €27.9 billion, financed by SNCF Réseau, will be devoted to renewal of the primary network, with a peak of €3 billion annually (before the productivity gain) as of 2020;
- €4.5 billion will be invested by the French State, the local authorities and SNCF Réseau in safety and accessibility compliance work;

— €1.8 billion will be devoted to industrial and technological investments (engines, IT, digital tools, etc.), of which nearly €300 million annually from 2017 to 2019, in order to support future productivity;

— €12 billion in investments will be dedicated to the modernisation of the primary network, regional lines and rail hubs as part of contracts with the French State and local authorities, particularly in the form of State-Region Contractual Plans;

— beyond the effort of the French State, the trajectory's return to break even over the long-term will also require productivity efforts from SNCF Réseau, with €1.2 billion in cumulative savings by 2026, through the roll-out of the performance plan. A performance tracking table (industrial and financial indicators presented in Note 2.6) provided in the contract will ensure that these objectives are met.

To achieve this performance commitment, SNCF Réseau management has initiated a performance plan, in order to steer the company towards a transformation mind-set in regard to its operating methods. The objective of this plan is to reach:

— €0.5 billion in productivity for investments and operating expenses by the end of 2021;

— savings of €1.2 billion by the end of 2026 (compared to a trajectory determined before productivity gains).

The scalable plan is structured according to innovative levers:

- productivity gain driven by higher renewal volume and the implementation of industrial efficiency levers (technological innovation, process reengineering, maximisation of night work shifts);
- productivity gains reinvested in the network;
- scheduled reduction in the maintenance volume, the result of network renewal efforts until 2021 (i.e. nearly €270 million in 2026);
- reduction in commercial expenses (progress in service quality).

Governance principles introduce close monitoring of the Executive Committee, particularly the Chairman:

- based on monthly reporting at the beginning, and every two months subsequently;
- each Executive Committee member has a dual collective and individual responsibility for each lever.

1.3.3.2 Debt management

As part of the SNCF Réseau debt assessment, the French State deemed that it was not an opportune time to consider a mechanism for assuming the infrastructure manager's historical debt: "It is the ability to control the growth of this debt by reducing annual losses and then returning to profits in the medium term that will be key to the rail group's financial recovery rather than the question of assuming the debt [...] The solutions implemented to control and reduce the SNCF Réseau debt with regard to the attainment of objectives and compliance with the guidelines shown in the contract will be re-examined on the performance contract's next update, three years after its signature."

1.3.3.3 Golden rule

The purpose of this rule is to control SNCF Réseau's debt by setting a ratio (net debt/gross profit) threshold, beyond which SNCF Réseau can no longer participate in investment financing for rail network development, which then must be fully covered by requesting parties (State, local authorities, etc.).

The draft application decree for this measure was transmitted to the State Council in early January after consideration of the Arafer opinion. The ratio threshold is set at 18, which was reached in the 2015 accounts (18.7%). Based on the accounts presented at the end of 2016, the ratio threshold would stand at 22.24.

1.3.4 Impairment test

To recap, an impairment test had been carried out at the 31 December 2015 year-end that resulted in an impairment loss of €9.6 billion. It was based on ongoing discussions with the French State prior to the signing of the multi-year performance contract stipulated by the law of 4 August 2014 and a financial trajectory for SNCF Réseau taking into account the key changes and assumptions discussed with the French State on that date.

The finalisation of the performance contract with the French State and its validation by the SNCF Réseau Board of Directors on 20 December 2016 represented an indication of a change in value and a new test was performed on 31 December 2016.

The impairment test's key assumptions remain the level of infrastructure fees, public backing and current network maintenance.

The outcome of this test did not modify the impairment loss recorded as at 31 December 2015.

1.3.5 Subsequent events

On 30 November 2016, the Board of Directors validated the creation of the subsidiary Altamétris, wholly owned by EPIC SNCF Réseau, the purpose of which is to collect, exploit and enhance data via automated mobile vehicles. Currently in progress, its creation should be finalised in early 2017.

1.4 FINANCIAL AND NON-FINANCIAL KEY FIGURES

The SNCF Réseau 2015 income statement was restated to take into account the new organisation, as though the reform had been implemented on 1 January 2014.

In € millions	2016	2015	Change	
	Pro forma	Pro forma	In € M	In %
Revenue	6,441	6,526	-85	-1%
Gross profit	1,889	2,028	-138	-7%
Operating profit	1,016	-8,773	+9,789	+112%
Finance cost	-1,173	-1,225	+51	-4%
Net profit/(loss) before tax	-157	-9,997	+9,840	-98%
Investments	5,244	6,224	-980	-16%
Closing net borrowings (repayment value—excluding accrued interest)	42,028	39,311	2,718	+6.9%
Average number of equivalent full-time employees (FTE)	54,027	53,695	+332	+0.6%

	2016	2015	Difference	In %
	Pro forma ¹	Pro forma		
Total number of recruitments (nb)—excluding subsidiaries	3,086	2,259	+516	+23%
Percentage of women in total workforce (%)	12.1	12	-	-
Number of significant safety incidents (SSI)**	129	178	-49	-28%
Weighted number of killed and seriously injured by million km.train (ISC)***	0.162	0.119	+0.043	+37%
Frequency index of work accidents with lost time excluding commuting (%)****	11.04	11.67	-	-
Total greenhouse gas emissions of SNCF Réseau (scope 1+2) (k teq CO ₂)*****	154	154		
Greenhouse gas emissions avoided thanks to the rail system (k teq CO ₂)*****	9,872	9,872		

* Accrued interest receivable.

** Key safety indicator; 2015 data updated; non-consolidated 2016 figure.

*** For 2016: first three quarters.

**** For 2016: solely for the first ten months due to the fact that these figures had a time difference of two months.

***** Mandatory publication of the Greenhouse Gas Emissions Report every 3 years (article 75, Grenelle II law).

1 - These indicators and their illustration are specified in section 4: Social, societal and environmental information.

2 GROUP RESULTS AND FINANCIAL POSITION

2.1 GENERAL OBSERVATIONS ON 2016 GROUP RESULTS

In € millions	2016		2015		Change	
	Pro forma	Pro forma	In € M	In %	In € M	In %
Infrastructure fees	5,778	5,844	-66	-1%		
Freight compensation	78	31	47	148%		
Other income	585	651	-66	-10%		
REVENUE	6,441	6,526	-85	-1%		
Net purchases and external charges	-2,080	-1,936	-144	7%		
Net employee benefit expense	-2,256	-2,353	97	-4%		
Taxes and duties other than income tax	-216	-210	-6	3%		
GROSS PROFIT	1,889	2,028	-138	-7%		
Depreciation and amortisation charges	-850	-1,212	363	-30%		
Movement in provisions and asset impairment	-90	-62	-29	47%		
Net proceeds from asset disposals	66	72	-6	-8%		
Current operating profit	1,016	826	190	23%		
Share of net profit of companies	1	1	-1	-53%		
consolidated under the equity method	1	1	-1	-53%		
Impairment loss	0	-9,600	9,600	-100%		
OPERATING PROFIT/(LOSS)	1,016	-8,773	9,789	-112%		
FINANCE COST	-1,173	-1,225	51	-4%		
NET PROFIT/(LOSS) BEFORE TAX	-157	-9,997	9,840	-98%		

2.1.1 Comparability of financial statements

The implementation of the rail reform on 1 July 2015 necessitated a **pro forma** presentation of the income statement so that the company's business activity could be compared between 2015 and 2016.

However, the balance sheet is not presented pro forma, the impacts being less material.

2.1.2 Revenue

The -€85 million (-1%) decrease in revenue compared to 2015 essentially reflects the significant reduction in traffic (-20 million trains-km / -4%) resulting in a reduction in infrastructure fees of -€66 million (-2%). This decline in traffic is attributable to:

- a difficult economic situation context that penalised the activity for -10.5 million tr-km, or -2.1% (-12 million tr-km or a shortfall of -€75 million, during the strikes and adverse weather of June and the terrorist attacks, partially offset by the positive impact of a leap year);

- a substantial overall decrease in traffic of -9.5 million tr-km (-€31 million) compared to 2015 for the current network, with a slight recovery at the year-end.

The favourable impact of higher infrastructure fees (+0.4% compared to 2015) and the impact of the LGV Est commissioning (+€21 million) limited the drop in fees.

The increase in freight compensation (+€47 million compared to a 2015 total that was down sharply) nevertheless cancels out the expected decline in third-party services and raw material sales to Public-Private-Partnerships (PPP) (-€48 million).

Change in traffic in train kilometres:

Activities 2016/2015	Rail companies	Change in traffic TKM	
		Gross TKM	Adjusted TKM*
PASSENGERS			
	Mainlines	-8.4%	-5.4%
	High-speed transport	-3.2%	-2.0%
	Transport Express Régional	-2.9%	-0.3%
	Transilien	-3.5%	-0.7%
FREIGHT			
	SNCF Freight	-12.1%	-9.6%
	Alternative rail freight companies	+1.9%	+2.2%

* Adjusted TKM: adjusted for economic components (strikes, adverse weather, terrorist attacks in Belgium, leap year).

2.1.3 Gross profit and current operating profit

Standing at €1,889 million as at 31 December 2016, compared to €2,028 million in 2015, the decline in gross profit was limited to -7% (-€138 million).

This decrease stems from a decline in revenue and reflects the priority given to maintenance via increased outsourcing (-€58 million), the "full-year" implementation of a reciprocal incentive mechanism initiated in March 2015 with clients, which gave rise to a €16 million increase in commercial expenses, and lastly higher IT expenses in a post-reform context, necessitating the stabilisation of information systems (€50 million).

Conversely, greater production on investment projects (sharp increase in hours charged to projects) reduced the weight of the net employee benefit expense on gross profit (+€125 million). Overall, network productivity gains reached 1.2% in 2016.

Standing at -€1,016 million for the year ended 31 December 2016, current operating profit improved by +€190 million compared to 2015. The impact of the 2015 asset impairment on the depreciation and amortisation charge of the period (+€363 million at the end of December 2016) explains this change.

2.1.4 Finance cost

In € millions	2016		2015		Change	
	Pro forma	Pro forma	In € M	In %	In € M	In %
Net borrowing cost (CRC standards)	-1,417	-1,413	-4	+0%		
Other financial profit and loss	-7	-4	-3	+68%		
Change in fair value of liabilities and derivatives (IAS 39)	-11	-22	+11	-49%		
Capitalisation of borrowing costs (IAS 23)	+277	227	+50	+22%		
Employee benefit expense (IAS 19)	-15	-13	-2	+15%		
FINANCE COST (IFRS)	-1,173	-1,225	+52	-4%		

Finance cost stood at -€1,173 million, an improvement of +€52 million/-4% compared to 2015.

Under French GAAP, net borrowing costs in 2016 were stable compared to 2015. The impact of the increase in the average outstanding of net borrowings in repayment value (+€2.7 million) is offset by the lower interest rates over the period (3.46% on average in 2016 compared to 3.71% in 2015).

Under IFRS, the IAS 39 impact corresponds to changes in fair value of liabilities and the hedging instruments backing these liabilities. At the end of 2016, the impact is -€11 million compared to -€22 million at the end of 2015. The IAS 23 impact corresponds to the capitalisation of financial expenses. The increase of +€50 million compared to the end of 2015 is due to the rise in the outstanding of eligible projects under IAS 23 (impact of +€57 million), partially offset by lower interest rates (impact of -€7 million). The IAS 19 impact corresponds to the finance cost of employee benefits. The change of -€3 million is explained by the lower discount rate in 2016 for long-term benefits (1.60% vs 1.75% at the end of 2015).

2.2 PROPERTY-REAL ESTATE ACTIVITY

— Real estate management and valuation agreement with SNCF

In July 2016, SNCF and SNCF Réseau reached an agreement on the application of the real estate management and valuation agreement, which organises relations between SNCF Réseau and SNCF Immobilier at the national and regional level.

— Property leasing

Temporary occupancy agreements generated revenue of €81.5 million for 2016 as a whole, compared to €89 million in 2015. Fiscal 2016 was marked by three major renegotiations: two station and non-station advertising contracts and the automatic distribution contract.

— Disposals and participation in the national housing policy

The most significant events of the property and real estate activity concern Île-de-France. Under the guidance of SNCF Immobilier, the unused portion of the Paris Little Belt Railway will be revitalised.

Various public domain occupancy agreements and allocation overlays for the 13th, 14th and 15th districts, as well as management transfer agreements for the 16th district, were finalised and validated by the Conseil de Paris in April 2016.

In November 2016, SNCF Réseau and SNCF Mobilités concluded an operating agreement with the City of Paris under which new installations, public facilities and nearly 9,000 housing units will be built on rail land in the northeast (five sites) and southeast (two sites) of the capital, for a development potential of over one million square meters. The agreement, which is valid until 2020, concerns seven sites for a total of 50 hectares. As part of this operation, SNCF Réseau will sell land to a real estate development company to be created in partnership with SNCF Mobilités and its subsidiary SNEF.

INDICATORS	2016	2015
Surface areas transferred during the year (hectares)	1,474	107
<i>of which surface areas transferred for the construction of housing (hectares)</i>	22.5	15
Number of housing units constructed (nb)	2,132	950
<i>of which number of social housing units constructed (nb)</i>	1,099	600

— Development of unused lines

SNCF Réseau owns approximately 8,000 km of linear infrastructures, where traffic is absent and which will not be reopened in the short or mid-term. These assets are developed via tourist rail operations or greenways under management transfer agreements. Many of these transfer agreements were signed in 2016, marking the full appropriation of this policy by the various contributors within SNCF Group contributors.

INDICATORS	2016	2015
Share of kilometres for lines closed that were subject to right-of-way protection (%)	63	59

2.3 INVESTMENTS

In € millions	2016		2015		Change	
	Pro forma	Pro forma	In € M	In %	In € M	In %
Major development projects	1,205	2,337	-1,132	-48%		
<i>of which PPP share</i>	957	2,072	-1,115	-54%		
Regional development projects	546	619	-73	-12%		
Network compliance upgrade	246	254	-8	-3%		
Renewal and performance	2,785	2,665	+120	+4%		
Property and third party	126	112	+14	+13%		
TOTAL RAIL INVESTMENTS	4,908	5,987	-1,079	-18%		
Industrial	335	237	+98	+41%		
TOTAL EXPENDITURE	5,244	6,224	-980	-16%		

Investments, presented in total expenditure, represent:

— expenditure capitalised under IFRS (excluding IAS 23 capitalised borrowing costs);

— project costs (upstream phase prior to pre-project phase), which cannot be capitalised and are recorded in operating expenses (initialisation files, opportunity analyses, preliminary studies).

The following table summarises the total expenditure reconciliation with the accounts.

In € millions	2016	2015	Change
TOTAL ASSET ACQUISITIONS	5,120	5,771	-652
IAS 23 – Capitalised borrowing costs	-345	-285	
Share of the SEA concession financed by third parties	208	738	
Project costs and Other	262	-	
TOTAL EXPENDITURE	5,244	6,224	-980

Total gross investment expenditure before financing represented €5,224 million, down by €980 million compared to 2015 (€6,224 million). The decrease stems from the end of Phase 2 of the LGV Est Européenne and the final completion phases for certain major development projects (PPP) and to a lesser extent, fewer regional projects. Conversely, investments in the primary network rose in 2016.

On 1 July 2016, SNCF Mobilités transferred 36 service stations to SNCF Réseau for €68 million. These assets, previously owned by Transilien, are part of the industrial investments, which rose by +€98 million (€335 million in 2016 after €237 million in 2015).

2.3.1 Renewal and performance investments

The 2016 renewal programme demonstrates the company's determination to pursue the investment efforts initiated in 2008 to upgrade the primary network with the greatest traffic volume.

At €2,785 million, 2016 production is up by +4% (+€120 million) compared to 2015. This increase is mainly attributable to mixed trends, particularly for track, signalling, the Telecom activity, stations, engineering works (bridges, tunnels, retaining walls, etc.) and earthworks (embankments, waste materials, trenches), and major maintenance operations.

Track and points and crossings renovation for the main network (Vigirail plan), increased by +13% (+€194 million) compared to 2015.

In € millions	2016	2015	Change	Change (%)
Equivalent Planned Large Operation (GOPEQ)	1,067	1,014	+53	+6%
Number of points and crossings*	463	405	+58	+14%

* Excluding LGV.

Despite the impact of adverse weather and strikes, project planning was on schedule. The work volume increased with the renewal of 1,067 kilometres of track network in 2016 (expressed in Equivalent Planned Large Operation km), and the replacement of 463 points and crossings (172 in Île-de-France and 278 in the regions, or +10%). Track renewal was concentrated on the lines with the most traffic (LGV and category UIC 2 to 4) in the amount of 66%.

Priority was given to Île-de-France, where the number of Equivalent Planned Large Operations was up significantly in relation to 2015, i.e. 74%. This renewal effort will be bolstered in 2017 through the implementation of "Dense Zone Rapid Response" (railway track apparatus with several heavy engines for track upgrade). The rear work bases for this equipment have been overhauled.

In the other regions, there was less use of the three rapid response trains than it was the case in 2015, in accordance with the annual scheduling, these rapid response trains worked in Île-de-France.

The unit cost of renewal operations increased for three main reasons:

- difficult working conditions (dense zones, night work, maintenance of circulation on adjoining tracks during project work, etc.) arising from the concentration of projects on lines with the most traffic;
- the increased use of more costly rapid-response "work-trains" (approximately 535 kilometres in 2016 compared to approximately 515 kilometres in 2015) that nevertheless reduced the capacity footprint of projects, i.e. periods without traffic for the track being upgraded, through a better return.

Among the main projects completed during the period are Sens-Laroche-Migennes, Plaisir-Dreux, Narbonne-Montpellier, the annual CASTOR work for the RER C, and the 35 switches that were upgraded or eliminated in Creil.

Conversely, signalling investments fell 3% compared to 2015. The ambitions to ramp up these operations are limited due to major pressures on scarce technical manpower resources (signallers, testers). Nevertheless, new traffic sectors are included in the perimeters of the command centres for the Lyon and Bourgogne-Franche-Comté network, as part of the transition towards remote control switching at the regional level and the development of automated route planning.

The Telecom activity has decreased compared to 2015 (-€124 million, or -35%). In fact, the GSM-R, digital ground-to-train radio, was made available by Synérail (-€138 million compared to 2015) at the end of March 2016. GSM-R coverage was extended for an additional 3,526 km in track in 2016. The most significant operations in 2016 concerned the Lyon and Lille rail hubs. In addition, more than 1,000 km in optical fibre cable was laid in 2016 (+€15 million, or +24%), to replace the obsolescent copper now used for tracks and create supports to carry digital flows, as well as future industrial applications of SNCF Réseau (signalling, command centre, etc.). The investment exceeds €60 million annually and will continue in future years.

Station investments rose by €33 million in 2016 compared to 2015, following renovation of the grand passenger hall of Bordeaux, which will continue in 2017.

Other renewal expenditure totalled €173 million (a €33 million increase compared to 2015) and corresponded to reliability improvement for €44 million, up by €18 million compared to 2015, comprising infrastructure upgrades driven by the arrival of the Francilien on lines H and K of the Transilien.

2.3.2 Network compliance upgrade

The network compliance upgrade falls within the priority given to safety and accessibility operations, particularly in Île-de-France, in accordance with the master plan agreed with the STIF.

The national accessibility master plan was signed on 29 November 2016. This programme, co-financed by the French State, local authorities and the SNCF, represents a total investment of over €800 million between 2016 and 2024. Added to the national station upgrades, are "regional plants" that provide for the upgrading of nearly 740 stations (served by TER and Transiliens) for an estimated investment of some €3 billion by 2027.

Compliance upgrading in 2016 (€246 million) fell slightly by -3% compared to 2015. Train accessibility is stable, at €131 million, of which €92 million in Île-de-France (€131 million in 2015, of which €82 million in Île-de-France). The main accessibility operations in 2016 covered Reduced Mobility Programmes (RMP) including:

- RMP of the Bécon-les-Bruyères station;
- RMP of the Épinay-sur-Orge station;
- RMP of the Combs-La-Ville station;
- RMP of the Maisons-Alfort station or the Multimodal Exchange Hub of Redon.

2.3.3 Network development

Network development investment decreased by -€1,132 million compared to 2015 with the end of major projects for new lines.

In 2016, development project production under **Public-Private and Concession Partnerships** represented €957 million, or -€1,115 million (-54%) compared to 2015:

— €294 million was invested in the LGV Sud Europe Atlantique SEA project. Trials for the line began at the end of July 2016, and commercial commissioning is expected in the summer of 2017;

— €214 million in work contributed to the progress of the LGV Bretagne-Pays de la Loire. Phased in over the 2016-2017 period, commissionings and the beginning of commercial operations for the LGV Bretagne-Pays de la Loire took place in May 2017;

— lastly, €450 million concerns investments earmarked for the Nîmes-Montpellier bypass. The line's commissioning is scheduled for the end of 2017, as is the completion of the station's construction.

Expenditure for **Major Projects in Progress** stood at €210 million in 2016, i.e. down -€4 million (-2%). This mainly involves phase 2 of the LGV Est (€52 million in 2016, -€85 million compared to 2015), and the Eole project (€154 million in 2016, +€90 million compared to 2015).

Commissioning of phase 2 of the LGV Est project initially scheduled for April 2016 was postponed until 3 July 2016 following the Eckwersheim accident of 14 November 2015 during testing.

The extension of the Eole line westward has passed two milestones with the signature of the NExTEO contract (future automated system for train spacing, intended for the central track section of the RER E) and the financing agreement now being concluded by all public partners.

Regional development projects mainly comprise projects included in State-Region Project Contracts (CPER). In 2016, expenditure totalled €546 million, compared to €619 million in 2015, down -€73 million (-12%).

The main commissionings in 2016 concern the reopening of the Oloron-Bedous and Chartres-Voves lines and the modernisation of Toulouse Matabiau station and the Fécamp-Breauté line.

Following eleven years of work and an investment of €435 million, SNCF Réseau completed the last phase of the rail gridlock project in Bordeaux in early May 2016, while guaranteeing service for thousands of passengers. Elimination of the Bordeaux rail gridlock will enable the introduction of the Tours-Bordeaux high-speed line as early as 2017 and will also contribute to the development of Intercités and TER freight traffic in the Nouvelle-Aquitaine region.

2.4 NET BORROWINGS AND FINANCING

2.4.1 Financing and investment management

— Security and diversity of financing

Under its financial strategy, SNCF Réseau must at all time have the necessary financial resources to fund its current operations and investments.

In addition to its own resources and the public funding it receives, SNCF Réseau secures most of its financing through organised debt market or over-the-counter transactions.

SNCF Réseau has several financing programs with varying maturities:

- Euro Medium Term Note (EMTN) Program for a maximum amount of €45 billion;
- Euro Commercial Paper (ECP) Program for a maximum amount of €5 billion;
- Treasury Bill Program for a maximum amount of €3 billion.

Beginning in July 2015, SNCF Réseau became one of the new issuers whose debt can be purchased by the European Central Bank under the Public Sector Purchase Program.

The credit quality and market visibility of SNCF Réseau is backed by its EPIC status and the maintenance of solid credit ratings from Moody's, Standard & Poor's and Fitch.

On 31/12/2016, the three agencies attributed the following short and long-term credit ratings:

	Long term	Short Term
Moody's	Aa2	P-1
Standard & Poor's	AA	A-1+
Fitch Rating	AA	F1+

SNCF Réseau is also monitored by two non-financial rating agencies and received the following ratings:

	2016 rating	Position	2015 rating
Vigéo	49/100	6th out of a panel of 29 companies	36/100
Oekom research	C+	5th out of a panel of 45 companies	C

— Renewal of the financing strategy

SNCF Réseau has implemented a financing strategy that is adapted to the new needs and constraints of investors:

- accentuate the geographical diversification of the investor base by setting up a recurring US-dollar issue programme (inaugural issue in October 2016);
- offer investors new products and new formats (launch of a Green Bond programme—inaugural issue in November 2016);
- improve the SNCF Réseau share's visibility and liquidity by increasing the portion of benchmark public issues;
- strengthen the financial reporting of SNCF Réseau, specifically via a programme of annual road shows in its four major zones of interest (North America, Asia, Europe, and Middle East).

This renewed financing strategy has been successfully implemented. Indeed, SNCF Réseau has largely increased its access to international markets throughout 2016: France now represents 30% of investors, other Eurozone countries account for 26%, while non-European investors are the majority at 44%.

— 2016 issues

The long-term financing raised by SNCF Réseau in 2016 represented a total of €4.65 billion (repayment value), i.e. 16 transactions denominated in euro and US dollars, with an average maturity of 12.2 years and an average fixed rate of 0.69%. Two of these transactions are deemed to be particularly emblematic of the successful new financing strategy:

- in October 2016: a first-time three-year public issue in USD for \$1 billion, (maturing in Oct. 2019). This inaugural transaction was particularly well met by leading international investors, allowing SNCF Réseau to place 57% of the issue with investors in North America, Asia and the Middle East, thus diversifying its investor geographical base;
- in November 2016, a first-time 15-year Green Bond public issue² for €900 million (maturing in 2031). This inaugural transaction was very well met by the market and enabled a diversification with Socially Responsible Investors (who represented 62% of acquirers). SNCF Réseau has thus become the first rail infrastructure manager in the world to issue a Green Bond, and the leading transport sector company in Europe.

In keeping with COP 21, SNCF Réseau has confirmed its contribution to the ecological transition by financing the sustainable modernisation of its network via the innovative development of financing instruments. In order to meet the strict standards governing green financing and thus become a global reference in the transport sector, the SNCF Réseau bond issue was accredited under the Green Bond Principles by the non-financial rating agency Oekom Research and certified under the Climate Bond Initiative. SNCF Réseau has thus become one of the first issuers to be granted this dual certification.

Pursuing its efforts to boost the size and term of its issues, SNCF Réseau also carried out the following transactions in 2016:

- additional issue of €40 million to an initial 100-year issue launched in 2015;
- a €500 million 21-year issue;
- an issue comprising two bond tranches, one for €1 billion, with a five-year maturity (new benchmark issue—May 2021) and one for €400 million, with a ten-year maturity (tap of 2.625%, maturing on 29 December 2025).

— Net borrowings in repayment value

Given the cash position, the repayment value of net borrowings excluding accrued interest stood at €42,028 million at the end of December 2016, compared to €39,311 million at the end of 2015. Taking into account all the financial instruments and the scope impacts of PPP pursuant to IFRS, net borrowings amounted to €44,936 million on 31 December 2016 compared to €42,178 million year on year.

— Maintenance of sufficient liquidity to ensure the company's financing

As at 31 December 2016, SNCF Réseau had €3.2 billion in liquidity, primarily comprised of investments for €2.4 billion and cash and cash equivalents for €0.8 billion. The investment vehicles used are UCITS and negotiable debt securities with maturities of less than one year that guarantee a high level of liquidity and very low risk.

SNCF Réseau also has a €1.25 billion syndicated credit facility, which was not utilised in 2016.

2.4.2 Market risk management

— Interest rate risk hedging

As part of its financial strategy and to limit its exposure to an increase in its financial expenses, SNCF Réseau has defined principles in order to minimise its exposure to interest rate risk.

The current historically low interest rates and the desire to maintain long-term economic equilibrium led the SNCF Réseau Board of Directors to opt for a breakdown of net debt in repayment value that was 90% fixed-rate, 6% floating-rate and 4% inflation-indexed. A limited margin around each of these thresholds is authorised by the Board of Directors. Compliance with this breakdown is verified on a daily basis.

To achieve this breakdown, SNCF Réseau may use option-based derivatives or interest rate swaps for hedging purposes.

As at 31 December 2016, the net debt breakdown of SNCF Réseau after hedging was 92.6% fixed rate, 3.8% floating rate and 3.6% inflation-indexed.

— Foreign exchange risk hedging

Foreign exchange risk related to resources raised in foreign currencies is hedged in order to convert these resources into euros.

— Counterparty risk management

SNCF Réseau is exposed to counterparty risk in connection with its cash investments and the subscription of derivatives from its financial partners, insofar as the debtor refuses to honour all or part of its commitment or does not have the means to respect it.

2 - All documents covering the Green Bond programme of SNCF Réseau are available at: www.sncf-reseau.fr/fr/finance-durable.

To manage and limit this risk, investment instruments and derivatives are only entered into with financial institutions corresponding to the credit rating and equity criteria validated by the SNCF Réseau Board of Directors.

A limited commitment amount by institution is determined according to these criteria.

Compliance with the authorised threshold by counterparty is monitored on a daily basis.

To hedge counterparty risk, SNCF Réseau performs margin calls with its financial counterparties whose rating is lower than the threshold defined by the Board of Directors. Collateral (in cash only) is called up in the amount of the market value of the financial instrument portfolios for each counterparty whom SNCF Réseau is at risk.

The sums thus received by SNCF Réseau amounted to €34.27 million at the end of 2016, compared to €358.03 million at the end of 2015. The decrease in collateral was primarily due to the depreciation of the pound sterling against the euro.

2.5 FINANCIAL RELATIONS WITH THE FRENCH STATE

2.5.1 Public funding related to network investments

With regard to its network investments and project studies, SNCF Réseau receives co-financing from public and private partners. Public partners may differ depending on whether it involves the Agence de financement des infrastructures de transport de France (AFITF) or other government authorities.

The grants obtained by SNCF Réseau in 2016 totalled €1,207 million, of which €191 million from the AFITF.

Grants receivables due decreased to €1,181 million (of which €621 million from the French State and AFITF), compared to €1,296 million at the end of 2015 (of which €767 million from the French State and AFITF), but the portion exceeding six months decreased by €90 million.

2.5.2 Taxation

The business activity of SNCF Réseau is solely carried out on French soil and, with the exception of technical assignments, it has no presence or investment project on its own account in a country other than France. SNCF Réseau does not make use of any tax shelters.

2.5.3 Reclassification of a portion of the SNCF Réseau debt

As part of the restructuring of government debt as defined by the Maastricht Treaty, a portion of the SNCF Réseau debt in the amount of €10.9 billion was recognised by INSEE as a government debt in 2014. This reclassification did not lead to a change in the SNCF Réseau financial statements. SNCF Réseau also remains responsible for the operating management of the debt, without any change in current practices.

2.6 MULTI-YEAR PERFORMANCE CONTRACT INDICATORS

The SNCF Réseau multi-year performance contract with the French State provides a performance tracking table to regularly ensure that the contract's objectives are met. The table contains financial and industrial indicators.

Financial indicator	unit	2015	2016	Comment
Coverage rate of marginal cost through infrastructure fees paid by freight companies	%	-	-	Not yet fixed
Savings generated by productivity gains (cumulative as of 2017)		NA	NA	-
Coverage rate of full cost based on depreciation and amortisation accounting methods	%	95%	94%	-
Net debt in repayment value	billions	39	42	-
IFRS net debt	billions	42	45	-
Net debt/gross profit ratio	ratio	18.76	22.24	Golden rule
Gross profit/finance cost	ratio	1.42	1.32	-
Average rate of SNCF Réseau debt	%	3.71	3.46	-
Average remaining maturity of SNCF Réseau gross long-term debt	years	13.3	12.9	-
Moody's and Standard & Poor's long-term ratings, Fitch rating	rating	Aa2 AA AA	Aa2 AA AA	-
Moody's and Standard & Poor's short-term ratings, Fitch rating	rating	P-1 A-1+ F1+	P-1 A-1+ F1+	-
Industrial indicators	unit	2015	2016	Comment
Maintenance productivity (synthetic indicator based on a basket of work units monitored in cost accounting)	-	NA	NA	No indicator before 2017
Number of safety incidents due to infrastructure	Number	84	50	-
Compliance with completion cost		NA	NA	Now being created
Compliance with completion deadlines	%	93%	94%	
Average cost per km of track renewal operations (Equivalent Planned Large Operation)	€	97.6	100	
Track length subject to traffic speed slowdown, as at 12/31, by LGV, UIC 1-4 and UIC 5-6 categories	LGV	Km	-	-
	UIC 1 to 4	Km	480	538
	UIC 5 to 6	Km	710	691
Freight capillary line traffic covered by a partnership agreement in force	-	NA	NA	Now being created
Freight and passenger traffic service quality	-	NA	NA	No indicator before 2017
Infrastructure quality by line	-	NA	NA	No indicator before 2017
Quality of freight train paths (synthetic indicator defined as part of the freight conference)	-	NA	NA	No indicator before 2017
Frequency of accidents with work stoppage (number of accidents per million of hours worked). To be completed with the inclusion of third-party workers on site.	%	11.67	NA	Not yet available for 2016

SNCF Réseau will report on the contract's implementation in its yearly management report. Based on this report, it will be possible to monitor compliance with the contractual objectives and industrial milestones included in the contract. Triennial milestones are set: 2018 values for the 2019 update and 2021 values for the 2022 update, the contract being based on ten-year objectives.

3 RISK GOVERNANCE AND TYPOLOGY

3.1 RESPONSIBLE GOVERNANCE

SNCF Réseau was created by amended law no. 97-135 of 13 February 1997 (consolidated version from 1 January 2013), whose amended decree no. 97-444 of 5 May 1997 (consolidated version from 11 November 2012) sets out its duties and articles of incorporation. Law no. 2014-872 of 4 August 2014 related to railway reform in France (the Rail Reform Law) was published in the *Journal Officiel* on 5 August 2014 and entered into force on 1 January 2015. Its implementing decrees were published in the *Journal Officiel* on 11 February 2015 and entered into force on 1 July 2015, the date on which the safety certificates were granted allowing the entities to carry out their rail functions. The change in name from "Réseau Ferré de France" to "SNCF Réseau" became effective on 1 January 2015.

By virtue of its status as a public institution, SNCF Réseau is subject to the economic, financial and technical control of the French State.

Administrative and technical control is the responsibility of the departments of the French Transport Minister; economic and financial control is the responsibility of the Department of Economic and Financial Control for Transport on behalf of the French Economy and Budget Ministers.

SNCF Réseau supports the deployment of the ethical approach laid down by the SNCF Group's Ethics and Professional Conduct Department. This approach is built on four pillars: defining and fostering the behavioural principles expected of employees and the good practices that result from them; ensuring their implementation; detecting any deviations; and sanctioning reprehensible behaviour.

INDICATOR	2016	2015
Number of referrals to the Ethics Department Commission in relation to SNCF Réseau (nb)	16	-

3.1.1 The Board of Directors

The Board of Directors rules on all decisions related to the strategic, economic, financial and technological orientations of SNCF Réseau, and monitors their implementation. With respect to decision-making, the Board relies to a large extent on the work of various specialised committees. It can delegate some of its powers to its Chairman, provided that he or she reports on management to the Board and remains within the framework of the budget and the entity's programmes. The internal regulations of the Board of Directors incorporate the provisions from the laws and decrees applicable to the company, particularly those laid down in the French Transport Code (in particular Articles L. 2111-9 to 25).

The Board of Directors of SNCF Réseau has 24 members³, breaking down as follows:

- the Associate Director-General of SNCF and Chairman of this Board;
- seven persons chosen by SNCF, at least half of whom are SNCF employees;
- four representatives of the French State;
- four persons chosen by the French State on the basis of their competence;
- eight representatives elected by the company's employees.

The State's representatives on the SNCF Réseau Board of Directors and the persons chosen on the basis of their competence are appointed by decree subsequent to a report from the Minister in charge of Transport.

Employee representatives are elected under the conditions set out in Law no. 83-675 of 26 July 1983 on the democratisation of the public sector.

A Government Commissioner and a deputy Government Commissioner are appointed to SNCF Réseau by the Minister in charge of Transport. The Government Commissioner or Deputy Government Commissioner sits on the Board of Directors in an advisory capacity.

The Head of the Department of Economic and Financial Control for Transport, or his or her representative, also sits in an advisory capacity on the SNCF Réseau Board of Directors.

Finally, the SNCF Réseau Works Council Secretary also sits on the Board of Directors in an advisory capacity.

Directors are appointed on a fixed date for five years, and cannot hold more than two consecutive terms of office.

The Board of Directors comprises 12 men and 12 women.

INDICATOR	2016	2015
Number of times the Board of Directors met during the year	9	12

3.1.2 Chairman of the Board of Directors — Appointment and duties

The appointment as Deputy Chairman of the Executive Board carries with it the appointment to SNCF Réseau's Board of Directors and the appointment as its Chairman.

Jacques Rapoport was appointed Deputy Chairman of the SNCF Réseau Executive Board by decree on 15 July 2015. The Chairman of the Board of Directors presented his resignation on 18 February 2016, but remained in office until a successor could be appointed.

On 25 May 2016, Patrick Jeantet was appointed Deputy Chairman of the Executive Board of SNCF, replacing Jacques Rapoport. He took office on 26 May 2016, after favourable opinions were received from Arafer and the commissions of the National Assembly and the Senate.

Decree no. 97-444 of 5 May 1997, as amended, relating to the corporate purpose and Articles of Association of SNCF Réseau, defines the respective powers of the Board of Directors and its Chairman.

The Chairman of the Board of Directors implements the strategy defined by the Board of Directors. For this purpose, the Chairman is granted all powers necessary to ensure the smooth running of the company's operations, and to act on its behalf in all circumstances.

The delegation of powers granted by the Board of Directors to its Chairman is published in the official gazette of SNCF Réseau and the official gazette of the French Transport Ministry.

3 - The list of members of the SNCF Réseau Board is published on the SNCF Réseau website: www.sncf-reseau.fr/fr/le-conseil-dadministration.

— System of delegations

Pursuant to the provisions of amended decree no. 97-444 of 5 May 1997, the Chairman of the Board of Directors may delegate some of the powers granted to him under the terms and conditions set by the Board of Directors. These delegations are published in the official gazette of SNCF Réseau.

3.1.3 Procurement Contract and Purchasing Committee, and specialised committees

The Procurement Contract and Purchasing Committee and the specialised committees comprising members of the Board of Directors contribute to the preparation of the Board's decisions and the fulfilment of its duties.

The Board of Directors determines the area of expertise of each committee, which draws up proposals, recommendations and opinions, or agreements regarding the Expenditure Committee, and may to this end decide to carry out additional studies to inform the Board's deliberations.

Each committee defines its own internal regulations laying out its duties and operating methods. These are approved by the Board of Directors and appended to its internal regulations.

— Procurement Contract and Purchasing Committee

The Procurement Contract and Purchasing Committee has two different bodies depending on whether the contract under examination is one intended to meet the sole needs of SNCF Réseau ("SNCF Réseau Contracts") or one intended to meet the needs of SNCF Réseau and one or more Public Rail Group Entities ("Common Contracts").

The "SNCF Réseau Contracts" board comprises nine members appointed by the Board of Directors (six men and two women).

The internal regulations of the Procurement Contract and Purchasing Committee stipulate that the "Common Contracts" board should have nine members appointed by the Board of Directors, as follows:

- a member of the SNCF Supervisory Board, Chairman;
- a member of the SNCF Supervisory Board;
- a director of SNCF Réseau;
- a director of SNCF Mobilités;
- a representative of the Budget Ministry;
- a representative of France's General Directorate for Fair Trading, Consumer Affairs and Fraud Control (DGCCRF).

This board is chaired by an employee director belonging to the SNCF Supervisory Board. The director representing SNCF Réseau is the reporter of the decisions of the Common Markets board to the Board of Directors.

Each board chairman acts as the Committee's reporter to the Board of Directors for its related business.

— Audit, Accounts and Risk Committee

The Audit, Accounts and Risk Committee is an adjudicating and advisory body of the Board of Directors that brings together members based on their competencies. Its purpose is to prepare the work and decisions of the Board of Directors by issuing opinions, proposals and recommendations on the files submitted to it.

Comprising directors, the Committee is chaired by a Director appointed by the Board of Directors from among its members.

The Government Commissioner and the head of the Department of Economic and Financial Control for Transport, or their representatives, also sit in an advisory capacity on this committee.

Members of Executive Management also have the right to attend Audit Committee meetings as needed, as do relevant directors on the invitation of the Chairman of the Board of Directors and the Board's Secretary.

The Audit Committee assists the Board of Directors and prepares the latter's work on important matters of an economic, financial and accounting nature.

The Audit Committee is notably responsible for monitoring the financial information preparation process, the effectiveness of internal control and risk management systems, the audit of the statutory and consolidated financial statements by the statutory auditors, and the latter's independence.

The Audit, Accounts and Risk Committee comprises four men and two women.

— Commitments Committee

The Commitments Committee assists the Board of Directors and prepares the latter's deliberations on matters related to investments or involving a financial commitment for the company: investment programmes and development projects (development policy and financial aspects) and projects related to its property portfolio. The consultation thresholds are set in the internal regulations.

The Government Commissioner and the head of the Department of Economic and Financial Control for Transport, or their representatives, also sit in an advisory capacity on this committee.

The Commitments Committee comprises four men and five women.

— Industrial and Economic Committee

The Industrial and Economic Committee assists the Board of Directors in examining the major policy questions facing SNCF Réseau, particularly as regards economic and industrial issues.

The Government Commissioner and the head of the Department of Economic and Financial Control for Transport, or their representatives, also sit in an advisory capacity on this committee.

The Industrial and Economic Committee comprises five men and six women.

3.1.4 Remuneration and variable portion

In 2016, the taxable compensation paid to members of the SNCF Réseau Executive Committee amounted to €2,497,690 for an average of ten members. The report of the French State shareholder (REA) discloses the components of the compensation (as decided by ministerial authority) paid to the Chairman of the Board of Directors of SNCF Réseau, pursuant to Article 3 of Decree no. 53-707 of 9 August 1953.

The remuneration components of executives and senior managers consists of a fixed portion and a variable portion. The variable portion of SNCF Réseau's 36 executives (excluding members of the Executive Committee), which is capped at 43% of their fixed remuneration, is based in the proportion of between 25% and 100% (depending on the position/job description) on the achievement of safety objectives (safety of operations and health/safety of personnel). The collective variable portion of the 716 senior managers is capped at 7% of their fixed remuneration, with 40% subject to the achievement of safety objectives (safety of operations and health/safety of personnel).

Finally, SNCF Réseau does not pay top-up pensions.

3.1.5 Executive management and the company's general organisation

Executive management is tasked with the company's general management, for which it is collectively responsible before the Board of Directors.

It prepares the Board of Directors' directions and decisions, and defines the terms and conditions of their implementation. It also formulates the major strategic options and the company's positions on general issues, and makes wide-ranging decisions related to organisation and governance.

During the Board of Directors' meeting on 30 July 2015, and pursuant to Article 31 of Decree no. 97-444 of 5 May 1997, related to the duties and articles of incorporation of SNCF Réseau, as amended by Decree no. 2015-140 of 10 February 2015, the Board of Directors approved the Establishment's general organisation.

Accordingly, the list of executives is as follows:

- the Chairman and CEO;
- the Deputy General Director;
- the Deputy General Director for Safety, Innovation and Industrial Performance;
- the General Director for Île-de-France;
- the Deputy General Director for Network Access.

Executive Management comprises:

- the Deputy General Director and the Deputy General Director for Safety, Innovation and Industrial Performance, whose mission is to second the Chairman in the company's operational management and serve as deputy in the executive function;
- the General Director for Île-de-France, who has authority over all SNCF Réseau components in Île-de-France;
- the Deputy General Director for Network Access;

— the five Deputy General Directors for Engineering and Projects, Maintenance and Works, Traffic and Support Functions, Finance and Purchasing, and Human Resources and the General Secretariat (see 1.1, page 10).

On 1 January 2016, the position of General Director for Safety was created in order to oversee safety. The General Director for Safety works directly with the Safety Executive Board and the Chairmen of SNCF Mobilités and SNCF Réseau to tighten and simplify safety management, particularly with regard to consultations between the three EPICs, tighter and simplified steering, and the coordination of safety policies.

3.2 RISK FACTORS

The various risks liable to impact the company's activities are identified according to their type and assessed according to the probability of occurrence, impacts and level of control. Impacts are regularly assessed for each risk in accordance with a defined list of financial, legal, operating and reputational impacts, with each risk potentially having several impacts.

3.2.1 Financial/market risks

— Interest rate risk

SNCF Réseau is exposed to interest rate risk given the substantial amount of net debt it has to refinance through the financial markets.

— Liquidity risk

Liquidity risk is constantly hedged through the proactive management of liquidity requirements, and a diversified access to either long-term (EMTN programme of €45 billion) or short-term (French Commercial Paper of €3 billion and Euro Commercial Paper of €5 billion) financing sources. SNCF Réseau also benefits from a €1.25 billion credit line that has never been drawn down.

— Counterparty risk

SNCF Réseau is exposed to counterparty risk in the daily management of its cash flows and the management of its mid- and long-term debt.

— Currency risk

SNCF Réseau negotiates financing in foreign currency. Such funds are converted into euros.

— Risks relating to the status of SNCF Réseau

The French State can intervene in major decisions affecting SNCF Réseau, since it is a State-owned industrial and commercial institution (EPIC). The performance contract validated at the end of 2016 by its Board of Directors provides SNCF Réseau with the means to initiate its industrial transformation and fulfil the duties assigned to it by the French State. This contract was submitted to the opinion of Arafer before being signed by the French State and SNCF Réseau.

In addition to these risks specific to financial market activities, SNCF Réseau is exposed to financing risks related to its financial involvement in various investment operations and counterparty risks involving customers or co-financing bodies. The risk of project deviation is also a significant financial issue for the entire company.

3.2.2 Operating risks

— Legal risk

In addition to legal risks related to the possibility of the company being sued as an owner and operator, and also as prime contractor, SNCF Réseau is regularly confronted with new legal risks related to developments in the regulatory framework to which it is subject, particularly regarding its rail infrastructure management or project management activities, and under the partnership agreements binding SNCF Réseau to its various partners (legal security of new concession or public-private partnership agreements).

— Economic risk

SNCF Réseau's macroeconomic strategy is driven by traffic growth and its impacts on the collection of access fees, as well as the effective control of network maintenance and extension costs.

— IT risk

The Group's operations are dependent on IT systems. A failure or breakdown of their security aspects could adversely affect its reputation and have a negative impact on its financial performance.

— Major reputational risk

Reputational risks arise chiefly from rail incidents and accidents that may potentially tarnish the company's image with respect to investors and partners. Other risks related to the network manager's activities (including outside the rail sector strictly speaking) are also identified as being likely to damage the company's reputation and are also treated under this category (e.g. risk of damage to the environment).

— Climate change risk

The network has already experienced extreme weather events that have an impact on rail infrastructure. In the face of climate change impacting network traffic and safety, the new challenge is to adapt this infrastructure and improve its technical resilience.

3.3 INSURANCE POLICIES

With a view to controlling insurance costs while improving guarantees, the Group has pooled its insurance purchases within the components of the new Public Rail Group, as provided for in Article 5 of Decree No. 2015-137 of 10 February 2015.

By virtue of the insurance programmes extended to all entities established within the framework of the railway reform, SNCF Réseau is covered for the major risks involving its civil liability or impacting its property and for the operating losses arising from damages to its assets or rail infrastructure. It is also covered for its LGV tests under a specific comprehensive testing risk policy.

SNCF's main insurance programmes are as follows:

- the "Major Civil Liability Risk" programme;
- the "Automotive Fleet" programme;
- the "Buildings" programme;
- the "Property Damage" programme.

The Risk and Insurance Department is integrated with the Legal Expertise Centre of the Group's Legal Department in order to pool insurance policy purchases for the entire Public Rail Group.

On behalf of SNCF Réseau, the inter-regional property insurance centres integrated with the regional legal delegations of the Group's Legal Department and managed by the Insurance Department are responsible for the amicable settlement of claims on behalf of the EPICs, and serve as the main intermediaries for insurance matters within their geographical scope.

4 SOCIAL, SOCIETAL AND ENVIRONMENTAL INFORMATION

SNCF Réseau has an Environment and Sustainable Development Department (ESDD) that establishes the CSR policy and promotes it, both internally and externally. The ESDD also assists the business lines and transversal services with their CSR challenges. Its transversal involvement extends to all issues with significant societal and environmental impacts for the company's stakeholders, as outlined in this report⁴.

This department relies on a network of Business and Regions correspondents to further develop its projects and fulfil its commitments. This network contributes to the Public Rail Group's CSR network.

4.1 CSR POLICY AND CONSIDERATION OF STAKEHOLDERS IN DECISIONS

SNCF Réseau's CSR policy was prepared in cooperation with the company's internal stakeholders, in line with the Public Rail Group's sustainable development policy, in order to accompany the Réseau 2020 corporate plan and the GPMR⁵, and to provide a clearer picture of our activities to all our stakeholders. SNCF Réseau has thus determined the conditions for a responsible modernisation of the French rail network.

Four challenges have structured SNCF Réseau's CSR policy in addition to three principles of action: appropriate governance (see 3); openness to stakeholders (see below); and ethics as one of the company's core values (see 3):

A RESPONSIBLE MODERNISATION



4.1.1 Openness to stakeholders

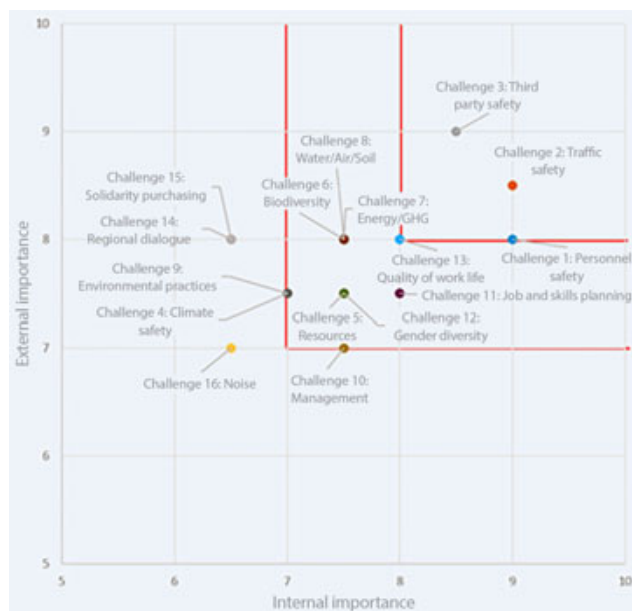
As a public company with a general interest purpose, SNCF Réseau is at the service of railway undertakings, passengers, local residents, elected representatives, environmental associations, users, its staff, suppliers and its financial partners, etc. Its aim is to be attentive to the expectations of all its stakeholders.

In 2016, SNCF Réseau oversaw the development of a materiality matrix in order to identify the CSR issues most relevant to the company and its stakeholders, holding interviews with various interlocutors and carrying out a major survey with a representative sample of 4,500 employees and external stakeholders (70 customers, 500 suppliers, 560 regional and departmental councils, 200 NGOs and 24,000 municipalities impacted by railways, etc.).

4 - Additional information on the CSR policy of SNCF Réseau and the management of sustainable development. is available on the website: www.sncf-reseau.fr/en/sustainable-development.

5 - Great network modernisation project.

Materiality matrix of the challenges of CSR policy according to a survey:



The results of this survey are reflected, among other things, in the creation of a matrix presenting the relative positioning of the 16 CSR policy challenges based on their importance for SNCF Réseau employees (on the horizontal axis) and the importance assessed by the parties (vertical axis).

The three safety challenges (work, network traffic and people) clearly emerge as the most important for SNCF Réseau. At the other end of the spectrum, four issues are ranked of minor importance: solidarity purchases and territorial dialogue for employees, and noise and management for external stakeholders.

A more detailed analysis will be carried out in the first quarter of 2017. Its conclusions will further enrich CSR policy.

4.1.2 Customer satisfaction: improve network access

Improving the service in respect of customers (railway undertakings and authorised candidates) is a major challenge for the sustainability of the rail transport system. It is rooted above all in the capacity distribution and traffic management processes.

This quality of service approach is accompanied by objectification work and the measurement of the degree of customer satisfaction.

Existing incentives for both the infrastructure manager and train path applicants were renewed in 2016:

— **The reciprocal incentive scheme established in 2015**, which sanctions railway undertakings and/or the infrastructure manager for any modification or cancellation of confirmed train path-days based on confirmed train path-days allocated in the timetable, was renewed in 2016 in a more industrialised manner covering the entire service schedule;

— **The Performance Improvement System (PIS)**, an incentive measure that sanctions the infrastructure manager (IM) and/or railway undertakings (RU) responsible for irregularities resulting in traffic delays (penalties are based on the number of minutes lost per 100 km);

INDICATOR	2016	2015
Number of minutes lost by RUs per 100 km:		
- for IM causes (min)	1.39	1.29
- for RU causes (min)	2.09	2.05
Capital expenditure to improve reliability (€m)	44	26

— **The framework agreements** under which the infrastructure manager undertakes to allocate a commercial capacity, defined upstream, to a customer that agrees to order it, with a system of penalties based on the reservation fee in the event of default;

— **The train path quality agreements (TPQA)** under which the infrastructure manager undertakes to eliminate uncertainty within a defined timeframe on a pre-determined list of train paths.

The “passenger stations” activity is responsible for access to trains from public spaces (platforms and access to platforms) in the 2,984 national rail network stops. As part of the quality of service improvement initiative, investments continue to improve accessibility for people with disabilities. SNCF Réseau’s scope in railway stations represents an investment of €307 million and operating expenses of €74.5 million (cleaning, snow removal, maintenance of lifts and escalators, maintenance of platforms and shelters, etc.). In return, it generates platform fees of €121 million for more than 40 million train departures.

Lastly, at the request of the Minister of Transport, to ensure transparency on the maintenance operations carried out on the national rail network, SNCF Réseau makes weekly updates to an interactive map on its website that gives information to railway undertakings as well as travellers on the work and maintenance operations scheduled on each line for the following week.

INDICATOR	2016	2015
Traffic in train.km (M T.km)	470.8	497.8
Freight traffic from railway undertakings other than Fret SNCF (%)	41	37
Passenger traffic from railway undertakings* other than SNCF (%)	2.4	2.3
Satisfaction rating for railway undertaking customers (out of ten)**	NA	5.5
Generic window consumption rate (%)	84.9	85.5

* Including the Thalys and Eurostar subsidiaries.

** Biennial opinion survey.

4.1.3 Supplier partnerships: responsible purchasing

SNCF Réseau has implemented a responsible purchasing policy that relies notably on CSR supplier assessment via EcoVadis and the inclusion of CSR criteria in supply, work and service contracts. This policy has been rewarded by the renewal of the Responsible Supplier Relations Label in each of the last three years, illustrating genuine progress in the following areas:

- respect for the interests of suppliers and subcontractors (e.g. accent placed within the organisation on compliance with payment deadlines);
- the impact of purchasing on economic competitiveness;
- the inclusion of environmental and social factors in purchasing processes (e.g. the implementation by the SME Pact of the supplier survey);
- quality of supplier/subcontractor relations.

In 2016, the SNCF Réseau Purchasing Department was rewarded with a crystal purchasing award in the “Customer-Supplier Relations” category at the “Purchasing Universities”. The modernisation of supplier relationship governance initiated by the SNCF Réseau Purchasing Department was one of the decisive criteria allowing it to stand out, notably against the aerospace and automotive sectors.

Two national supplier conventions were held in 2016, one dedicated to innovation in partnership with the Federation of Railway Industries (FIF). Such events offer a wealth of exchanges with suppliers.

SNCF Réseau has also modernised its dialogue with professional channels. Towards the end of 2016, for instance, SNCF Réseau, the FIF and the Union of Electrical and Environmental Engineering Companies (SERCE) signed an industrial partnership agreement in the field of railway signalling.

INDICATOR	2016	2015
CSR performance of SNCF Réseau suppliers (average rating over 100 EcoVadis evaluations)	54	51

4.2 SAFETY CHALLENGE: SECURE A HIGH LEVEL OF NETWORK SAFETY, THEREBY CONTRIBUTING TO RAIL SYSTEM SAFETY

Securing the highest level of safety for traffic and persons on the national railway network is one of the company’s major commitments. SNCF Réseau lays down and manages network security policies that translate into three basic requirements⁶:

- ensure, in respect of network design, modernisation and maintenance, infrastructure usage conditions that enable railway undertakings to operate in complete safety;
- provide railway operators with reliable and suitable information on how to use infrastructure, as well as operating logs, so that they can take them into account or implement them in the safety procedures incumbent upon them and in the transport services that they provide;

— ensure the safety of users, personnel, third parties, transported goods and the environment by the drafting and implementation of the necessary procedures and means, both in the operations, tasks and processes performed by the company, and in the use of external service providers or in the acquisition and commissioning of material and equipment.

SNCF Réseau has made safety its number one value. Its approach, called “PRISME”, is aimed at achieving “Safety Excellence” through a six-pronged transformation concerning the safety of railway operations, that of its own employees and the employees of subcontractors:

- promote **P**roactive behaviour aimed at allowing each employee to make an effective contribution to the continuous improvement system by alerting his or her managers to any incidents or precursor events of which he or she is aware;
- install **R**isk-based management to prioritise actions and focus energies;
- master the **I**nterfaces between entities to promote a safety chain in which each link is essential and connected to the others, including partners and subcontractors;
- simplify procedures and documentation to ensure their routine application by operators;
- create **M**anagerial conditions under which each employee can play a personal role through his or her actions and decisions, at his or her level of responsibility, to reduce risk of accident as much as possible (severity and frequency);
- develop the most innovative tools and **E**quipment to offer each employee a safe work environment and secure technological means.

4.2.1 Ensure that our work sites are completely safe

Safety is SNCF Réseau’s priority. Prevention is central to the measures taken by the company, its goal being to reduce accidents, particularly on work sites, involving all SNCF Réseau employees and subcontracted personnel.

On 11 October 2016, during a roundtable on road safety organised by the Ministry of Interior and the Ministry of Labour, 21 iconic companies, including SNCF, signed a charter governing the safety of work-related travel for their employees. Road risk is central to the company’s concerns, as it is the leading cause of fatalities among its employees, ahead of railway risk. It is the cause of one-third of fatal accidents involving company employees. Overall, the frequency rate of workplace accidents has eased.

Our commitment to safety is shared by our subsidiaries. In 2016, SFERIS received OHSAS 18001 certification for its compliance with health and safety management requirements, but also for the continuous improvement of its performance.

⁶ - Additional information on the safety policy of SNCF Réseau is available on the website: www.sncf-reseau.fr/fr/a-propos/notre-strategie/renforcer-la-securite.

INDICATOR	2016	2015
Frequency rate of workplace accidents with lost time excluding commuting*	11.04	11.67 ⁷
Severity rate of workplace accidents*	0.492	0.485
Number of occupational illnesses reported**	54	136
Number of fatalities		
- among SNCF employees	4	4
- among subcontractors	1	2
Number of serious injuries		
- among SNCF employees	16	-
- among subcontractors	14	-

* For 2016: only over the first ten months, as these figures are obtained with a two-month lag.

** For 2016: first half.

4.2.2 Offer a safe network to railway undertakings

Sustainable mobility is giving rise to mounting expectations, including the implicit and major expectation that railway operations will be safe. A 2015 report by the Boston Consulting Group, an international strategy consulting firm, ranked the French rail system third, tied with Denmark, among the best-performing European rail systems⁸.

The number of significant safety incidents (SSI) decreased significantly in 2016 compared with the previous year. Improvement efforts are ongoing as part of the PRISME approach, which promotes an extensive and shared effort to consolidate safety culture across the company as a whole.

In terms of security, SNCF Réseau is highly mobilised in response to metal theft on its lines. Work conducted for several years in cooperation with government services has reduced cable theft by 35%, although such occurrences remain significant due to their financial consequences and the impact they have on rail production. Lastly, increasing intrusion on the national rail network (+16%) has a major impact on rail production, over and above the security and safety consequences.

INDICATOR	2016	2015
Risk value for travellers (weighted number of fatalities and serious injuries per million km.train)*	0.0068	0.011
Number of noticeable safety events (nb) ⁹ **	129	178
Number of malicious acts involving SNCF Réseau property and financial assets (nb) ⁹ **	16,086	15,931
Total safety investments (€m)	93	101

* For 2016: over three quarters.

** Key safety indicator; updated 2015 data, 2016 data not consolidated.

*** Redefinition of the scope in 2016 and update of 2015 data.

4.2.2.1 Network operations: safety and reliability challenges

In terms of reliability, the number of events triggering delay for causes under the Infrastructure Manager's control improved overall in 2016, falling by 2% compared with 2015.

At year-end, the deterioration in performance (notably among catenaries) nevertheless shows how important it is to remain vigilant in pursuing substantive actions already underway.

The ambitious project for the modernisation of the operational management of traffic, GOC 2.0, continues. It is aimed at improving reliability for all activities, the management of major incidents, and the information given to travellers, thereby enabling railway undertakings to better manage their resources during disruptions.

A digital reliability observatory has been created to represent incidents in infrastructure management and rail transport graphically.

A new IT tool, OpenGov, is being deployed. It optimises the occupation of tracks in railway stations and facilitates smoother traffic flows, improving reliability and safety, and reducing the time taken by such studies. It is operating notably in Paris (Austerlitz, Montparnasse, Saint-Lazare) and Lyon (Part-Dieu, Perrache).

4.2.2.2 Network maintenance: safety and innovation

Despite floods in early June and strikes that disrupted production in 2016, the year was generally a strong one thanks to a high level of commitment. Aside from the aforementioned exceptional events, maintenance is carried out in a context where, despite significant renovation work, part of the infrastructure continues to age. A substantial amount of maintenance work was accordingly performed in 2016, with efforts increasing in certain areas and on certain geographies.

Two measures play a particular role in guiding the action of network maintenance personnel:

— the implementation of measures known as “tightened” of maintenance, in addition to the action plans drawn up following the Brétigny and Denguin accidents, underscore the importance placed on safety within the company;

— the improvement of the reliability of the network in high-density rail zones with the launch of a specific plan for the Lyon rail hub, inspired by the reliability plan developed for Île-de-France.

The five-year maintenance action plan for the Lyon rail hub provides for an increase in pruning operations, additional inspections in tunnels, the replacement of additional rail sections and better surveillance of signalling facilities and catenaries.

7 - In the 2015 management report, this indicator was a frequency index of accidents with lost time excluding commuting.

8 - The classification is based on the Railway Performance Index (RPI), which assesses the performance of railway systems based on the following three parameters:

- Intensity of use of the rail system: number of passengers, freight tonnage.

- Quality of service: punctuality of regional and long-distance trains, proportion of high-speed trains, price.

- Safety: number of accidents based on the number of kilometres travelled, number of fatalities by the number of kilometres travelled.

9 - A “significant safety incident” is an incident that puts at risk the physical integrity of persons in trains or on railway premises, SNCF Réseau personnel and the employees of its contractors and subcontractors, excluding events that SNCF Réseau cannot prevent directly (such as malicious acts, collision with an unauthorised third party on railway lines, a road accident at a level crossing attributable to non-compliance with the rules of the road, a mudslide from outside rail lines, etc.).

Maintenance production is generally performed with varying observations depending on the different techniques:

— on rails, 15,300 rail sections were replaced, roughly the same volume as in 2015. In addition, the implementation of head wash repair (HWR) prevented defects in 350 rail sections, thereby avoiding their replacement; the number of tightened maintenance operations on B families of line crossings in response to the accident at Brétigny has increased (verification of over 600 additional crossings, an increase of 160% compared with 2015);

— in the field of signalling, compliance with intervention times for the preventive maintenance of facilities improved significantly, and work continued on signal bungalows scheduled in the wake of the Denguin accident in the summer of 2014. More than one-third of bungalows had accordingly been protected against rodents by the end of 2016;

— clearing operations increased by 20%, notably within an outsourcing policy, with mechanical means now given precedence over chemical means. Specific actions have been launched for monitoring trees presenting a risk.

Efforts to improve SNCF Réseau's performance continue in a lean management approach, as well as in terms of innovations, particularly in respect of IT tools and technical processes. Examples are numerous:

— the development and deployment of computer-assisted maintenance management software is continuing;

— machinery designed to automate and modernise network supervision is being tested; reinforcement of the Surveillance plan (inspections using machinery to replace inspections by foot) has resulted in an increase in inspection work by machinery to 31,000 km of tracks, making up for a reduction in inspection visits carried out on foot of 4 km of tracks;

— a new technique for rail repair and welding, approved for UIC60 rails in 2015, is gradually being implemented. It shortens the time devoted to each job, and as such the time during which traffic is interrupted. It also helps prevent the appearance of defects. Approval for U50 rails is pending. It will allow this repair procedure to be extended to the majority of types of rails in the network during the second half of 2017;

— digital transformation is underway in the field of maintenance: production employees have received 13,700 pieces of equipment, and maintenances applications have been rolled out on this hardware.

4.2.3 Protect third parties from rail traffic

While traffic is safe on the network as a whole—rail transport is 51 times safer than road (by number of fatalities) and causes 300 times fewer accidents than road transport (CGDD data dating from 2014)—safety can still be improved at certain dangerous points. Collisions by trains with individuals on tracks, in stations or on railway lines, even though they are not allowed

there, and accidents at level crossings are the two main causes of mortality on the network. In 2016, numbers of fatalities and serious injuries increased compared with 2015, due chiefly to a steep increase in the number of collisions with persons unlawfully on tracks, despite continued fencing work, for which SNCF Réseau invested more than €5 million in 2016.

However, through the implementation of structural adjustments, upgrades and work to promote prevention among the general public (partnership with the national level-crossing safety day¹⁰), accidents at level crossings have been cut in half in the space of ten years.

Moreover, the Minister of Transport called a second ministerial committee, which noted the progress in the actions already undertaken, and identified progress to be made in two areas:

— goal 1: change behaviour at level crossings;

— goal 2: modify safety measures at level crossings.

INDICATOR	2016	2015
Weighted number of fatalities and serious injuries ¹¹ per million km.train (CSI) ¹²	0.162*	0.119
Number of accidents involving people on the network: ¹³		
- Number of persons killed (excluding suicides and suicide attempts)	54*	45*
- Number of persons seriously injured (excluding suicides and suicide attempts)	33*	29*
- Number of suicides	318 ¹⁴	302
Number of level crossings registered in the national safety programme that were eliminated	5	6

* For 2016: the first three quarters.

— Activity in schools

SNCF has signed a partnership agreement with the French Ministry of Education, under which it raises young people's awareness about accident risks and encourages responsible behaviour in public transit. In the 2015-2016 academic year, more than 246,000 young people had their awareness raised by 517 school volunteers, 127 of whom were SNCF Réseau employees.

INDICATOR	2016	2015
Number of school visits (nb)	10,490	9,879
<i>of which number of visits by SNCF Réseau school volunteers</i>	1,996	9,879
Number of young people who received awareness information from SNCF Réseau school volunteers (nb)	246,300	244,317

10 - More information is available on the website dedicated to road safety at level crossings: www.securite-passageaniveau.fr.

11 - The weighted number of fatalities and serious injuries is the [number of deaths + 0.1 x the number of serious injuries], as recommended by the European Railway Agency (ERA) in its common safety methods.

12 - European common safety indicators (CSI) defined by EC directive 2004-49 as amended.

13 - CSI.

14 - Data not consolidated.

— Accessibility for persons with reduced mobility

2016 saw the signing of new accessibility master plans under the name Programmed Accessibility Agenda (Ad'AP), and in particular the national master plan (SDSNA Ad'AP) developed by SNCF on behalf of the government. The national master plan, which provides for accessibility work at 158 national stations, is supplemented by the adoption of 20 regional master plans, under control of regional transit authorities, which involve accessibility work at 562 railway stations. Ultimately, a little more than €2.7 billion is still to be committed during the regulatory period running until the end of 2025.

A year of signing orders, 2016 was also a year of continued production of work undertaken under previous plans, with the completion of accessibility improvements on the SNCF Réseau scope at 39 stations (22 in 2015). But the year was also marked by the start of numerous studies resulting from the new master plans. Overall, accessibility expenditures totalled €131 million over the year.

INDICATOR	2016	2015
Number of stations made accessible (nb)	39	22
Investment to improve accessibility (€m)	131	131

4.2.4 Secure our infrastructure in the face of climate change

The growing ferocity and frequency of climate events has disrupted traffic and significantly encumbered rail infrastructure. The transport sector is potentially the area where the challenges are the highest. Confronted with extreme weather events, the major challenges of SNCF Réseau involve adaptation and improved technical resilience with respect to track, electrical equipment and facilities, and infrastructure such as rail bridges.

Weather impacts on infrastructures are already evident, as is the alteration of train traffic:

- rails and catenaries expand during heatwaves;
- cold snaps and frost can damage rolling stock and switching systems;
- storms and heavy rain can result in flooding that can damage the electronic systems and facilities of trains or signalling equipment;
- wind and storms can cause trees to fall on tracks and on the catenary masts that supply electricity to trains, thereby impacting network traffic and safety.

To reduce the vulnerability of its infrastructure, SNCF Réseau conducted detailed vulnerability analysis in 2016. This work involved the identification of critical network technical facilities, notably so as to map institutions and facilities at risk outside areas exposed to flooding risk and to finalise improved business continuity plans across the country as a whole in 2017.

In this context, SNCF Réseau has implemented tighter inspections and specific network maintenance work.

SNCF Réseau is co-financing a thesis monitored by the Caisse des Dépôts et Consignations (CDC) Climate Research, whose aim is to analyse how scientific knowledge on climate change is appropriate for economic policymakers and the role it plays in decision making in respect of the modernisation of infrastructure.

INDICATOR	2016	2015
Percentage of train delays in minutes due to bad weather out of total causes that can be attributed to infrastructure management (%)	13.0	11.9
Number of business continuity plans (BCP) established (nb)	0	0

4.3 ENVIRONMENTAL CHALLENGE: REDUCE OUR ECOLOGICAL FOOTPRINT AND CONSOLIDATE OUR ENVIRONMENTAL ASSETS

4.3.1 Optimise resources and recover materials as part of a circular economy approach

— Managing our resource consumption

Economic and demographic development has increased pressure on raw materials, ecosystems, land, air and water. The renewal of the elements comprising railway infrastructures results in depletion of the planet's resources, while generating significant volumes of waste that have to be treated. As such, to help preserve these natural resources, the company strives to optimise their usage, encourage reuse and rethink the products of the future.

SNCF Réseau has introduced a gradual process aimed at reducing water consumption: a step-by-step rollout of consumption monitoring, and a targeted action programme to detect and correct leakage. Operations are adapted based on local restrictions.

INDICATOR	2016	2015
Quantity of resources purchased, by type:		
- Wooden sleepers (units)	374,245	360,000
- Concrete sleepers (units)	1,500,000	1,340,000
- Rails (tonnes)	154,000	159,765
- Ballast (tonnes)	2,350,000	2,260,000
- Copper overhead lines (tonnes)	1,657	2,072
- Paper (tonnes)	1,412	1,450
Water consumption of tertiary and industrial sites (M m ³)*	2.77	NA

* Calculation method specified in 2016

— Our commitment to the circular economy

Moving from a linear economy to a circular economy built on the recycling of waste is a major challenge for the company. The objective is to find innovative solutions in which waste and items removed from the rail network become real resources through recovery, reuse and recycling, helping to create value for local areas and contributing to the energy transition. Wooden sleepers, for instance, can be used as a source of energy for industrial steam production (papermaking, cement, sign-making, etc.) by being incinerated.

The strategic circular economy plan related to infrastructure is based on securing the supply of materials in the years to 2025-2030. The SNCF Group aims to recover materials at the end of their useful lives (€400 million over the 2013-2017 period).

In addition, SNCF Réseau facilities have industrialisation plans that include access to platforms for the storage of products removed from the network, and pooled platforms for waste management and recovery of non-hazardous waste. Action to raise the awareness of operating staff in various jobs about the importance of waste sorting has been implemented to promote better recovery in all areas.

INDICATOR	2016	2015
Sales of end-of life materials (€m)	27.8*	33
Total quantity of hazardous waste produced excluding wooden sleepers (tonnes)	2,680	2,493
Share of re-used rails (%)	3.5	7
Share of recycled rails (%)	96.5	93
Share of ballast rapidly re-used (%)	30 to 50	30 to 50
Tonnes of paper and cardboard collected and used and returned to industrial circuits	1,294	-
Volume of asbestos (tonnes):		
- removed from buildings	620	673
- removed from rail installations (signalling)	76	40
Volume of wooden sleepers recycled for energy purposes (tonnes)	85,358	62,244

* 2015-2016: -13% for scrap price indices and -11% for copper.

4.3.2 Respect natural ecosystems as a common good

— The protection of natural sites

SNCF Réseau is particularly concerned by the challenge of protecting biodiversity. Railway lines can modify the ecological consistency of ecosystems and alter exchanges between species.

Some rail bridges, for instance, act as a barrier to the migration of fish species. This is why there is a need to restore rivers when they are classified for the preservation of ecological continuity. However, railways can also serve as ecological corridors, or corridors for refuge or passage for certain species.

SNCF Réseau takes the environment into account in its design studies for railway projects through a repeated process of study and consultation with field specialists, with increasing scales of accuracy. The company's first priority is to prevent impacts on the most vulnerable natural settings.

INDICATOR	2016	2015
Number of restored ecological continuities for water courses out of the 110 that are regulated – cumulative	6	2

— A rational action policy regarding the management of plant life along railway lines

To reduce the risk of accidents due to vegetation along railway lines, each maintenance facility is developing a multi-year management plan reflecting the priorities to be addressed (e.g. dangerous trees) with the help of a specialised structure (e.g. the national forestry office). This has made programmes more regular and more rational, the work involved less substantial and environments more propitious to biodiversity, while at the same time reining in maintenance costs. The methods used are largely mechanical.

For track and tamper track maintenance, SNCF Réseau uses agrochemicals to meet requirements covering traffic safety and reliability and the safety of personnel, travellers and emergency crews when they circulate in rights-of-way.

However, SNCF Réseau is committed to being exemplary in its choice of uses, and tests methods and arrangements aimed at limiting the use of agrochemicals, such as the laying of anti-vegetation mats under tracks or eco-pasture on the edge of the tracks. The SIGMA application (geographical information system for vegetation management), which lists protected zones covering drinking water catchment areas and non-treated areas on both sides of water courses, is a decision-making and traceability tool for SNCF Réseau maintenance jobs. Trains, quads and weeder trucks have satellite navigation devices derived from farming applications and adapted to railways.

INDICATOR	2016	2015
Share of rail installations (NRN, sites) where there are initiatives to reduce or eliminate agrochemicals (%)	2.97	2.9

— Contribution to participatory science and partnership commitment

In 2016, SNCF Réseau extended its contribution to science, signing partnership agreements with key stakeholders.

- ecological inventories performed as part of these projects have been given to the National Inventory of the Natural Heritage;
- as a founding member of the Linear Infrastructure and Biodiversity Club, which groups together several infrastructure managers (railways, motorways, energy, and waterways), the Group supports research projects in the area of biodiversity;
- the partnership agreement with France Nature Environnement (FNE) has been renewed;
- an M&T field officers training programme has been developed as part of the partnership between SNCF Réseau and the French League for the Protection of Birds;
- a cooperation agreement has been signed with professional bodies in the farming sector (FNSEA and APCA) and an agreement is currently being negotiated with the national hunters' federation.

INDICATOR	2016	2015
Number of management agreements with green space managers (nb)	48	40
Surface area concerned (ha)	2,006	1,950

4.3.3 Reduce our greenhouse gas emissions and improve our energy efficiency

Among all the methods for transporting goods and persons across the country, the railway network provides a more sustainable form of alternative mobility, since it is less dependent on fossil fuels. With less than 1% of CO₂ emissions for 10% of passengers and freight transported in France, rail transport is a key contributor in the fight to reduce greenhouse gases.

Moreover, while rail transport is an attractive alternative within the framework of climate policies, it does not dispense the company from working in an effort to improve its energy efficiency and decrease its own GHG emissions.

In late 2016, the SNCF Group formally set out its aim of improving energy efficiency by 20% and carbon performance by 25% between 2015 and 2025.

— Contribution to energy transition

In 2014, SNCF Immobilier launched an energy efficiency programme for its property holdings (25,500 tertiary and industrial buildings and 3,000 SNCF stations). The primary objective is to cut energy consumption by 20% between 2012 and 2022. The programme also seeks to develop renewable energies, with a goal of 24% in 2022, for the “greening” of the energy mix.

The 2013-2025 master plan for works trains aims to ensure the consistency of current and future investments in SNCF Réseau’s fleets of locomotives and towing equipment. Its objective is to achieve the proper sizing of fleets of works trains, resulting from the better consideration of these resources by facilities: modernisation of existing equipment with repowering to extend its use, acquisition of new equipment, measurement of tensile energy consumption (fuel and electricity).

With respect to the SNCF Réseau vehicle fleet (19,700 vehicles), France’s seventh-largest, the optimisation policy is focused on lowering fuel consumption by at least 1% per annum, replacing 80% of individual vehicles by new vehicles with CO₂ emissions below 100g CO₂/km, support for the deployment of electric vehicles and the rejuvenation of the fleet to ensure that 90% of vehicles are under long-term leases by 2020. In 2016, there was a sharp increase of over 30% in orders for electric vehicles, representing 90 vehicles. A new long-term vehicle-leasing contract has also been established. It provides for the leasing of EURO 6 models, permitting a 6% reduction in the fleet’s average CO₂ emissions.

INDICATOR	2016	2015
Electricity consumption specific to the rail network (GWh)	747	770
Share of electric traction trains in circulation, all railway undertakings combined (%)	78	76.9
Energy consumption of tertiary and industrial site buildings:		
- electricity (GWh)	342	86.5
- gas (GWh)	133	33.5
Fuel consumption of the vehicle fleet (M L)	18.7	19.1
Fuel consumption of works trains and locomotives (M L)	11.9	11.6

— GHG emissions for SNCF Réseau and the rail system

To meet its carbon performance targets, SNCF Réseau has defined short-, medium- and long-term actions, whose implementation has already begun:

- eco-driving programme for service cars, locomotives and towing gear, and works trains;
- renewal of fleets with equipment offering greater energy efficiency;
- energy saving programme and identification of land sites suitable for the production of renewable energy;
- “start and stop” system for thermal locomotives and subsequently for electrical substations;

- circular economy approach, including the reuse of items removed from tracks (rail, ballast) and the design of the materials of the future;

- deployment of eco-design projects from their emergence to their realisation by promoting innovation and aiming to win an eco-design label by 2020.

INDICATOR	2016	2015
Total GHG emissions ¹⁵ of the SNCF Public Rail Group (scope1+2) (kt eq CO ₂)	1,056	1,056
Total GHG emissions of SNCF Réseau (scope1+2) (kt eq CO ₂)	154	154
Tonnes of CO ₂ avoided thanks to the rail system (kt eq CO ₂)	9,872	9,872

4.3.4 Minimise the footprint of activities on water, air and soil, and control discharges

— Reduction of polluting emissions

To control the environmental risks stemming from its industrial activities, SNCF Réseau continuously monitors its facilities and sensitive sites: Installations Classified for Environmental Protection (ICEP), renovation of electric sub-stations, decontamination and upgrading of service stations.

The Public Rail Group’s water policy, rolled out in 2016, aims to reduce the activity’s pressure on water resources and aquatic systems. It sets targets for the reduction of water consumption and water discharges generated by industrial activities.

In respect of fine particle emissions related to the combustion of our diesel-engined vehicles, locomotives and works trains, a master plan for electric or alternative energy conversion should considerably reduce air pollution harmful to public health.

INDICATOR	2016	2015
Total environmental provisions (€m)	169	147
Number of environmental incidents (nb)	18	20
Percentage of industrial sites (EIV, C2M1) to have implemented regular monitoring of discharges (%)	88	-

4.3.5 Integrate environmental performance into business practices

— Employee awareness-raising and training regarding environmental challenges

Raising the awareness of SNCF Réseau employees to sustainable development issues is done through regular training. In 2016, the ESDD launched a collection of “reflex action sheets” for use within the company on high-impact issues (control of plant life, eco-design, creosoted wood sleepers, CSR policy, etc.).

Training addressing environmental issues targets such areas as the basics of the industrial environment, environmental law, installations classified for environmental protection (ICEP), waste, EMS, environmental audits (based on ISO 14001), internal IT tools devoted specifically to the environment, as well as the protection of nature, water laws, administrative procedures, consultation and specific training on railway noise.

INDICATOR	2016	2015
Number of SNCF Réseau employees trained in environmental issues (nb)	113	66
Number of training hours for SNCF Réseau employees on environmental issues (hours)	1,305	529

15 - The volume of greenhouse gas emissions is assessed every three years by law.

— Implementation of environmental approaches

With a view to obtaining ISO 14001 certification, SNCF Réseau has undertaken to adopt an environmental approach on its industrial sites. It has also implemented a suitable Environmental Management System (EMS) process covering the standard's key requirements at all of its facilities.

Eco-design project approaches ensure that the environmental component is factored into project design: compliance with PRO practices (prevent, reduce, offset), anticipation and risk management, integration of the company's environmental policies, etc.

INDICATOR	2016	2015
Number of internal EMS audits carried out (nb)	4	-

— Research programmes on the environment and expert networks

SNCF Réseau conducts and manages large innovation, and research and development programmes, some of which are dedicated to reducing the environmental footprint of the national rail network to increasing the sustainability of components and improving safety and quality of work life, etc.

The SYNAPSE network brings together nearly 300 scientific and technical experts, over half of whom at SNCF Réseau, in order to pool their knowledge and skills, and to allow crossover between disciplines, business areas and divisions, outside the usual hierarchy. It includes an increasingly popular doctoral training course, with nearly 80 theses in progress (30 of which at SNCF Réseau), and a patent policy, with 31 patents filed since 2014. The Sustainable Development cluster is a cross-cutting community of stakeholders that coordinates and drives innovation, and scientific and technical excellence in this field, serving the company's ambitions.

INDICATOR	2016	2015
Number of R&D research projects (nb)	126	99
Number of R&D research projects related to environmental issues (nb)	21	27
Total R&D investments (€k)	12,773	11,900
Total R&D investments related to environmental issues (€k)	2,693	1,300

— The Environmental Authority is guarantor of our business practices in projects

SNCF Réseau is a key project manager within the Environmental Authority of the General Council of the Environment and Sustainable Development (EA GCESD). This independent body, created in 2009, is tasked with:

- deciding whether or not to order an impact analysis for an investment project through a case-by-case review process;

- issuing an opinion on the quality of impact reviews and information made public on railway project impact studies. Its opinions are published and appended to public inquiry records.

INDICATOR	2016	2015
Number of impact analysis opinions issued by the EA (nb)	18	9
Number of case-by-case reviews filed with the EA (nb)	24	11
Number of case-by-case reviews resulting in an EA decision not to conduct an impact analysis (%)	20	10

4.4 SOCIAL CHALLENGE: IMPROVE OUR SOCIAL PERFORMANCE

4.4.1 Make local management central to production

With heightened importance being placed on railway safety, rigour, industrial performance and accountability, better management of the workload of operational supervisors —Facility Manager (FM), Head of Production Unit (HPU) and Local Manager (LM)—is a priority for SNCF Réseau. The managerial transformation, which aims to prepare, support and empower local management, is essential to achieve the industrial performance expected of us.

In line with the deployment of the PRISME safety programme, all SNCF Réseau entities have worked to contribute to the 2016 target of "at least 50% of the working time of operational supervisors ring-fenced for supervision tasks".

— LM mentoring approach

An experimental "mentoring approach" programme has been established, and will be implemented from January 2017 for M&T managers in Île-de-France as part of a broader programme to increase the professional skills of operational managers.

INDICATOR	2016	2015
Time spent on operational management for LMs (%) ¹⁶	39.5	37.6

4.4.2 Foster employability

— Workforce¹⁷

The SNCF Réseau workforce increased by a total of 632 in 2016, with an available workforce (AW) of 53,858 as of end-December (excluding SFERIS). The recruitment effort backed up by innovative action plans implemented earlier in the year resulted in record recruitment of 3,086 new employees. It will contribute to SNCF Réseau's ability to cope with the volume of work related to major projects, including Greater Paris, and the success of the major challenge posed by generational renewal.

Professional paths and crossovers have been built, and mentoring and support systems are in place for local managers to ensure the development of employee skills.

¹⁶ - IFOP survey carried out in late 2016 as part of the audit commissioned by the chairmen of the Public Rail Group: 55.2% of participants (1,024 respondents out of 1,854).

¹⁷ - The employee data recorded for SNCF Réseau in the tables of this section exclude SFERIS.

INDICATOR	2016				2015			
Total number of employees (on 31 December) excluding work-study students and assisted contracts (actual workforce)	54,476				54,118			
Breakdown of employees by category (Executives/Managers/Supervisors/Workers) (nb)	Executives 692	Managers 13,295	Supervisors 20,747	Workers 19,742	Executives 547	Managers 13,358	Supervisors 20,581	Workers 19,632
Geographical employee breakdown (IDF/Regions) (nb)	Île-de-France 16,440			Regions 38,036	Île-de-France 16,421			Regions 37,697
Breakdown of employees by type of contract (open-ended contracts/fixed-term contracts/work-study students, assisted contracts) (nb)	Open ended 54,187	Fixed term 289	Combined work-study 2,215	Contrat d'avenir 1,292	Open ended 53,902	Fixed term 216	Combined work-study 2,170	Contrat d'avenir 2,246
Total employees by age bracket (5-year intervals) (nb)								
- under 26	4,095				2,811			
- from 26 to 30	7,352				6,564			
- from 31 to 35	7,350				7,013			
- from 36 to 40	7,454				7,211			
- from 41 to 45	8,200				8,130			
- from 46 to 50	6,833				6,808			
- from 51 to 55	8,094				8,366			
- over 55	5,098				7,215			
Total number of recruitments (nb of OEC)	3,086				2,259			
of which permanent or railway employee status (nb)	2,260				1,775			
of which contractual (nb)	826				479			
Number of work-study students recruited under OEC (nb)	702				391			
Total number of redundancies (nb of OEC)	95				181			
Number of employees based on work schedules (A for office work schedule and B+C for shift work schedules including weekends and nights)	A 8,115		B+C 46,361		A 8,144		B+C 45,974	
Gross employee benefit expense (€m)	3,367				3,402			
AEC: average employee cost (balance as of 31 December) (€)	61,786				60,603			
Total of the ten highest salaries (€m)	2,3				2,7			
Sick leave rate (%)	3,81				3,79			
Number of days absence per employee (nb)	9,64				9,4			

— Training policy

Railway reform, with the introduction of three EPICs constituting the Public Rail Group, and the negotiation of the National Railway Collective Agreement, and in particular its training component, have deeply disrupted the business environment, especially in the field of training.

Work done within the National Joint Committee for Employment and Vocational Training and the Prospective Observatory of Jobs and Skills is intended to result in qualifying professional certification for all railway companies in the industry. SNCF Réseau is playing a role in this development, and is actively contributing to the construction of the new framework with the Public Transport Union. Work has also resulted in the creation of the Association for the Development of Training and Promotion of Railway Professions (ADFPMP), which aims to increase the supply of degree, qualifying or certifying training in the railway industry. SNCF Réseau is part of the new contractual framework that will lay the foundations of its training policy going forward.

Work continued in 2016 on action initiated in 2015 as part of the work-study policy, contributing to skill sets across all categories. Training prepared covers professional high school diplomas, advanced vocational training certificate (BTS), bachelor's degrees, and engineering degrees (CNAM, CESI, etc.).

To achieve these goals, the investment budget allocated to continuous training remained significant in 2016. It is consistent with the commitments under the training, inter-generational, gender and professional equality, and diversity agreements.

INDICATOR	2016	2015
Number of training hours during the year (thousand h)	2,483	2,552
Share of payroll dedicated to training (%)	NA*	6,8

*Available in March based on the new regulatory format of the Employee Assessment.

— Social relations

2016 was marked by the establishment of new bodies consistent with the Group's new scope: new employee delegates and election of new HSC members.

2016 also saw the establishment of the Consultative Network Commission. This body, which is part of the Central Committee of the Public Rail Group, will address specific network issues, starting in 2017. Comprising seven members and seven alternate members from all SNCF Réseau works councils, it met twice this year.

Industrial relations were marked by widespread action against the company agreement on work organisation, the industry agreement and the core decree, primarily towards the end of the first half. This explains the increase in the number of strike notices in 2016.

The four company agreements signed in 2016, driven by the Public Rail Group, have given rise to several signatures within the framework of the Public Rail Group industrial relations calendar, including an agreement on the status of former apprentices. The number of agreements signed in 2015 was exceptionally high due to the reform.

INDICATOR	2016	2015
Number of Public Rail Group agreements during the year (nb)	4	22
Number of strike notices (nb)	255	199

— Incentives and compensation

In 2015, the SNCF Réseau management negotiated an incentive agreement with the unions. It covers the entire workforce for the years 2015-2017.

The agreement reflects the desire to recognise everyone's contribution to achieving the objectives of the EPIC. It is based on achievements in respect of three criteria:

- economic results reflected in the level of operating margin;
- industrial performance using a criterion covering network availability and quality, based on an indicator listing reliability and safety events;
- social performance through the quality of work life measured by trends in the level of responses to the Allure internal satisfaction survey.

In 2016, the mandatory annual negotiation roundtable was unable to reach an agreement with the employee representative bodies.

4.4.3 Promote the access of women to all jobs and fight against discrimination

— Promote gender equality

Combined with the AFNOR Professional Equality Label awarded in 2014 (for three years), the numerous initiatives of the "SNCF au féminin" network and actions such as "Gender equality week", the gender equality agreement was signed in 2015. It aims to promote the development of a culture of equality and equity between women and men, and to help increase the proportion of female employees, especially in technical professions.

In 2016, the percentage of women remained low among workers (7%), while steadily increasing among supervisors (12%) and managers (19%), and also increasing among operational managers (FM, HPU and LM): women accounted for 3% of such managers in 2011, but 6.5% today.

Close attention is paid to the equity of the career paths of female staff. The 2015 Comparative Situation Report (CSR) did not reveal a critical situation in terms of the wage gap between women and men at SNCF Réseau.

The organisation of local "girls' days" is aimed at encouraging young women to apply for jobs in the rail sector.

On 24 November 2016, SNCF Réseau held an open day allowing roughly 2,000 high school pupils and young people to get to know its world and professions.

In 2016, SNCF Réseau set up a network of gender equality correspondents in its management teams and at its various facilities. Numbering nearly 80 women and men, they promote the gender equality agreement and professional equality.

New tools have been introduced in the plan to fight sexism:

- deployment of the Management Committee "Gender equality in play" awareness workshop: this awareness raising provides for expert input in the Management Committee meetings of operating entities. Its aim is to demonstrate the existence of different forms of stereotypes and to highlight the importance of gender equality in the prevention of discrimination, as well as to show how to react in the event of inappropriate behaviour ranging from basic sexism to sexual harassment;

- creation of educational worksheets explaining how and when to react when faced with an inappropriate situation;

- release of the "trigger" display campaign denouncing the preconceptions, intolerance and stereotypes behind inappropriate behaviours;

- creation of a film entitled "Women in our operational teams" for team managers. This film, backed up by a practical guide, enables managers to raise issues relating to the integration of women in technical jobs;

- implementation of play around the issue of gender equality in the various facilities.

Experiments are currently underway on childcare assistance schemes, the creation of clubs of men committed to gender equality ("Happy men") and the introduction of specific days for pregnant women (preparation for their departure on and return from maternity leave, career development).

INDICATOR	2016				2015			
Proportion of women in total workforce and by category (Executives/ Managers/Supervisors/ Workers) (%)	12.1				12.0			
	Exec. 14	Managers 19	Super. 12	Workers 7	Exec. 15.0	Managers 18.6	Super. 12.4	Workers 7.1
Proportion of men in total workforce and by category (Executives/ Managers/ Supervisors/ Workers) (%)	87.9				88.0			
	Exec. 86	Managers 81	Super. 88	Workers 93	Exec. 85.0	Managers 81.4	Super. 87.6	Workers 92.9
Share of women recruited (%)	15				13.8			
Share of men recruited (%)	85				86.2			
Share of women managers recruited at SNCF Réseau (%)	39				35.1			
Share of women in governance bodies (%)	42				40			
Share of women in operational management (DET, DT) (%)	11				8.3			

— Fight against discrimination

One of the key commitments of the seventh company agreement (2015-2017) for the employment of disabled workers (DW) was the completion of the first survey of employees recognised as Public Rail Group disabled workers. The survey was conducted in 2016, with the dual goal of better understanding the situation, the level of knowledge of the agreement and the professional needs of employees with disabilities, and spotlighting action needed to improve integration and equal opportunities throughout the career paths of employees recognised as disabled workers. A high response rate (54%) made it possible to draw pertinent conclusions and build a 2017 action plan closely aligned with employee concerns.

2016 was also the year of the establishment and maturity of the SNCF Réseau "Mission Handicap & Employment", the primary objective of which is to raise its profile among employees and facilities.

The major areas treated daily by the new team are helping people retain their employment, providing support in terms of adaptation of working time, raising awareness, and facilitating recruitment and training.

The development of the "Hantrain" mechanism, which promotes the recruitment of disabled workers through their gradual integration into the company, now provides evidence that diversity of talent is a source of performance and pride among teams and professions. This mechanism was rewarded on 15 December 2016 with a CSR Awards in the Human Resources category.

INDICATOR	2016	2015
Number of disabled workers (nb)	2,202	2,069
Employment rate for disabled workers (%)	NA*	3.63

*Available in March.

— Inter-generational contract and transfer of skills at SNCF Réseau

Against a backdrop of high turnover in human resources, SNCF Réseau has drawn up training recommendations and introduced benchmarks to accompany the integration of newly recruited people in the entities. A mentoring system calling upon experienced employees from other entities has been created to bolster the resources of the Île-de-France entities.

4.4.4 Ensure the welfare of all at work

— Quality of work life (QWL)

In its programme to improve work life quality and manage stress, SNCF offers a multi-phased plan whose purpose is to identify risk situations by monitoring indicators such as absenteeism, frequency and severity of workplace accidents, and the number of demands for immediate conciliation in connection with working conditions or on individual cases. Such assessments have identified areas where the quality of life within teams could be improved. They have also given rise to recommendations on absenteeism.

— Allure survey

In a context of major transformation at SNCF Réseau, the Allure survey is a critical part of the regular assessment of employee satisfaction. Half of the Group's employees are surveyed each year. In 2016, 58% of employees surveyed completed a questionnaire covering shared topics and issues specific to certain jobs.

The results were set out in four themes and two indicators:

— themes: work, collective functioning, management and trust;

— indicators: quality of work life (QWL) and commitment.

INDICATOR	2016	2015
Score on the quality of work life in the Allure survey (out of 100)	67	NA
Score on the question on working conditions (out of 100)	75	NA
Score on the question on work-life balance (out of 100)	69	NA

— Prevention of psychosocial risks

In its annual programme to prevent psychosocial risks and improve working conditions (PAPACT), the managers of the three EPICs use a grid to evaluate psychosocial risks and work life quality for the potential implementation of action plans. The programme provides a means for examining structural operations and a parallel analysis of employee health and safety.

— End of career

To facilitate the transition from work to retirement, all employees in the latter part of their careers, with seniority ranging from eighteen and twenty-three years, are offered the possibility of adapting their working hours by means of a gradual termination of activity, on a fixed or gradual scale, over a period ranging from one to three years (with working time of 50-80% of full-time hours), with measures relating to the exercise of a strenuous profession for at least twelve years, or end-of-career part-time work at 91.4% of full-time hours. Furthermore, an end-of-work sub-account of their time saving account (CET) allows them to accumulate up to 250 days so that they can leave the company earlier.

Lastly, the skills sponsorship project, which is open to all employees, offers older workers the option of preparing for active retirement through volunteer work (SNCF Foundation, SNCF Volunteer Association, etc.).

— Part time

Following the signature of a collective agreement covering part-time work, SNCF Réseau employees can reduce their weekly working time to 50% or 91.4% of the full-time load. The gender equality agreement supports the work-life balance, and fathers or mothers requesting part-time work schedules can expect a positive response.

INDICATOR	2016	2015
Share of part time in the workforce (%)	5.8	5.8

— Telecommuting

Telecommuting is offered as part of the company's quality of work life approach. It matches the call from society to reduce the time "lost" in commuting through the use of new technologies, to foster a better work-life balance, to reduce stress and to focus energies on achieving the company's objectives.

As a response to geographical distance, it may also present an alternative to moving house or daily commutes. It reduces the frequency of commuting accidents and absenteeism, and is consistent with the notion of ecomobility.

INDICATOR	2016	2015
Number of employees who telecommute (nb)	596	507

4.5 SOCIETAL CHALLENGE: REINFORCE OUR REGIONAL INVOLVEMENT

4.5.1 Putting regional dialogue at the heart of our practices

Operating throughout France, the company has launched information and consultation initiatives for citizens, local authorities and all relevant stakeholders.

— Consultation, a wish for dialogue

For over fifteen years, SNCF Réseau has implemented a public participation policy based on three key pillars: consideration of regional needs, the socioeconomic interest of its projects and preservation of the environment.

Building on the impetus generated by lawmakers, SNCF Réseau began implementing innovative and voluntary approaches in 1997. In 2011, the company adopted a charter governing consultation procedures. On 14 December 2016, it signed the Ministry of the Environment participation charter.

This participatory approach is integrated with project management and implemented by SNCF Réseau's local experts to raise awareness in all parts of the company, depending on the local challenges

INDICATOR	2016	2015
Number of consultations (nb)	35	26
of which number of voluntary consultations (nb)	17	14
Number of partnerships with national and local associations with respect to sustainable development (nb)	104	111

4.5.2 Actively contribute to regional economic and social development through solidarity purchasing and small businesses

— Solidarity and responsible purchasing

SNCF Réseau drives local development through a purchasing policy that favours SMEs. In 2016, between 25% and 30% of the purchases of SNCF Réseau were transacted with local SMEs. In addition, a significant portion of the company's purchasing involves solidarity purchases through various means: integration workshops and projects, sheltered and adapted work sector —disability, adapted enterprise, ESATs (centres and aid services for work)—, occupational integration companies, intermediary associations and ETTIs (temporary work integration enterprises). The inclusion of social clauses in work contracts is requested in order to develop equal opportunity through assisted employment in sensitive zones. In 2016, SNCF Réseau organised five regional supplier conventions aimed at giving the local economy visibility on coming business.

To support its solidarity commitment and in partnership with local authorities, SNCF Réseau allocates a certain amount of surface area space, particularly for the construction of social housing.

To mark the tenth anniversary of the integration programme on the Paris ring railway, SNCF Réseau held an event on 24 February 2016 bringing together the relevant partners (regional and municipal authorities, central government and job centres) and NGOs working in the field of integration on this unique site.

INDICATOR	2016	2015
Total SNCF Réseau solidarity purchases (direct and indirect) (€m)	6.7*	3.9
Equivalent number of jobs obtained by the protected and adapted sector	40.3**	38
Number of integration projects (nb)	28	35
Number of assisted contracts generated by integration projects (nb)	118	288
Number of hours of social integration achieved through social clauses (h)	148,650*	51,316

* This exceptional performance in 2016 is attributable to the reactivation of the Oloron-Bedous line.

** Approximate number of jobs, excluding BU (beneficiary unit).

— SNCF Foundation

SNCF Réseau is a founding member of the SNCF Foundation¹⁸, which changed its status in 2016 to become that of the SNCF Group as a whole, and which is active in three areas aimed at promoting a more harmonious society, namely education, culture and solidarity. SNCF Group committees are held regularly in each of these areas. The Foundation's new Chairman is Patrick Jeantet, Chairman of SNCF Réseau.

The SNCF Foundation notably offers skills sponsorship, which consists in employees sharing their know-how with an association during their working hours, for up to ten days per year.

INDICATOR	2016	2015
SNCF Réseau payment to the SNCF Foundation (€k)	500	NA*
Number of projects supported by the SNCF Foundation (nb)	900	800
Number of SNCF Réseau employees who participated in skills sponsorship (nb)	330	245

*SNCF Réseau became a founding member of the new SNCF Foundation in 2016.

4.5.3 Prevent and reduce railway noise

— Noise pollution resulting from rail traffic

To reduce noise pollution, SNCF Réseau takes into account the noise factor from the outset of projects. The reduction of noise pollution requires initiatives, at times combined, covering rolling stock, infrastructure, track and operations.

A national policy governing the resorption of railway noise black spots was set up several years ago by the French State, in relation with SNCF Réseau and its partners. The process consists in identifying the most critical situations and implementing treatment operations to resorb noise. Some 58,000 buildings and 500,000 residents are potentially concerned. Significant investments have been made since 2008 (€140 million).

— Noise pollution resulting from rail projects

During rail work, SNCF Réseau strives to limit noise pollution related to the different work phases, and uses certified heavy equipment that complies with noise standards. Its actions, including the establishment of ballast pits, reduce the source of noise pollution from ballast operations by 90%. Residents are systematically informed about a project's nature, anticipated duration, the expected noise impact and the measures taken to limit it.

¹⁸ - SNCF Foundation website: www.fondation-sncf.org.

INDICATOR	2016	2015
Investments devoted to the resorption railway noise black spots during development and modernisation projects (€m)	5.9	8.8
Number of railway noise black spot buildings treated (nb)	1,610	2,405
Population benefiting from railway noise black spot treatment (nb of persons)	3,700	5,550

4.6 EXTRA-FINANCIAL REPORTING METHODOLOGY

The social, societal and environmental reporting initiative of SNCF Réseau is based on the reporting obligation set out in Articles L. 225-102-1 and R. 225-104 to R. 225-105 of the French Commercial Code. It is inspired by the international standards and norms, notably:

— the transparency principles of the Global Reporting Initiative (GRI 3), which SNCF Réseau has been using as a reporting framework since its 2009 sustainable development report;

— the ISO 26000 standard on the Social Responsibility of Organisations.

Reporting governance, the process, the timetable and the methodological specificities of certain indicators are explained in a methodology note¹⁹ available online. It is based on the preparation of an extra-financial reporting protocol that has not been published to date, although the company has referenced it internally. Following the rail reform and the resulting changes in scope, the reference year of this reporting is 2015.

SNCF Réseau will publish a sustainable development report in mid-2017.

5 CHALLENGES AND OUTLOOK

SNCF Réseau's aim is to become Europe's most efficient and most innovative infrastructure manager. To this end, it plans to carry out 1,600 infrastructure modernisation projects in 2017. 1,000 km of tracks, 500 switches and over 400 km of catenary wire will be replaced to improve network performance. A fourth Fast Suite will accompany track renewal.

The productivity and efficiency of traffic management are backed up by the continuation of large-scale projects scheduled for 2017: commissioning of the computerised switching post at the Gare de Lyon in Paris, the Paris-Aulnay-Roissy-Mitry centralised control network (CCN) and the number 11 express tram line (Tangentielle Légère Nord) between Le Bourget and Épinay-sur-Seine in Île-de-France. This project will ultimately link 14 passenger stations, including six new ones, and will be approximately 28 km long.

However, the most eagerly anticipated event will be the opening of the Sud Europe Atlantique and Bretagne-Pays de la Loire high-speed (TGV) rail service on 2 July. Two new high-speed lines will come into service simultaneously — a first on the network! The 484 km of new lines and 70 km of connections-junctions to the conventional network will put Paris 1 hour and 27 minutes from Rennes and 2 hours and 4 minutes from Bordeaux. These works of unprecedented scale will be accompanied by a new service offering in all regions. All network users will reap benefits: the TGV naturally, but also regional trains (TER), most long distance trains (TET) and freight trains. SNCF Réseau is optimising the use of its network while modernising its infrastructure.

By the end of the year, the Nîmes-Montpellier bypass will also be in service.

The industrialisation of innovation is a strong and decisive commitment in the digital transition and automation of our systems to monitor, maintain, renovate and operate the national rail network. Our business is undergoing a profound transformation. An illustration is provided by the Board of Directors' 30 November 2016 authorisation of the creation in 2017 of Altamétris, wholly owned by EPIC SNCF Réseau, the purpose of which is to collect, exploit and enhance data via automated mobile vehicles. Currently in progress, its creation should be finalised in early 2017.

To meet SNCF Réseau's challenges, the consolidation of the modes of acquisition, sharing and transmitting knowledge (recruitment, training, job and skills planning) is required. The modernisation of SNCF Réseau's recruitment and training policy will be initiated in 2017 to meet the significant recruitment challenges facing the company.

The *Document de Référence du Réseau* giving the 2018 service schedule was published on 9 December 2016. It provides for an overhaul of minimum service commitments, as well as aspects relative to the use of other service facilities. This price reform was determined in order to:

— give clear and consistent economic signals to railway undertakings;

— preserve SNCF Réseau's Infrastructure Manager revenues, which are vital for the renewal and maintenance of the network without compromising the 2017 level;

— take into account the comments of the various stakeholders (freight companies, travellers, industry bodies, all local authorities) issued during the consultation process and the framework laid down by the supervisory authorities.

On 1 February 2017, Arafer handed down an unfavourable opinion on the infrastructure fee scale. This opinion was communicated to SNCF Réseau on 7 February and the response is currently under study.

In this context, SNCF Réseau is assisting in the preparation of the opening of the sector to competition, and is committed to offering the organising bodies the benefit of its expertise and detailed knowledge of the network. Central and regional governments are responsible for opening the rail passenger market to competition.

2017 is the first year of the multi-year performance contract, a ten-year contract between the central government and SNCF Réseau, which provides long-term and shared visibility on the trajectory and mutual commitments, as well as the related means, which will increase in volume and over time to an unprecedented scale (€46 billion over ten years).

The lifespan of the infrastructure, the time needed to complete projects and the magnitude of investments clearly put the rail transport sector in a long-term perspective. Anticipation is essential for it to fully meet challenges as they emerge, because we must invest today to meet the challenges of tomorrow.

19 - The extra-financial methodology reporting is available online: www.sncf-reseau.fr/en/reporting-and-indicators.

Rail transport can lay claim to numerous advantages that should entrench its status as a major mode of transport for the 21st century. It alone can meet the challenges of increased traffic volumes stemming from population growth and the concentration of populations in urban and peri-urban areas, where road traffic will be vulnerable to the dual pitfall of congestion and air pollution. It alone can preserve mobility in the context of the energy and ecological transition, while other motorised modes of transport—responsible for pollution or simply too demanding in terms of energy and urban space—have seen their relevance decrease greatly; trains are the most efficient mode of transport from an energy point of view, and the cleanest since it involves pooled traffic flows.

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STATEMENT OF FINANCIAL POSITION

CONSOLIDATED ASSETS

In € millions	Notes	31/12/2016	31/12/2015
Intangible assets	4.1.1	245	247
Property, plant and equipment	4.1.2	61,183	57,476
Non-current financial assets	5.2.2	3,804	3,827
Investments in companies consolidated under the equity method		9	9
Deferred tax assets	8	3,779	3,691
Non-current assets		69,021	65,250
Inventories and work-in-progress	4.5.1	492	478
Operating receivables	4.5.2	2,727	2,659
Grants receivable	4.5.3	1,839	2,052
Current financial assets	5.2.2	263	172
Cash and cash equivalents	5.2.2	3,229	2,523
Current assets		8,551	7,883
Total assets		77,572	73,132

Notes 1 to 11 are an integral part of these consolidated financial statements.

The figures shown in the tables are expressed in millions of euros. Rounding off may, in certain cases, give rise to insignificant differences in aggregate amounts.

CONSOLIDATED EQUITY AND LIABILITIES

In € millions	Notes	31/12/2016	31/12/2015
Share capital	5.1	9,765	9,765
Reserves and accumulated deficit		-21,724	-21,395
Total equity		-11,959	-11,630
Non-current employee benefits	7.2.1	847	837
Non-current provisions	4.6	429	583
Investment grants	4.2.1	26,807	26,011
Non-current financial liabilities	5.2.2	48,237	44,720
Right of use granted to the concession holder	4.3	2,616	2,469
Non-current liabilities		78,936	74,620
Current employee benefits	7.2.1	60	52
Current provisions	4.6	9	32
Operating liabilities	4.5.4	4,347	4,206
Grants	4.2.2	2,186	1,793
Current financial liabilities	5.2.2	3,993	4,059
Current liabilities		10,595	10,143
Total equity and liabilities		77,572	73,132

Notes 1 to 11 are an integral part of these consolidated financial statements.

CONSOLIDATED INCOME STATEMENT

In € millions	Notes	31/12/2016	31/12/2015
Revenue	6.1	6,441	6,264
Purchases and external charges	6.2	-2,100	-2,848
Employee benefit expense	6.3	-2,256	-1,202
Taxes and duties other than income tax	6.4	-216	-146
Other operating income and expenses		20	27
Gross profit		1,889	2,095
Depreciation and amortisation	4.1.4	-1,511	-1,776
Net movement in provisions	4.6	-90	-56
Investment grants released to profit or loss	4.2.4	662	618
Net proceeds from asset disposals	4.1.5	66	72
Current operating profit/(loss)		1,016	952
Impairment losses	4.4	-	-9,600
Operating profit/(loss)		1,016	-8,648
Share of net profit/(loss) of companies consolidated under the equity method		1	1
Operating profit/(loss) after share of net profit/(loss) of companies consolidated under the equity method		1,016	-8,646
Net borrowing and other costs	5.2.1	-1,158	-1,212
Net finance costs of employee benefits	5.2.1	-15	-13
Finance cost		-1,173	-1,225
Net profit/(loss) before tax from ordinary activities		-157	-9,871
Income tax expense	8.1	37	-45
Net profit/(loss) from ordinary activities		-120	-9,916

Notes 1 to 11 are an integral part of these consolidated financial statements.

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

In € millions	Notes	31/12/2016	31/12/2015
Net profit/(loss) for the year		-120	-9,916
Other comprehensive income:			
Change in fair value of cash flow hedges	5.4.1.1	-207	344
Tax on change in fair value of cash flow hedges		28	-134
Total recyclable other comprehensive income		-179	211
Actuarial gains and losses arising from employee defined benefit plans	7.4	-4	-14
Tax on actuarial gains and losses arising from defined benefit plans		6	-
Total non-recyclable other comprehensive income		2	-14
Total comprehensive loss for the year		-296	-9,719

Notes 1 to 11 are an integral part of these consolidated financial statements.

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

In € millions	Share capital	Non-recyclable reserves	Recyclable reserves	Accumulated reserves	Net profit/(loss) for the year	Total equity
Equity as at 01/01/2015	9,765	-2	-981	-10,466	-213	-1,897
Net profit/(loss) for the year	-	-	-	-	-9,916	-9,916
Other comprehensive income	-	-14	211	-	-	197
Total comprehensive income	-	-14	211	-	-9,916	-9,719
Appropriation of earnings	-	-	-	-213	213	-
Change in scope	-	-	-	-13	-	-13
Other changes	-	-	-	-1	-	-1
Equity as at 31/12/2015	9,765	-15	-770	-10,693	-9,916	-11,630
Net profit/(loss) for the year	-	-	-	-	-120	-120
Other comprehensive income	-	2	-179	-	-	-176
Total comprehensive income	-	2	-179	-	-	-296
Appropriation of earnings	-	-	-	-9,916	9,916	-
Change in scope	-	-	-	-	-	-
Other changes*	-	-	-	-33	-	-33
Equity as at 31/12/2016	9,765	-13	-948	-20,643	-120	-11,959

* Correction of the amortisation of remeasurement differences arising from the disqualification of Fair Value Hedge (FVH) transactions, offset against an increase in the debt.

Notes 1 to 11 are an integral part of these consolidated financial statements.

CONSOLIDATED CASH FLOW STATEMENT

In € millions	Notes	31/12/2016	31/12/2015
Net profit/(loss) for the year attributable to equity holders of the parent		-120	-9,916
Net profit/(loss) for the year		-120	-9,916
Eliminations:			
share of profit of associates		-1	-1
deferred tax expense (income)		-36	44
depreciation, amortisation, and provisions*		937	10,817
revaluation gains/losses (fair value)		21	20
net proceeds from disposals and gains and losses on dilution	4.1.5	-66	-72
Cash from operations after net borrowing costs and taxes		735	893
Eliminations:			
current income tax expense (income)		-	-
net borrowing costs		1,135	1,188
dividend income		-	-
Cash from operations before net borrowing costs and taxes		1,869	2,082
Impact of change in working capital requirement	4.5	372	222
Taxes paid (collected)		15	-25
Cash flow from operating activities		2,256	2,279
Acquisitions of subsidiaries net of cash acquired		-	-158
Purchases of intangible assets and property, plant and equipment	4.1.3	-5,231	-5,116
Disposals of intangible assets and property, plant and equipment		95	76
Purchases of financial assets		-	-
Changes in loans and advances		-	-
Investment grants received	4.2.3	1,617	1,196
Cash flow used in investing activities		-3,518	-4,002
Issue of debt instruments		4,741	4,005
Repayments of borrowings		-1,758	-1,622
Net borrowing costs paid		-1,148	-1,167
Increase/(decrease) in cash borrowings		157	100
Increase/(decrease) in derivatives		-	-
Cash flow from financing activities		1,992	1,318
Impact of changes in fair value		-	-
Increase/(decrease) in cash and cash equivalents		725	-404
Opening cash and cash equivalents		2,447	2,851
Closing cash and cash equivalents	5.2.2.2	3,172	2,447

* This corresponds to charges, net of reversals, to depreciation, amortisation and provisions less investment grants released to profit or loss.

Notes 1 to 11 are an integral part of these consolidated financial statements.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

1 ACCOUNTING STANDARDS BASE

The terms "SNCF Réseau Group", "Group" and "SNCF Réseau" designate the parent company EPIC SNCF Réseau and its consolidated subsidiaries.

The terms "State-owned institution SNCF Réseau", "EPIC", "EPIC Réseau", "Réseau" and "EPIC SNCF Réseau" refer solely to the parent company.

The figures shown in the tables are expressed in millions of euros. Rounding off may, in certain cases, give rise to insignificant differences in aggregate amounts.

1.1 APPLICATION OF IFRS

Pursuant to European Regulation 1606/2002 of 19 July 2002, the consolidated financial statements of SNCF Réseau Group for the year ended 31 December 2016 have been prepared in accordance with the international accounting standards issued by the IASB (International Accounting Standards Board) and adopted by the European Union at this date. The IFRS framework, as adopted in the European Union, may be consulted on the European Commission website: www.ec.europa.eu/internal_market/accounting/ias/index_fr.htm.

The basis of preparation for the 2016 consolidated financial statements detailed in the following notes is the result of:

— standards and interpretations of mandatory application for financial periods commencing on or before 1 January 2016;

— elected accounting options and exemptions applied in the preparation of the 2016 financial statements. These options and exemptions are described in the notes to the financial statements concerned. Among the most significant are the recognition of investment grants under liabilities, the balance sheet presentation of investment property at historical cost and the recognition of certain financial liabilities at fair value.

Standards and interpretations not adopted in advance for the preparation of the 2016 consolidated financial statements

The Group has not opted for the early application of standards and interpretations applicable to fiscal years starting on or after 31 December 2016, regardless of whether they were adopted by the European Commission.

In particular, the Group did not adopt the following standards for its 2016 consolidated financial statements:

Standard or interpretation	Summarised description	Expected impacts	Date of adoption (period beginning as of)
IFRS 15 "Revenue from contracts with customers"	This new standard proposes a single revenue recognition model applicable to all types of customer contracts, regardless of the entity's business segment. This model, which follows five key steps, is based on the transfer of control which may be continuous or at a given time. The notion of the transfer of risks and rewards is no longer predominant. Revenue is recognised on the promised supply of goods or services for the amount of the consideration expected in exchange.	No major impact is expected at this stage	IASB: 01/01/2018 EU: 31/10/2016
IFRS 9 "Financial instruments"	The purpose of the revised standard is to replace the current IAS 39 on financial instruments. The three topics covered are the classification and measurement of financial instruments, a methodology for the impairment of financial assets and hedge accounting.	No major impact is expected at this stage	IASB: 01/01/2018 EU: 29/11/2016
IFRS 16 "Leases"	This new standard covers the recognition of leases and will replace the current IAS 17. It establishes principles for the recognition by lessees of all leases with a term of twelve months or more as finance leases by offsetting a non-current asset (right-of-use asset) against a lease liability. Accounting by lessors remains similar to that set forth in IAS 17.	Analysis ongoing	IASB: 01/01/2019 EU: Not adopted
Amendments to IAS 7 "Disclosure Initiative"	This amendment provides for additional disclosures on changes in liabilities arising from financing activities as well as for changes in the financial assets covering these financial liabilities. The entity shall state for each change in liabilities the nature of the flows associated with the outflow of resources so as to enable a reconciliation between the statement of financial position and the cash flow statement.	Analysis ongoing	IASB: 01/01/2017 EU: Not adopted

1.2 ACCOUNTING JUDGEMENTS AND ESTIMATES

In preparing the Group accounts, management must make estimates, as numerous items included in the consolidated financial statements cannot be valued precisely. The accounting estimates used for the 31 December 2016 financial statements were prepared using the best information available at the year-end. Management is required to revise its estimates in the event of a change in circumstances on which they are based or as a result of new information or further experience. As such, the estimates adopted on 31 December 2016 may be materially modified and subsequent actual results may differ materially from these estimates based on different assumptions or conditions.

These estimates and assumptions primarily concern:

— Impairment of non-financial assets (see Note 4.4)

The Group assesses at each balance sheet date whether there is any indication that a non-financial asset may have lost value, and where necessary, performs an impairment test.

This tests seeks, in part, to determine a value in use or a market value less costs to sell. Value in use calculations are based on management estimates of expected future cash flows from the asset or cash-generating unit (CGU), the appropriate discount rate to be used to calculate the present value of these future cash flows and the growth rate adopted. Market value calculations are based on an assessment by management of the transaction price that could be obtained for the sale of the assets tested, taking into account the current condition of such assets.

— Measurement of derivative financial instruments (see Note 5)

The fair value of all financial assets and liabilities is determined at the balance sheet date either for recognition purposes or for disclosure purposes in the notes to the financial statements.

— Recognition of deferred tax assets (see Note 8)

A deferred tax asset is recognised when it is probable that the Group will generate future taxable profits against which unused tax savings may be offset. The Group's ability to recover these tax assets is analysed based on its business plan, contingencies relating to the economy and the uncertainties surrounding markets in which the Group is active.

— Employee benefit-related items (see Note 7)

Considering that these benefits are settled several years after the personnel has rendered the corresponding services, the obligations under defined benefit plans and other long-term liabilities are recognised using actuarial valuations based on financial and demographic assumptions including discount, inflation, and salary increase rates and mortality tables. Due to the long-term nature of these plans, changes in these assumptions can generate actuarial gains and losses and may lead to significant changes in the recorded commitments.

— Provisions for environmental risks (see Note 4.6)

The Group records a provision for environmental risks when there is a legal or implicit obligation towards a third party that can be reliably measured and which would result in an outflow of resources.

Amounts recorded for site decontamination are based on the best possible estimate resulting from year-end assessments and take into account these valuations for known risks currently being assessed.

Amounts recorded for the removal of asbestos from rolling stock correspond to the estimated costs at the end of the equipment's life. These costs are determined based on new contracts signed, orders placed or the target prices of recent calls for tender.

1.3. BASIS OF CONSOLIDATION

Entities under control, joint ventures and associates

Companies over which the Group exercises control, directly or indirectly, are fully consolidated. Under IFRS 10, control is defined and determined based on three criteria: power, exposure to variable returns and the relationship between power and these returns.

Joint arrangements qualified as "joint operations" within the meaning of IFRS 11 are recorded for their share of assets and liabilities and revenues and expenses after elimination of intra-group transactions.

Partnerships qualified as "joint ventures" within the meaning of IFRS 11 are equity-accounted.

The list of Group entities, joint ventures, joint operations, and associates is presented below.

In € millions	% interest	% control	Revenue	Net profit/(loss)	Total assets	Consolidation method
SNCF Réseau	100	100	6,359	-120	77,504	Parent company
SFERIS	100	100	74	-1	46	Full consolidation
CDG Express Etudes	33	33	-	-	17	Method applicable to joint operations
Eurailscout BV	50	50	8	-	5	Equity accounting

The entry of SFERIS and Eurailscout BV into the scope of consolidation was subsequent to the transfer of the Infrastructure division to SNCF Réseau as at 1 July 2015.

The interests in joint ventures and non-consolidated associates as well as the interests in non-consolidated structured entities were immaterial.

1.4. SEGMENT REPORTING

SNCF Réseau's activity consists in managing the entire French national rail network it owns. The Group does not operate in any sectors other than the rail sector.

Segment reporting is therefore not relevant.

2 MAJOR EVENTS

2.1 FINALISATION OF REFORM MEASURES

2.1.1 Measures for financing the rail system

2.1.1.1 Introduction

Pursuant to the rail reform law, measures for financing the rail system were introduced to:

- guarantee a high level of safety for persons and goods on the network;
- improve the quality of service offered to transport operators, particularly freight;
- facilitate the financial recovery of SNCF Réseau based on a financial trajectory agreement in line with the strategic objectives adopted by the French State that should cover, within a period of ten years, the full cost of the network and control the change in debt carried by SNCF Réseau.

These measures are essentially reflected in:

- the conclusion of a multi-year performance contract (2017-2026) with the French State;
- the institution of the golden rule principle;
- the set-up of a grant payment by SNCF to SNCF Réseau.

2.1.1.2 Multi-year performance contract (2017-2026)

On 20 December 2016, the SNCF Réseau Board of Directors validated a draft version of the multi-year performance contract (2017-2026). This contract was submitted to Autorité de régulation des activités ferroviaires et routières (Arafer) for an advisory opinion prior to the joint signing with the French State. Over a period of ten years, the contract provides for the increase in budgets earmarked for the modernisation of the primary network, thus providing SNCF Réseau with a long-term view of the available resources:

- a primary network renovation budget fixed at €34 billion;
- €12 billion will be dedicated to regional lines and rail hubs as part of State-Region Contractual Plans.

The multi-year performance contract also creates a strong commitment for SNCF Réseau in terms of performance and savings.

2.1.1.3 Golden rule governing the financing of development investments

The purpose of this rule is to control SNCF Réseau debt by setting a ratio threshold of 18 (net debt/gross profit), beyond which SNCF Réseau can no longer contribute to its investment financing, which must then be covered by the requesting party (French State, regional authorities, etc.). The application decree for this measure was transmitted to the State Council in early January 2017 after consideration of the Arafer opinion.

2.1.1.4 Grant received

The procedure involving the payment of a grant to SNCF Réseau, resulting from all or part of the dividends collected by SNCF from SNCF Mobilités earnings, was disclosed in the 2016 financial statements. A payment of €126 million from a support fund, set up for this purpose, was recognised as a renewal investment grant as at 31 December 2016.

2.1.2 Asset transfers

2.1.2.1 Transfer under Article 29 of the Law of 4 August 2014

An additional asset transfer of €22 million under Article 29 of the Law of 4 August 2014 was carried out as at 1 January 2016, pursuant to an amendment to the initial asset transfer agreement signed in early 2017. This transfer involves assets pertaining to infrastructure management: land, buildings, switching stations and technical facilities, passenger platforms and intangible assets (domain names, brands, software).

This involves the last asset transfer under the rail reform.

2.1.2.2 Transfer under Article 31-2 of the Law of 4 August 2014

An additional asset transfer of €47 million under Article 31-2 of the Law of 4 August 2014 was carried out as at 1 July 2016, pursuant to an amendment to the initial asset transfer agreement. The amendment is currently being signed.

This transfer involves service facilities: service stations, freight yards, industrial sidings and other service facilities (garage tracks, national railway tracks).

2.2 OTHER FINANCIAL INFORMATION

2.2.1 Tax audit

SNCF Réseau was the subject of a tax audit concerning fiscal years 2012, 2013 and 2014 that resulted in the receipt of a tax reassessment at the end of July 2016.

The main grounds for reassessment involve the reclassification of TER access fees as a balancing grant, which directly subjected the company to the tax on wages and indirectly weakened the Infrastructure asset impairment test. This reassessment was formally challenged by the company (see Note 4.6.1).

The reassessments that were not challenged by the company were covered by a provision of €3 million.

2.2.2 Impairment loss

The finalisation of the 2017-2026 performance contract represented an indication of a change in the value of Infrastructure CGU assets. A test was therefore carried out on 31/12/2016. The detailed components of this test are shown in Note 4.4 "Impairment tests of non-current assets". The outcome of this test did not modify the impairment loss of €9.6 billion recognised as at 31/12/2015.

3 SUBSEQUENT EVENTS

Creation of the Altaméris subsidiary (SASU—simplified limited company with a sole shareholder)

On 30 November 2016, the Board of Directors validated the creation of the subsidiary Altaméris, wholly owned by EPIC SNCF Réseau, responsible for developing and marketing the acquisition, and data processing and exploitation via automated mobile vehicles, primarily drones and satellites.

Currently in progress, its creation should be finalised in early 2017.

Opinion of Arafer on the 2018 infrastructure fee scale

The *Document de Référence du Réseau* published on 9 December 2016 for the 2018 service timetable provides for an overhaul of minimal services and services relating to the service installation usage. On 1 February 2017, Arafer handed down an unfavourable opinion on the infrastructure fee scale. This opinion was communicated to SNCF Réseau on 7 February and the response is currently under study.

4 OPERATING ASSETS AND LIABILITIES

4.1 INTANGIBLE ASSETS AND PROPERTY, PLANT AND EQUIPMENT

4.1.1 Intangible assets

Intangible assets include purchased or internally-developed software and industrial processes.

Software purchased for valuable consideration is recognised at acquisition cost, which is the purchase price plus any incidental expenses necessary to put them into service. These costs are amortised on a straight-line basis over the estimated useful life of the software which is generally less than five years.

Internally-developed software is recognised in assets at production cost where it meets the corresponding IAS 38 criteria.

Subsequent expenditure is capitalised if it increases the future economic benefits of the specific asset to which it relates, and if this cost can be reliably allocated to the asset. Costs associated with development activities prior to the detailed design stage and costs associated with maintaining software in operation are expensed in the period incurred.

Net intangible assets as at 31 December 2016 break down as follows:

In € millions	31/12/2016			31/12/2015		
	Gross	Amortisation and impairment	Net	Gross	Amortisation and impairment	Net
Concessions, patents, software	392	-308	84	352	-267	84
Other intangible assets	150	-93	57	148	-68	80
Intangible assets in the course of development	103	-	103	82	-	82
TOTAL	646	-401	245	582	-336	246

Movements in intangible assets during 2016 break down as follows:

In € millions	Concessions, patents, software	Other intangible assets	Intangible assets in the course of development	Total
Net carrying amount as at 01/01/2015	66	17	16	98
Acquisitions	2	-	63	65
Amortisation and provisions	-34	-31	-	-64
Impairment losses	-23	-22	-	-45
Change in scope	46	-	28	73
Commissioning and other changes	27	115	-24	119
Net carrying amount as at 31/12/2015	84	80	82	246
Acquisitions	-	-	61	61
Amortisation and provisions	-31	-22	-	-53
Commissioning and other changes	31	-1	-40	-10
Net carrying amount as at 31/12/2016	84	57	103	245

Acquisitions in 2016 included internally generated software commissioned or in the course of development.

Intangible assets totalling €46 million were commissioned in 2016, compared with €142 million in 2015 (including industrial process components of €115 million).

4.1.2 Property, plant and equipment

Property, plant and equipment primarily consist of French national rail network infrastructures. They are valued at acquisition or production cost.

Rail infrastructures

The production cost of projects is capitalised in assets from the "pre-project" phase, with preliminary studies expensed in the period incurred.

The production cost of operations carried out directly by SNCF Réseau includes the cost of studies, work, real estate acquisitions and compensation, as well as direct operating costs.

The production cost of work carried out under Public-Private-Partnerships (PPP) or concession arrangements is recognised in line with the physical progress of work based on the percentage completion communicated by the partners or concession holder. It consists of the sum of fees invoiced by the partners or concession holder plus the present value of future fees payable, multiplied by the percentage completion.

For certain work-in-progress, SNCF Réseau performs a review to identify "dormant" projects. The risk of not completing the project would result in costs being capitalised in circumstances where no asset will ultimately be created and for which a provision is therefore recognised. When investment in a project is discontinued, the expenditure recognised is written down to its recoverable amount. If an exceptional event calls project completion into question, the expenses are written down in full. Impairment is calculated net of earned grants related to the corresponding projects.

Investment property

Investment property consists of property assets held by the Group in order to collect rents or for capital appreciation.

Investment property is measured at acquisition cost and depreciated on a straight-line basis over the respective useful lives.

On the first-time application of IFRS, the carrying amount of investment property was determined using the most appropriate estimate based on the total value of the land and buildings. This amount has since been depreciated, and decreased for the value of disposals.

Rolling stock

Expenses under multi-year major overhaul programmes are capitalised as a separate overhaul component and depreciated.

Overhauls performed at the end of the initial useful life of a component, together with refurbishment and transformation costs, are capitalised in assets where they extend the useful life.

As with the dismantling obligations, asbestos removal obligations for rolling stock are offset against an increase in the value of the equipment in balance sheet assets.

Net property, plant and equipment as at 31 December 2016 break down as follows:

In € millions	31/12/2016			31/12/2015		
	Gross	Depreciation and impairment	Net	Gross	Depreciation and impairment	Net
Investment property	356	-23	333	361	-23	339
Land and buildings	9,417	-3,208	6,210	8,904	-2,648	6,256
Tracks, earthworks, engineering works and level crossings	42,645	-17,933	24,712	40,417	-17,431	22,986
Industrial and technical plant (ITP) and other assets	1,081	-853	228	990	-800	191
Electrification, telecommunications, signalling	13,522	-7,645	5,877	12,863	-7,370	5,494
Transportation equipment	999	-828	171	1,001	-802	199
Property, plant and equipment in the course of construction	23,684	-32	23,651	22,035	-22	22,013
TOTAL	91,705	-30,523	61,183	86,572	-29,096	57,476

Movements in net property, plant and equipment break down as follows:

In € millions	Investment property	Land and buildings	Tracks, earthworks, engineering works and level crossings	Industrial and technical plant (ITP) and other assets	Electrification, telecommunications, signalling	Transport equipment	PP&E in the course of construction	Total
Net carrying amount as at 01/01/2015	355	7,598	28,759	23	6,694	3	18,306	61,738
Acquisitions	-	-	71	3	-	-	5,622	5,697
Disposals	-15	-	-	-2	-	-	-1	-18
Depreciation and provisions	-	-139	-972	-33	-555	-13	-9	-1,721
Impairment losses	-	-1,720	-6,238	-52	-1,493	-55	-	-9,557
Change in scope	-	152	3	203	31	252	72	713
Commissioning and other changes	-1	364	1,362	48	817	10	-1,978	623
Net carrying amount as at 31/12/2015	339	6,256	22,986	190	5,494	199	22,013	57,476
Acquisitions	-	-	-	3	-	-	5,023	5,026
Disposals	-5	-10	-	-	-	-	-	-16
Depreciation and provisions	-	-131	-821	-47	-443	-18	-10	-1,470
Impairment losses	-	-	-	-	-	-	-	-
Change in scope	-	64	1	5	-	-	-	69
Commissioning and other changes	-1	31	2,547	78	826	-9	-3,374	98
Net carrying amount as at 31/12/2016	333	6,210	24,712	228	5,877	171	23,651	61,182

The breakdown of depreciation charges is shown in Note 4.1.4 below.

The change in scope concerns transfers of service facilities (Article 31.2) and assets relating to infrastructure management (Article 29) under Law 2014-872 of 4 August 2014 on rail reform by SNCF Mobilités to SNCF Réseau for €69 million.

Breakdown of commissionings and other changes:

In € millions	Investment property	Land and buildings	Tracks, earthworks, engineering works and level crossings	Industrial and technical plant (ITP) and other assets	Electrification, telecommunications, signalling	Transport equipment	PP&E in the course of construction	Total
Share of the SEA concession financed by third parties	-	-	-	-	-	-	209	209
Commissionings	-	409	2,304	100	703	20	-3,543	-6
Impairment reclassification	-	-399	307	-19	153	-30	-	13
Miscellaneous	-1	21	-64	-3	-30	-	-42	-118
Total commissioning and other changes	-1	31	2,548	78	827	-10	-3,376	98

The SEA concession was accounted for using the percentage of completion method and the change amounted to €164 million as at 31 December 2015 and €209 million as at 31 December 2016.

Property, plant and equipment totalling €3,539 million were commissioned in 2016:

— €3,113 million related to railway projects (of which Phase 2 of LGV Est for €1,910 million);

— €181 million for the GSM-R project;

— €33 million in capitalised interest;

— €212 million related to various projects, including rail equipment, machinery and other operating projects.

Other movements mainly correspond to a reallocation of the impairment loss recognised as at 31 December 2015 and an asset reclassification as part of the long-term ZAC Paris Rive Gauche contract for -€137 million.

4.1.3 Investments

Capital expenditure flows break down as follows:

In € millions	31/12/2016	31/12/2015
Property, plant and equipment	-5,059	-5,706
Intangible assets	-61	-65
Total acquisitions	-5,120	-5,771
Changes in amounts payable on intangible assets and PP&E	-111	655
Intangible assets and PP&E capital expenditure flows	-5,231	-5,116

Investments in intangible assets in 2016 included IT project capitalised production for €59 million.

Investments in property, plant and equipment in 2016 totalled €5,059 million, including capitalised production for €3,693 million.

Investments in property, plant and equipment mainly include:

— €4,457 million in infrastructure investments which break down as follows:

- €3,556 million in direct production;
 - €622 million in production relating to PPP and concessions (GSM-R €62 million, BPL €148 million, CNM €408 million, SEA €5 million);
 - €142 million in production acquired from mandated third parties;
 - €137 million in major repairs.
- €345 million in capitalised interest;
- €257 million in other investments (rail equipment, machinery and other operating projects).

4.1.4 Depreciation and amortisation

Intangible assets

Intangible assets, mainly comprising software and industrial processes, are amortised on a straight-line basis over their estimated useful life, i.e. generally less than five years.

Property, plant and equipment

SNCF Réseau has established a list of component types for its infrastructure assets. This classification includes 11 families comprising approximately 100 components. In addition, tracks are classified based on International Union of Railways (UIC) line traffic indicators.

SNCF Réseau has defined useful lives for each component in its list. Depreciation is calculated on a straight-line basis over the following periods defined in accordance with the recommendations of technical experts in the relevant field:

Land	Not depreciated
Improvements to land	20 to 30 years
Buildings	15 to 50 years
Improvements to buildings	10 years
Earthworks	10 years
Tracks	20 to 100 years
Electricity supply equipment	10 to 75 years
Signalling	15 to 50 years
Telecommunications	5 to 30 years
Level crossings	15 years
Engineering works	30 to 70 years
Trains	30 years
Improvements to buildings owned by third parties	10 to 15 years
Machinery and equipment	5 to 20 years
Furniture and office equipment	5 to 7 years
IT and telecommunications	3 to 5 years
Cars	5 years

Depreciation and amortisation break down as follows:

In € millions	31/12/2016	31/12/2015	Change
Amortisation of intangible assets	-53	-62	10
Depreciation of property, plant and equipment	-1,458	-1,713	255
Depreciation and amortisation	-1,511	-1,776	265

Following the recognition of impairment for infrastructure assets as at 31 December 2015, the net carrying amount of the impaired assets was adjusted by €9.6 billion; depreciation and amortisation charges were recalculated based on this new impairment as at 31 December 2016 resulting in an amount that was €361 million lower than the figure that would have been recognised in the absence of this adjustment.

4.1.5 Net proceeds from asset disposals

Real estate and asset disposals not directly related to the activity are included in separate transactions below gross profit. This presentation has been adopted in order to provide the most reliable overview possible of the Group's recurring performance.

The net proceeds from disposal correspond to the difference between the sale price and the net carrying amount of the asset as well as any costs of releasing the lands sold.

As at 31 December 2016, net proceeds from asset disposals totalled €66 million (compared to €72 million as at 31 December 2015) and mainly comprised the sale of various complexes and properties (lands and buildings).

4.2 GRANTS FOR INVESTMENT PROJECTS

SNCF Réseau receives grants under financing agreements for investment projects concluded with third parties (French State, local authorities, Regions, etc.).

These grants follow the same accounting treatment as the corresponding expenditure:

— they are recognised in the income statement in a specific account “Operating grants” and presented in the aggregate heading “Purchases and external charges” when they relate to operating expenses (general studies, preliminary studies);

— they are recognised in balance sheet liabilities as “grants” under non-current liabilities when they relate to capitalised expenditure. These grants are then released to profit or loss to match the depreciation recognised on the commissioned property, plant and equipment. For non-depreciable land, SNCF Réseau applies the average depreciation period of the assets associated with the land.

The payment provisions for these grants differ according to the investment project and the payer’s identity. They are paid according to a schedule included in the financing agreement or according to the actual progress of work.

At each balance sheet date and for each project, grant claims are reconciled with expenditure recognised in the accounts. Adjustments are then made and recognised either in assets in “Grants yet to be claimed”, or on the “Grants” line of current liabilities for “Grants claimed in advance”. These adjustments enable earned grants to be recognised.

“Earned grants” relative to PPP or concession arrangements are recognised in the same manner according to the completion percentage of work, to mirror the recognition of production in progress.

Grants yet to be claimed are recorded under balance sheet assets and described in Note 4.5.3 “Grants receivable”.

Development grants for commissioned assets

Grants for commissioned assets by type of asset break down as follows:

In € millions	Intangible assets	Land and buildings	Tracks, earthworks, engineering works and level crossings	ITP, electrification, telecom	Total
Net carrying amount as at 31/12/2015	27	1,708	7,749	2,907	12,390
Grants allocated to commissioned assets during the year	-	197	1,335	294	1,825
Change in scope	-	-	-12	14	2
Share of grant released to profit or loss	-10	-69	-231	-217	-528
Net carrying amount as at 31/12/2016	17	1,835	8,840	2,997	13,690

4.2.1 Summary of non-current grants

In € millions	31/12/2016	31/12/2015
Development grants for assets in the course of construction	9,690	10,185
Development grants for commissioned assets*	13,690	12,390
Renewal grants for commissioned assets*	3,301	3,435
Renewal grants for assets in the course of construction	126	-
TOTAL	26,807	26,011

* Net of reversals.

The grants recorded under non-current liabilities correspond to earned grants for assets in the course of construction.

Development grants for assets in the course of construction

Grants as at 31 December 2016 totalled €9,690 million, including investment grants of €2,870 million in respect of the Sud Europe Atlantique (SEA) concession.

Movements in the period break down as follows:

In € millions	
Gross amount as at 31/12/2015	10,185
Increase	1,345
Commissioning	-1,825
Reclassification	-14
Gross amount as at 31/12/2016	9,690

Renewal grants for commissioned assets

All the renewal grants received from the French State until 2008 inclusive were commissioned. They continue to be released to profit or loss according to the schedule presented in the table below:

In € millions

Year of commissioning	Commissioning date	Period of release	Amount commissioned	Accumulated release	Net amount as at 31/12/2016
2004	01/07/2004	38	675	-222	453
2005	25/03/2005	42	574	-161	413
2006	09/05/2006	42	878	-223	656
2007	21/03/2007	35	734	-205	529
2008	17/04/2008	33	69	-18	50
2009	17/01/2009	42	844	-208	637
2010	22/01/2010	38	436	-128	307
2011	01/01/2011	51	20	-3	17
2012	01/01/2012	28	255	-83	171
2013	01/01/2013	41	75	-7	68
TOTAL			4,560	-1,260	3,301

The renewal investment grant paid in 2017 by a support fund set up for that purpose was recognised for €126 million as at 31 December 2016.

4.2.2 Summary of current grants

Grants presented in current liabilities correspond to grants claimed in advance.

In € millions	31/12/2016	31/12/2015
Operating grants claimed in advance	201	181
Investment grants claimed in advance	1,985	1,612
Total	2,186	1,793

4.2.3 Investment grants received

Investment grants had the following impacts on cash flows:

In € millions	31/12/2016	31/12/2015
Fixed installations	1,400	2,044
Change in receivables on grants	217	-849
Investment grants received	1,617	1,196

4.2.4 Investment grants released to profit or loss

In € millions	31/12/2016	31/12/2015	Change
Investment grants released to profit or loss	662	618	44

Investment grants released to profit or loss correspond to development grants for commissioned assets in the amount of €528 million and renewal grants for commissioned assets in the amount of €134 million.

4.3 RIGHT OF USE GRANTED TO THE CONCESSION HOLDER

As part of the SEA concession arrangement, a liability known as the "right of use granted to the concession holder" was recognised for €2,616 million as at 31 December 2016 compared with €2,469 million as at 31 December 2015. It represents the share of the investment financed by the concession holder. The amount is based on the percentage of completion, which stood at 99.5 % as at 31 December 2016, communicated by the concession-holding third party based on the initial arrangement.

4.4 IMPAIRMENT TESTS OF NON-CURRENT ASSETS

The Group assesses whether there is an indication that an asset has been significantly impaired at each balance sheet date. Where there is such an indication, an impairment test is performed.

To carry out this testing, assets are grouped into Cash-Generating Units (CGU). A CGU is defined as the smallest group of identifiable assets whose use generates cash flow that are largely independent. SNCF Réseau has identified two CGUs: the "Infrastructure" CGU and the "Property" CGU.

IMPAIRMENT OF INFRASTRUCTURE CGU ASSETS

Scope of Infrastructure CGU assets

The Infrastructure CGU comprises all the assets pertaining to rail infrastructure management. These assets belong to the major "families" of the accounting classification for the following items of property, plant and equipment: Land and building development, Electricity supply equipment, Signalling facilities, Telecommunication facilities, Engineering works, Tracks, Level crossings, Earthworks, Rolling stock and Machinery. It also includes a portion of the Land and Buildings families.

Indications of loss in value/reversal

SNCF Réseau has adopted as an indication of loss in value/reversal a major permanent or long-term change in the following indicators:

- change in the business model or performance contract with the French State;
- definition of a new trajectory for maintenance and renewal expenditure;
- major change in the network pricing system;
- major change in the company's financing model or significant projects;
- labour reform within the company;
- obsolescence or physical deterioration of assets that was not foreseen in the depreciation schedule;
- material change in the extent or manner in which the asset is used;
- change in market interest rates.

Impairment

The impairment test involves comparing the reference net carrying amount of assets within the CGU scope with their recoverable amount. If the net carrying amount exceeds the value in use, an impairment loss is recognised for the difference. This impairment is allocated to each of the assets comprising the CGU, in proportion to their NCA. Once calculated and allocated, the impairment modifies the future depreciation schedule for the assets. If the test leads to a NCA for the CGU that is lower than the recoverable amount and impairment has previously been recognised, this impairment is reversed to the extent of the recoverable amount.

The reference net carrying amount corresponds to the net carrying amount of the assets in service, less the corresponding investment grants, plus the renewal asset outstanding, less the corresponding ongoing grants, and plus WCR.

The recoverable amount of the assets of the Infrastructure CGU consists of their value in use (there is no net selling price for these assets), i.e. the present value of estimated future cash flows expected from the continuous use of these assets and their exit at the end of their useful life.

The selected discount rate is determined based on the structure using the cost of resources and the risks faced by other regulated infrastructure managers comparable to SNCF Réseau.

MEASUREMENT OF INVESTMENT PROPERTY (PROPERTY CGU)

The assets of this CGU include both land and buildings. The land (including freight yards) is owned by SNCF Réseau but is not used in rail activities. This land includes bare and build-on land.

Indication of a potential loss in value of a CGU is assessed based on forecast realisation values for the assets in question, taken from the business plan.

The recoverable amount of the assets of the "Property" CGU is equal to the greater of fair value less costs to sell and value in use. Fair value less costs to sell is estimated based on:

- the geographic location of the land;
- a market value per m², that takes into account the probable use of the land after disposal.

At each balance sheet date, SNCF Réseau assesses whether there is any indication that assets have lost/regained value. When it is the case, an impairment test is performed and a provision recognised if relevant. If the test leads to a net carrying amount for the CGU that is lower than the recoverable amount and impairment has previously been recognised, this impairment is reversed to the extent of the recoverable amount.

Once calculated and allocated, the impairment modifies the future depreciation schedule for the assets.

As at 31/12/2016, the Infrastructure CGU comprises:

- National Rail Network assets representing 30,000 km of lines in service and renewal work in progress for an amount of €26.8 billion net of the grant and impairment;
- high-speed lines on the verge of completion (CNM, BPL and SEA) valued at €3.3 billion net of the grant and the concession grantor's financing;
- other ongoing projects amounting to €1.4 billion net of the grant, for an overall total of €31.5 billion.

Until the previous closing, the CGU also included deferred tax receivables in the amount of €3.7 billion as at 31/12/2015. The deferred tax assets are now excluded from the Infrastructure CGU assets and were specifically measured (see Note 8) at €3.8 billion.

To recap, an impairment test had been carried out at the 31 December 2015 year-end that resulted in an impairment loss of €9.6 billion. It was based on ongoing discussions with the French State prior to the signing of the multi-year performance contract stipulated by the law of 4 August 2014 and a financial trajectory for SNCF Réseau taking into account the key changes and assumptions discussed with the French State on that date.

The finalisation of the performance contract with the French State and its validation by the SNCF Réseau Board of Directors on 20 December 2016 represented an indication of a change in value. A new test was performed on 31 December 2016 and the impairment amount was subsequently maintained.

The main assumption changes arising from the finalised version of the performance contract concerned:

- the consideration of additional productivity assumptions for expenses;
- the downward revision of platform fees;
- the upward revision of compliance, renewal and industrial investments.

Tested assets

For the lines in service and the renewal outstanding (€26.8 million as at 31 December 2016), the discounted cash flows are calculated over the ten-year business trajectory from the 2017-2026 performance contract with the French State, extended until 2030, which represents a normative year, as the network will therefore be considered as stabilised at that date with a sufficient level of performance.

The cash flows related to three major high-speed lines, currently being completed (€3.3 billion net of the grant and the concession grantor's financing), and scheduled for commissioning in 2017, namely the Eastern high-speed line, the Bretagne Pays-de-la-Loire high-speed line, the Nîmes-Montpellier bypass, and the Southern Europe Atlantic high-speed line, were tested. With respect to the SEA concession, the cash flow forecasts took into account the line's renewed operation following the concession grantor's operating phase, that is to say by 2061.

The value of other assets under construction (€1.4 billion as at 31 December 2016, compared to €1.5 billion as at 31 December 2015), which involves capacity investments under development, is analysed separately as part of a specific review (see Note 4.1.2).

Presentation of the key parameters

The impairment test key assumptions cover the level of infrastructure fees, public backing and current network maintenance.

Traffic forecasts under the ten-year plan were prepared for the Public Rail Group. They are consistent with the SNCF Mobilités forecasts. Despite a change in behaviour for certain customers within the passenger activity with the development of intermodal competition, such as long-distance bus transport and car-pooling, SNCF Réseau is anticipating an increase in traffic thanks to a better quality of service that benefits all rail companies.

The public backing contributing to the support of this renewal trajectory was approved based on commitments confirmed by the French State.

In addition, the French State approved the rail index sequencing adopted for the estimate of infrastructure fees.

The allocations paid to SNCF Réseau pursuant to the rail reform law were also taken into account. They were qualified as investment grants used to finance network renewal.

Rail network maintenance in fact comprises two major categories of activity:

- renewal: facilities replacement or significant upgrade;
- facilities maintenance: preventive and corrective maintenance and tail.

The SNCF Réseau financial trajectory calls for a much more substantial renewal effort for the existing network than in the previous decade. It also includes the first major renewals of the high-speed lines currently in service. Priority is given to the Île-de-France network and the major lines with the most traffic. The effort is two-phased: a gradual step-up in the process until 2020 so as to progressively mobilise human and material resources and subsequently a stabilisation from 2020 to 2027, followed by a gradual decrease until the normative year 2030 to reach a replacement level that is aligned with the network.

The combined effect of an unprecedented maintenance effort and a forecast traffic increase optimised the trajectory in line with the productivity plans based on a strategy to intensify the outsourcing of studies, services and work and a performance and savings programme.

Other items

The terminal value is calculated using the indefinite projection at a rate of 1.7% of cash flows generated by 2030.

For the post-tax cash flow projection, a theoretical tax rate of 34.43 (or 28.92% as from 2020) is adopted and applied to projected current operating profit. This represents a change compared to previous practices which adopted a tax paid to take into account the utilisation of loss carryforwards. At the same time, future cash flows were discounted at a rate of 5.1% without taking into account the tax loss carryforward, compared to 5.5% as at 31 December 2015, which incorporated the impact of a loss carryforward. As from 2020, the cash flows were discounted at a rate of 5.2% to take into account the impact of the decrease in the tax rate forecast by the 2017 Finance Law.

The possible impacts of the opinion issued by Arafar on 1 February 2017 on the pricing for the 2018 service timetable were not incorporated into the cash flows, since the company considers that the discussions with the Authority are still ongoing.

Impairment test results

The recoverable amount of the assets tested totalled €30.4 billion as at 31 December 2016. The terminal value, calculated using the indefinite projection of cash flows generated on 2030, represents 99.7% (including the scope with the three high-speed lines under completion) of this recoverable amount. As this value was slightly higher than the reference asset tested (three high-speed lines under completion), SNCF Réseau maintained the same impairment amount of €9.6 billion recognised in the previous year.

The estimates and assumptions taken into account to assess the recoverable amount of the assets are primarily based on the performance contract. This recoverable amount also depends on the French State's implementation of all the resources and commitments necessary for its support and the company's ability to meet its productivity plans. Actual results and certain future assumptions could differ significantly from the estimates adopted.

Sensitivity analyses

Sensitivity to the valuation parameters:

- a change of +/- 10 basis points in the discount rate represents a change of +/- €1.2 billion in the recoverable amount;
- a change of +/- 10 basis points in the perpetual growth rate results in a change of +/- €0.9 billion.

Sensitivity to cash flows over the 2017-2030 period (including corporate tax impact):

— a change of +/- €100 million in net annual renewal expenses represents a change of +/- €2.0 billion in the recoverable amount. This amount is indicative only since, beyond a certain threshold, the impact of the change in renewal expenses on the recoverable amount of assets is not linear and the impacts may be material for maintenance, traffic and therefore infrastructure fees;

— an annual change of +/- €100 million in the infrastructure fees or the backing of the French State represents a change of +/- €1.7 billion in the recoverable amount;

— a change of +/- 10% in annual productivity gains represents a change of +/- €1.8 billion in the recoverable amount.

4.5 OPERATIONAL WORKING CAPITAL REQUIREMENT

In € millions	31/12/2016	31/12/2015
Inventories and work-in-progress	-13	10
Operating receivables	-166	-640
Operating liabilities	552	852
Impact of the change in the WCR in the consolidated cash flow statement	372	222

4.5.1 Inventories and work-in-progress

Inventories are valued at the lower of cost price and net realisable value. Cost price is equal to acquisition or production cost. Production cost includes both direct and indirect production expenses.

Cost price is calculated using the weighted average cost method.

Inventories are written down based on the turnover, nature, age and useful life of items.

As at 31 December 2016, inventories and work-in-progress break down as follows:

In € millions	31/12/2016			31/12/2015	
	Gross	Impairment	Net	Net	Change
Raw materials	510	-109	401	391	9
Finished goods	67	-	67	68	-1
Work-in-progress	25	-	25	18	7
Inventories and work-in-progress	602	-109	492	478	15

In € millions	31/12/2015	Charges	Reversals	Reclassification	31/12/2016
Raw materials and supplies—write-down	-111	-101	102	-	-109
Finished goods—write-down	-	-	-	-	-
Work-in-progress—write-down	-	-	-	-	-
Impairment of inventories	-111	-101	102	-	-109

4.5.2 Operating receivables

On initial recognition, receivables are measured at fair value corresponding to their nominal value. The effect of discounting is taken into account for long-term receivables, where material receivables are subsequently measured using the effective interest rate method. An impairment loss is recognised when the fair value of the receivable at the balance sheet date is lower than the carrying amount. Receivables are written down to reflect the risk of non-recovery, based on individual and/or statistical analyses.

Operating receivables break down as follows:

In € millions	31/12/2016			31/12/2015	
	Gross	Impairment	Net	Net	Change
Trade receivables and related accounts	1,341	-45	1,296	1,209	87
Amounts payable to the French State and local authorities	511	-	511	525	-14
Other operating receivables	924	-3	920	925	-5
<i>of which supplier credit notes receivable and advances</i>	595	-	595	555	40
Net operating receivables	2,776	-48	2,727	2,659	68

Trade receivables and related accounts mainly comprised infrastructure fee receivables for €807 million (net value) as at 31 December 2016.

The change in "Other operating receivables" primarily corresponds to the sums paid in advance to suppliers under PPP (BPL and CNM) and concessions (SEA).

Movements in the impairment of trade receivables and other operating receivables were as follows in 2016 and 2015:

In € millions	31/12/2015	Charges	Reversals	Change in scope	31/12/2016
Trade receivables and related accounts—impairment	-20	-32	6	-	-46
Other operating receivables—impairment	-1	-1	-	-	-2
Total	-21	-33	6	-	-48

In € millions	31/12/2014	Charges	Reversals	Change in scope	31/12/2015
Trade receivables and related accounts—impairment	-22	-5	10	-3	-20
Other operating receivables—impairment	-1	-2	2	-	-1
Total	-23	-7	11	-3	-21

Trade receivables past due break down as follows (gross value):

In € millions	Not past due	Impaired	Past due but not impaired				Total
			< 3 months	4 to 6 months	7 to 12 months	> 12 months	
As at 31 December 2016	1,147	61	41	25	60	7	1,341
As at 31 December 2015	860	17	294	22	16	20	1,229

Other operating receivables mostly mature in less than one year.

4.5.3 Grants receivable

A grant receivable is recognised when, for a project, the claimed funding amounts to less than the project's percentage completion at the balance sheet date.

Grants receivable break down as follows:

In € millions	31/12/2016	31/12/2015
Grants to be collected	1,227	1,501
Grants to be claimed	680	598
Provisions for impairment	-67	-46
Total	1,839	2,053

Grants to be collected break down as follows (gross value):

In € millions	Not past due	Impaired	Past due but not impaired				Total
			< 3 months	4 to 6 months	7 to 12 months	> 12 months	
As at 31 December 2016	175	67	28	42	118	798	1,227
As at 31 December 2015	163	52	225	38	274	749	1,501

As at 31 December 2016, grants due but not written down over 12 months mainly concern the regional authorities for €436 million and Agence de Financement des Infrastructures Transport de France (ATITF) for €353 million. This amount reflects the difficulties in collecting the receivables relating to the LGV EE phase 2 and SEA projects from the financiers.

4.5.4 Operating payables and other accounts in credit

Operating payables include payments to third parties with respect to operating activities (trade payables, employee-related payables, taxes and duties other than income tax, etc.), and asset acquisitions.

Payables are recorded at nominal value on issue, except for payables with a maturity of more than one year, which are discounted to present value where the impact of discount is material.

Operating payables break down as follows:

In € millions	31/12/2016	31/12/2015	Change
Trade payables and related accounts	2,180	2,283	-103
<i>o/w amounts payable to suppliers of PP&E</i>	392	839	-447
Payments received on account for orders	279	316	-37
<i>o/w advances received on sales of PP&E</i>	6	7	-1
Employee-related liabilities	600	578	21
Amounts payable to the French State and local authorities	446	447	-1
Other operating payables	54	135	-81
Deferred income	788	447	342
Total operating payables	4,347	4,206	141

4.6 PROVISIONS FOR RISKS AND LITIGATION

Provisions are recorded when, at the balance sheet date, the Group has a present obligation to a third party as a result of a past event and the settlement of this obligation will require an outflow of company resources with no consideration.

This obligation may be legal, regulatory or contractual. It may also result from Group practice or external commitments that create valid expectations in third parties that the Group will assume certain responsibilities.

The estimated amount of the provision reflects the outflow of resources that is likely to be necessary to settle the Group's obligation. If a reliable estimate of this amount cannot be made, no provision is recorded. Disclosure is provided in the notes to the financial statements.

Provisions are discounted when the impact of the time value of money is deemed material. The discount rate is determined with reference to a closing market rate based on leading corporate bonds with a maturity comparable to the estimated maturity of the provision. The reference used is Bloomberg AA for the Eurozone.

A contingent liability is a possible obligation that arises from past events whose existence will only be confirmed by the occurrence of uncertain future events not wholly within the control of the Group, or a probable obligation where it is not probable that an outflow of resources will be required. Except for contingent liabilities recognised as part of a business combination, contingent liabilities are not recorded. Disclosure is provided in the notes to the financial statements.

Movements in provisions for liabilities and charges during the year break down as follows:

In € millions	01/01/2016	Change in scope	Charges	Reversals (used)	Reversals (not used)	Other changes	31/12/2016	of which current	of which non-current
Tax, employee and customs risks	46	-	7	-	-	-	53	-	53
Environmental risks	147	-	30	-9	-	1	169	-	169
Litigation and contractual risks	194	-	54	-12	-26	-	211	9	202
Other	227	-	9	-2	-14	-216	5	-	5
Total provisions	615	-	104	-23	-39	-215	438	9	429

4.6.1 Provisions for tax, employee-related and customs risks

The Group respectively recognises provisions for tax, employee-related and customs risks when it has an obligation as a result of a past event towards the tax authorities, personnel and social security organisations or customs authorities. The Group sets aside provisions for challenged tax reassessments when it considers that an outflow of resources is probable.

Provisions for tax, employee-related and customs risks involve ongoing litigation with the tax authorities and social security organisations.

The company was subject to a tax audit and recorded a provision for the accepted reassessment. However, it challenged other reassessments, including the reclassification as a balancing grant of the TER access fees paid by the French State on behalf of the regions and will initiate litigation proceedings. No provision was therefore recorded for these amounts challenged by the company. Other items challenged and not provided for represented a risk of €7 million.

4.6.2 Provisions for environmental risks

This provision covers the costs of environmental protection and site restoration and clean-up. It specifically includes a provision for the risk relating to the elimination of creosote-treated railway sleepers and machines containing polychlorinated biphenyls.

The French government decree of 3 June 2011 related to the protection of the public against health risks resulting from exposure to asbestos in buildings that came into effect on 1 February 2012 was to be accompanied by implementation decrees. These decrees were published at the end of December 2012 for an implementation date of 1 January 2013. They define the criteria for assessing the state of the materials to be investigated, the content of the report on the identification of asbestos-containing materials as well as the content of the asbestos technical file summary sheet. An action plan has been implemented covering the compliance of the asbestos technical analyses within the deadline stipulated by the new decree, i.e. by 2021.

Amounts recorded for site decontamination are based on the best possible estimate resulting from year-end assessments and take into account these valuations for known risks currently being assessed.

Amounts recorded for the removal of asbestos from rolling stock correspond to the estimated costs at the end of the equipment's life. These costs are determined based on the prices currently invoiced by "scrap metal dealers and asbestos removers".

As at 31 December 2016, the environmental risks covered by provisions mainly involved the treatment of creosote-treated railway sleepers, building and rolling stock asbestos removal costs and site decontamination costs.

4.6.3 Provisions for contractual litigation and risks

The provision for contractual litigation and risks mainly includes risks associated with legal disputes and contract settlements in addition to contractual risks.

The Group is involved in several unresolved legal disputes arising in the normal course of its activities.

Such disputes are provided based on an assessment of the related risk and the probability of realisation.

Unused reversals were mainly attributable to the elimination of risks related to current litigation or the adjustment to their measurement.

Ongoing litigation

— Litigation regarding floods in Arles in December 2003

The Marseille administrative court rejected 18 claims filed against RFF, now SNCF Réseau and SNCF, considering the floods to be a case of "force majeure exonerating from all liability" SNCF Réseau and SNCF. The reporting judge also concluded that the claims should be rejected based on the merits. As the period for appeal is still open, the provision was maintained as a precautionary measure, in the amount of €119 million.

— Brétigny-sur-Orge accident

Following the derailment on 12 July 2013 of Paris-Limoges intercity train no. 3657 in Brétigny-sur-Orge (Essonne) station, and after having filed the two expert reports requested by the investigating judges, SNCF Réseau and SNCF Mobilités were indicted for "involuntary manslaughter and unintentional injuries through carelessness, recklessness, inattention, negligence, or failure to observe an obligation of due care or precaution" and heard by the judges.

SNCF Réseau and SNCF Mobilités challenged the expert reports.

As a precautionary measure, on 8 October 2013, SNCF Mobilités and SNCF Réseau launched the Vigirail program, designed to improve switching safety and upgrade track maintenance. This program includes actions that meet the recommendations issued by the BEA-TT in its progress report of January 10, 2014.

— Eckwersheim TGV high-speed train accident

On 14 November 2015, a test train on the high-speed train derailed, leaving 11 dead and 42 injured in Eckwersheim, Alsace, on the new future East European line. In the minutes following the accident, the General Director for Railway System Safety initiated an immediate investigation with the SNCF General Safety Audit Department, at the request of the SNCF Executive Board. The internal report was submitted to the Chairmen on 19 November 2015. After examining the events recorder, the investigators established that the speed of the test train at the moment it entered the track section exceeded the recommended speed for a test program. This high speed was due to a late braking sequence in the test train.

The remaining provisions for contractual litigation and risks comprise amounts that are individually immaterial.

4.6.4 Other provisions

A simplification of accounting entries with regard to the ZAC PRG contract resulted in a net reversal of €216 million with no P&L impact, considering its reclassification in deferred income and the withdrawal in relation to the costs incurred.

5 CAPITAL AND FINANCING

5.1 CAPITAL INJECTIONS

As a State-owned industrial and commercial institution, SNCF Réseau does not have any capital in the legal sense of the term, nor shares, nor does it pay dividends.

At the time of its creation, SNCF Réseau had equity of €0.86 billion for accounting purposes, corresponding to the difference in value between its assets and liabilities. The French State then increased this initial capital by means of additional injections until early 2003.

As at 31 December 2016, capital injections totalled €9.8 billion.

5.2 NET DEBT AND NET INDEBTEDNESS

The IFRS net debt of SNCF Réseau is the sum of current and non-current borrowings.

— Plus:

- guarantee deposits received relating to debt hedging transactions;
- fair value of trading or debt hedging liability derivatives ("Negative fair value of derivatives");
- debt arising leases recorded in the balance sheet ("Finance lease borrowings");
- subordinated debt;
- debt arising from public-private-partnership contracts ("PPP and concession liabilities").

— Less:

- guarantee deposits paid relating to debt hedging transactions;
- fair value of trading or debt hedging liability derivatives ("Positive fair value of derivatives");
- available-for-sale financial assets;
- financial assets at fair value through profit or loss;
- financial receivables arising from public-private-partnership contracts or relating to the financing of major railway investment projects ("PPP and concession assets");
- cash and cash equivalents.

IFRS net debt excludes the following items:

- Group investments in the share capital of unconsolidated companies;
- guarantee deposits arising from leases (paid guarantee deposits are included in "Loans and receivables", received guarantee deposits are included in "Other borrowings");
- pension assets and liabilities which are covered by IAS 19 (see Note 7);
- amounts payable on non-controlling interest purchase commitments (these are equity transactions and do not involve an exchange of cash flow).

SNCF Réseau net indebtedness is defined as IFRS net debt adjusted for:

- financial receivables arising from public-private-partnership contracts or relating to the financing of major railway investment projects ("PPP and concession assets");
- debt arising from public-private-partnership contracts ("PPP and concession liabilities").

Note on comparability with 2015

Following the automatic production of certain tables in Note 5 "Capital and financing", the presentation of 2015 data was slightly modified, with no impact on 2016 opening equity. The following tables were impacted: "Debt structure before and after interest rate hedging", "Net foreign currency exposure", "Debt structure before and after currency hedging", "Loans and borrowings maturity schedule", "Maturity schedule of contractual cash flows", "Cash flow hedging derivative instruments", "Fair value hedging derivatives", "Nominal commitments of currency swaps with an underlying liability", "Nominal commitments of interest rate swaps", "Interest flows from interest rate swaps".

Furthermore, to harmonise the presentation of maturity schedules, the maturity limits were specified according to the following rules:

- less than 1 year: maturity strictly less than 1 year;
- from 1 to 5 years: maturity greater than or equal to 1 year and strictly less than 5 years;
- from 5 to 10 years: maturity greater than or equal to 5 years and strictly less than 10 years;
- from 10 to 20 years: maturity greater than or equal to 10 years and strictly less than 20 years;
- 20 years and thereafter: maturity greater than or equal to 20 years.

5.2.1 Net borrowing costs

Net borrowing costs consist of:

- interest paid on current and non-current borrowings;
- interest received on available cash balances;
- debt and cash foreign exchange gains and losses;
- net changes in fair value and hedges:
 - gains and losses on financial instruments at fair value through profit or loss;
 - the ineffective portion of hedging financial instruments;
 - the change in fair value of borrowings using the fair value option.

These items are presented after hedging transactions and include fair value gains and losses on derivative instruments not qualified for IFRS hedge accounting.

In € millions	31/12/2016	31/12/2015	Change
Debt and cash interest income and expense	-1,140	-1,186	46
Foreign exchange gains and losses	-	-	-
Net changes in fair value and hedges	-11	-22	11
Net borrowing costs	-1,152	-1,208	57
Other financial expenses	-44	-21	-23
Other financial income	37	17	21
Net borrowing and other costs	-1,158	-1,212	54
Finance costs of employee benefits	-15	-13	-3
Finance cost	-1,173	-1,225	52

5.2.2 Calculation of net indebtedness

The fair value of asset or liability derivative instruments is classified as current or non-current based on the final maturity of the derivative.

Financial assets or liabilities maturing in less than twelve months at the balance sheet date are recorded in current financial assets or current financial liabilities.

The loans, borrowings and fair value of derivative instrument line items include accrued interest.

For financial instruments recognised at fair value in the balance sheet, the fair value hierarchy is shown by category and comprises the following three levels under IFRS 13:

— level 1: fair value measured using quoted prices by reference to the closing stock market price for listed financial instruments.

— level 2: fair value measured using inputs other than quoted prices that are observable directly or indirectly on the market. It is used for unlisted financial instruments, for which there exists listed instruments of a similar nature and maturity and by reference to the stock market price of such instruments.

— level 3: fair value determined using valuation techniques not based on observable market data. It is used for other unlisted instruments. The fair value is determined using valuation techniques such as the revalued net asset method, discounted cash flows or option valuation models.

31/12/2016

In € millions						Accounting qualification				Balance sheet NCA of the class				Fair value of the class			
	Current	Non-current	Total	Net debt (IFRS)	Net indebtedness	At fair value through equity	Loans, receivables, debt at amortised cost	At fair value through profit or loss	Qualified for hedging	Total	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3
Equity investments	-	1	1	-	-	-	1	-	-	1	-	1	-	1	-	1	-
Loans and receivables	-	6	6	-	-	-	6	-	-	6	-	6	-	6	-	6	-
Pension assets	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Available-for-sale assets	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Assets at fair value through profit or loss	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Positive fair value of hedging derivatives	23	1,407	1,430	1,430	1,430	-	-	-	1,430	1,430	-	1,430	-	1,430	-	1,430	-
Positive fair value of trading derivatives	93	-	93	93	93	-	-	93	-	93	-	93	-	93	-	93	-
PPP and concession assets	147	2,390	2,537	2,537	-	-	2,537	-	-	2,537	-	2,537	-	2,537	-	2,537	-
Financial assets	263	3,804	4,067	4,061	1,523	-	2,544	93	1,430	4,067	-	4,067	-	4,067	-	4,067	-
UCITS	2,403	-	2,403	2,403	2,403	-	-	2,403	-	2,403	2,403	-	-	2,403	2,403	-	-
Cash at bank and in hand	827	-	827	827	827	-	-	827	-	827	827	-	-	827	827	-	-
Cash and cash equivalents	3,229	-	3,229	3,229	3,229	-	-	3,229	-	3,229	3,229	-	-	3,229	3,229	-	-
Bonds	2,031	42,399	44,430	44,430	44,430	-	44,430	-	-	44,430	-	44,430	-	52,026	-	52,026	-
Bank borrowings	2	425	427	427	427	-	427	-	-	427	-	427	-	436	-	436	-
SNCF borrowings	27	670	697	697	697	-	697	-	-	697	-	697	-	1,045	-	1,045	-
Other borrowings	3	35	39	34	34	-	39	-	-	39	-	39	-	39	-	39	-
Finance lease borrowings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Borrowings of which	2,063	43,530	45,593	45,588	45,588	-	45,593	-	-	45,593	-	45,593	-	53,546	-	53,546	-
- measured at amortised cost	1,760	32,343	34,103	34,099	34,099	-	34,103	-	-	34,103	-	34,103	-	42,056	-	42,056	-
- recognised using cash value hedge accounting	-	8,136	8,136	8,136	8,136	-	8,136	-	-	8,136	-	8,136	-	8,136	-	8,136	-
- recognised using fair value hedge accounting	303	3,051	3,354	3,354	3,354	-	3,354	-	-	3,354	-	3,354	-	3,354	-	3,354	-
- designated at fair value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Negative fair value of hedging derivatives	-	2,265	2,265	2,265	2,265	-	-	-	2,265	2,265	-	2,265	-	2,265	-	2,265	-
Negative fair value of trading derivatives	22	-	22	22	22	-	-	22	-	22	-	22	-	22	-	22	-
Overdrafts	58	-	58	58	58	-	58	-	-	58	58	-	-	58	58	-	-
Cash borrowings	1,693	-	1,693	1,693	1,693	-	1,693	-	-	1,693	1,693	-	-	1,693	1,693	-	-
Amounts payable on non-controlling interest purchase commitments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPP and concession liabilities	156	2,443	2,599	2,599	-	-	2,599	-	-	2,599	-	2,599	-	2,599	-	2,599	-
Financial liabilities	3,993	48,237	52,230	52,226	49,627	-	49,943	22	2,265	52,230	1,751	50,479	-	60,184	1,751	58,432	-
Net debt (IFRS)	500	44,436	-	44,936	-	-	47,402	-3,300	834	44,936	-1,478	46,414	-	52,894	-1,478	54,372	-
PPP and concession liabilities	-156	-2,443	-	-2,599	-	-	-2,599	-	-	-2,599	-	-2,599	-	-2,599	-	-2,599	-
PPP and concession assets	147	2,390	-	2,537	-	-	2,537	-	-	2,537	-	2,537	-	2,537	-	2,537	-
Net indebtedness	491	44,383	-	-	44,874	-	47,340	-3,300	834	44,874	-1,478	46,353	-	52,832	-1,478	54,310	-

31/12/2015

In € millions						Accounting qualification				Balance sheet NCA of the class				Fair value of the class			
	Current	Non-current	Total	Net debt (IFRS)	Net indebtedness	At fair value through equity	Loans, receivables, debt at amortised cost	At fair value through profit or loss	Qualified for hedging	Total	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3
Equity investments	-	1	1	-	-	-	1	-	-	1	-	1	-	1	-	1	-
Loans and receivables	-	6	6	-	-	-	6	-	-	6	-	6	-	6	-	6	-
Pension assets	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Available-for-sale assets	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Assets at fair value through profit or loss	47	-	47	47	47	-	-	47	-	47	47	-	-	47	47	-	-
Positive fair value of hedging derivatives	67	1,641	1,709	1,709	1,709	-	-	-	1,709	1,709	-	1,709	-	1,709	-	1,709	-
Positive fair value of trading derivatives	58	-	58	58	58	-	-	58	-	58	-	58	-	58	-	58	-
PPP and concession assets	-	2,179	2,179	2,179	-	-	2,179	-	-	2,179	-	2,179	-	2,179	-	2,179	-
Financial assets	172	3,827	3,999	3,992	1,813	-	2,186	104	1,709	3,999	47	3,952	-	3,999	47	3,952	-
UCITS	2,169	-	2,169	2,169	2,169	-	-	2,169	-	2,169	2,169	-	-	2,169	2,169	-	-
Cash at bank and in hand	353	-	353	353	353	-	-	353	-	353	353	-	-	353	353	-	-
Cash and cash equivalents	2,523	-	2,523	2,523	2,523	-	-	2,523	-	2,523	2,523	-	-	2,523	2,523	-	-
Bonds	1,859	40,032	41,891	41,891	41,891	-	41,891	-	-	41,891	-	41,891	-	48,704	-	48,704	-
Bank borrowings	350	75	425	425	425	-	425	-	-	425	-	425	-	425	-	425	-
SNCF borrowings	184	675	858	858	858	-	858	-	-	858	-	858	-	1,233	-	1,233	-
Other borrowings	3	39	42	38	38	-	42	-	-	42	-	42	-	42	-	42	-
Finance lease borrowings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Borrowings of which	2,396	40,821	43,216	43,212	43,212	-	43,216	-	-	43,216	-	43,216	-	50,404	-	50,404	-
- measured at amortised cost	717	29,640	30,357	30,353	30,353	-	30,357	-	-	30,357	-	30,357	-	37,545	-	37,545	-
- recognised using cash value hedge accounting	857	7,726	8,583	8,583	8,583	-	8,583	-	-	8,583	-	8,583	-	8,583	-	8,583	-
- recognised using fair value hedge accounting	821	3,455	4,277	4,277	4,277	-	4,277	-	-	4,277	-	4,277	-	4,277	-	4,277	-
- designated at fair value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Negative fair value of hedging derivatives	16	1,641	1,657	1,657	1,657	-	-	-	1,657	1,657	-	1,657	-	1,657	-	1,657	-
Negative fair value of trading derivatives	26	-	26	26	26	-	-	26	-	26	-	26	-	26	-	26	-
Overdrafts	75	-	75	75	75	-	75	-	-	75	75	-	-	75	75	-	-
Cash borrowings	1,546	-	1,546	1,546	1,546	-	1,546	-	-	1,546	1,546	-	-	1,546	1,546	-	-
Amounts payable on non-controlling interest purchase commitments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PPP and concession liabilities	-	2,258	2,258	2,258	-	-	2,258	-	-	2,258	-	2,258	-	2,258	-	2,258	-
Financial liabilities	4,059	44,720	48,779	48,774	46,517	-	47,096	26	1,657	48,779	1,622	47,157	-	55,966	1,622	54,345	-
Net debt (IFRS)	1,365	40,895	-	42,260	-	-	44,913	-2,601	-52	42,260	-948	43,208	-	49,452	-948	50,400	-
PPP and concession liabilities	-	-2,258	-	-2,258	-	-	-2,258	-	-	-2,258	-	-2,258	-	-2,258	-	-2,258	-
PPP and concession assets	-	2,179	-	2,179	-	-	2,179	-	-	2,179	-	2,179	-	2,179	-	2,179	-
Net indebtedness	1,365	40,816	-	-	42,181	-	44,834	-2,601	-52	42,181	-948	43,129	-	49,373	-948	50,321	-

5.2.2.1 Financial assets

5.2.2.1.1 Loans and receivables at amortised cost

“Loans and receivables at amortised cost” mainly comprise receivables connected with shareholdings, current account advances to associates or unconsolidated entities, guarantee deposits.

These loans and receivables are initially recognised at their fair value plus transaction costs. At each balance sheet date, these assets are measured at amortised cost using the effective interest rate method.

The guarantee deposits arising from leases are recognised at nominal value.

“Loans and receivables at amortised cost” mainly comprised guarantee deposits paid for non-current assets leased by SNCF Réseau to third parties.

5.2.2.1.2 Available-for-sale assets

No asset was classified as “Available-for-sale assets” in 2015 and 2016.

5.2.2.1.3 Assets at fair value through profit or loss

Trading assets consist of assets that the Group intends to sell in the near term in order to realise a capital gain and assets recorded in this category by designation.

Assets are measured at fair value at the balance sheet date and fair value gains and losses are recorded in finance cost.

The portfolio of negotiable debt securities maturing in over three months (and less than a year) expired in 2016 and was not renewed, due to the negative interest rates.

5.2.2.1.4 PPP and concession assets

PPP financial assets include grants yet to be claimed for ongoing PPP projects in the amount of €2,537 million, including €1,074 million for BPL, €993 million for CNM and €470 million for GSM-R.

These grants receivable from the French State and regional authorities enable SNCF Réseau to repay its debts with Eiffage, Oc'Via and Synerail for BPL, CNM and GSM-R, respectively.

Regarding BPL and CNM, SNCF Réseau should receive grants and repay the related borrowings (same amounts as the grants) from 2017.

As the GSM-R project was not 100% financed, the grant receivable is lower than the related borrowing.

5.2.2.1.5 Positive fair value of derivative financial instruments

Derivative financial instruments are described in Note 5.3.

5.2.2.2 Cash and cash equivalents

Cash and cash equivalents consist of immediately available liquid assets (cash) and short-term investments, easily converted into a known amount of cash with an initial maturity of less than or equal to three months and which are exposed to a negligible risk of change in value. In particular, investments in French mutual funds (SICAV) and monetary funds with marginal sensitivity are classified in this category and notably French mutual funds and monetary funds classified by the French Financial Markets Authority (Autorité des marchés financiers—AMF) in the Euro monetary category or which have a sensitivity of less than 0.25 basis points.

For these securities, the fair value adopted is the UCITS net asset value. The fair value falls under level 1 of the fair value hierarchy set forth in paragraph 7.2 of IFRS 13. These securities are valued at fair value and fair value gains and losses are recorded in finance cost.

However, considering their residual life at closing, other investments, particularly negotiable debt securities, are recognised at nominal value, as the Group considers this to be a reasonable estimate of their market value.

Current bank facilities classified as current financial liabilities are included in cash and cash equivalents in the cash flow statement.

In € millions	31/12/2016	31/12/2015	Change
Monetary mutual funds equivalent to cash and negotiable debt securities maturing in less than three months*	2,403	2,169	233
Cash at bank and in hand	827	353	473
Cash and cash equivalents in the statement of financial position	3,229	2,523	707
Accrued interest payable	-	-	-
Current bank facilities	58	75	-18
Cash and cash equivalents in the cash flow statement	3,172	2,447	725

* Including deposit certificates and Commercial Paper.

5.2.2.3 Non-current financial liabilities

Borrowings and other financial liabilities are initially measured at fair value less transaction costs and subsequently at amortised cost determined using the effective interest rate.

Certain borrowings are subject to fair value or cash flow hedge accounting. In addition, certain borrowings with detachable embedded derivatives recorded using hedge accounting are recorded at fair value (fair value option). Fair value gains and losses are recorded in finance cost.

The option to record liabilities at fair value through profit or loss is used when the corresponding liabilities comprise an embedded derivative significantly modifying the cash flows which would otherwise result in the contract or where the Group is unable to value the embedded derivative separately.

The fair value of financial liabilities is determined using measurement techniques such as option valuation models or the discounted cash flow method. The models take into account assumptions based on market data at the balance sheet date.

5.2.2.3.1 Net debt

SNCF Réseau raises funds on international capital markets in order to cover its long-term financing needs, mainly through bond issues and private placements and, to a lesser extent, borrowings from banks and/or local authorities.

The IFRS net debt carrying amount totalled €44.9 billion, compared to €42.3 billion as at 31 December 2015, i.e. an increase of €2.6 billion.

The IFRS net debt repayment amount (CRC carrying amount excluding PPP, collateral accrued interest receivable) totalled €42.0 billion, compared to €39.3 billion as at 31 December 2015, i.e. an increase of €2.7 billion, comprising:

— long-term resources raised in the nominal amount of +€4.65 billion (IFRS carrying amount of €4.8 billion):

- public euro and dollar-denominated bond issues for €4.2 billion in 12 operations (four primary issues and eight additional issues);
- private bond issues for €0.1 billion;
- renewal of borrowings with the EIB for €0.35 billion.

— MLT borrowing repayments for -€1.7 billion;

— a decrease in short-term cash and liabilities for -€0.2 billion.

5.2.2.3.2 Financing raised in 2016

In € millions	Nominal foreign currency amount	Currency	Maturity date	Inflation-indexed	IFRS value in euros
Financing raised in 2016					4,840
2016 public bond issues					4,396
EMTN RFF 0.10% EUR 05-27-2021	1,000	EUR	27/05/2021	0.100%	999
EMTN RFF 1% 11/09/2031	900	EUR	09/11/2031	1.000%	887
EMTN RFF 1.125% 05/25/2030 EUR	100	EUR	25/05/2030	1.125%	95
EMTN RFF 1.125% 05/25/2030 EUR	50	EUR	25/05/2030	1.125%	50
EMTN RFF 1.125% 05/25/2030 EUR	100	EUR	25/05/2030	1.125%	107
EMTN RFF 2.625% 12-29-2025	400	EUR	29/12/2025	2.625%	465
EMTN RFF 3.125% EUR 10-25-2028	100	EUR	25/10/2028	3.125%	123
EMTN RFF 3.125% EUR 10-25-2028	50	EUR	25/10/2028	3.125%	62
EMTN RFF 3.30% 12-18-2042 EUR	75	EUR	18/12/2042	3.300%	93
EMTN RFF 3.30% 12-18-2042 EUR	50	EUR	18/12/2042	3.300%	67
EMTN SNCFR 1.50 % 05-29-2037	500	EUR	29/05/2037	1.500%	499
EMTN RFF 1.375% 10/11/2019 USD	1,000	USD	11/10/2019	1.375%	949
2016 private bond issues	85	EUR	2073		92
Renewal of borrowings with the EIB	350	EUR	2038		352

5.2.2.3.3 Bonds

In € millions	Nominal foreign currency amount	Currency	Maturity date	Inflation-indexed	IFRS value in euros
Bonds					44,430
Government bonds					36,662
CAD BOND 4.70% 06-01-2035	277	CAD	01/06/2035	4.700%	248
EMTN RFF CHF 3% 04-24-2019	450	CHF	24/04/2019	3.000%	443
EMTN RFF CHF 2.875% 02-26-21	300	CHF	26/02/2021	2.875%	321
EMTN RFF 2% 11-12-2026 CHF	150	CHF	12/11/2026	2.000%	140
EMTN RFF CHF 2.625% 03-10-2031	125	CHF	10/03/2031	2.625%	154
RFF 3.25% 06-30-2032 - CHF -	250	CHF	30/06/2032	3.250%	256
EMTN RFF CHF 2% 11-24-2034	100	CHF	24/11/2034	2.000%	93
EMTN RFF CHF 2.625% 03-11-37	130	CHF	11/03/2037	2.625%	170
EMTN RFF 4.45% 11-27/2017	1,300	EUR	27/11/2017	4.450%	1,313
EMTN 10-23-2018 0.05%	1,100	EUR	23/10/2018	0.050%	1,100
EMTN - RFF 6% 10-12-2020	2,000	EUR	12/10/2020	6.000%	2,037
EMTN RFF 0.10% EUR 05-27-2021	1,000	EUR	27/05/2021	0.100%	999
EMTN RFF 4.375 06/02/2022	3,000	EUR	02/06/2022	4.375%	3,178
RFF GOVT BOND IPCH 02-28-2023	2,000	EUR	28/02/2023	2.450%	2,521
EMTN RFF 4.50% 01-30-2024	3,850	EUR	30/01/2024	4.500%	4,196
EMTN RFF 2.625% 12-29-2025	1,500	EUR	29/12/2025	2.625%	1,630
EMTN RFF 4.25% 10-07-2026	3,600	EUR	07/10/2026	4.250%	3,895
EMTN RFF 3.125% EUR 10-25-2028	2,025	EUR	25/10/2028	3.125%	2,140
EMTN RFF 1.125% 05/25/2030 EUR	1,700	EUR	25/05/2030	1.125%	1,696
EMTN RFF 1% 11/09/2031	900	EUR	09/11/2031	1.000%	887
EMTN RFF 5% 10-10-2033	3,200	EUR	10/10/2033	5.000%	3,510
EMTN SNCFR 1.50 % 05/29-2037	500	EUR	29/05/2037	1.500%	499
EMTN SNCFR 1.475% 03/30/2065	50	EUR	30/03/2065	1.475%	50
EMTN - RFF 5.5 % 21-01-2021 £	800	GBP	01/12/2021	5.500%	961
EMTN - RFF 5.25% 12-07-2028 £	650	GBP	07/12/2028	5.250%	749
EMTN - RFF 5.35% 07-12-2029	326	GBP	12/07/2029	5.350%	541
EMTN - RFF 5.25% 01-31-2035 £	475	GBP	31/01/2035	5.250%	648
EMTN RFF 5% 03-11-2052 £	550	GBP	11/03/2052	5.000%	662
EMTN RFF 4.83% 03-25-2060 £	550	GBP	25/03/2060	4.830%	673
EMTN RFF 1.375% 10/11/2019 USD	1,000	USD	11/10/2019	1.375%	949
Private bonds					7,769
Private bond	440	CHF	2021		457
Private bond	6,134	EUR	2043		6,301
Private bond	244	GBP	2036		339
Private bond	45,000	JPY	2023		394
Private bond	500	NOK	2032		69
Private bond	220	USD	2031		210

5.2.2.3.4 SNCF borrowings

When RFF was established on 1 January 1997, a €20.5 billion debt with SNCF was transferred to its liabilities. Since the implementation on 1 July 2015 of the rail reform law of 4 August 2014, this debt has been recorded in SNCF Réseau's liabilities.

The total amortised cost of the SNCF long-term debt breaks down as follows:

In € millions	Nominal foreign currency amount	Currency	Average maturity	IFRS value in euros
SNCF borrowings				697
Fixed	613	EUR	2,023	635
Floating	62	EUR	2,021	62

5.2.2.3.5 Bank and other borrowings

In € millions	Nominal foreign currency amount	Currency	Average maturity	IFRS value in euros
Bank borrowings				427
EIB loan	425	EUR	2,037	427
Other borrowings				39
Loan from Greater Paris Region	37	EUR	2,028	34
Deposits and securities				4

Deposits and securities mainly correspond to the guarantee deposits received for non-current assets leased by third parties to SNCF Réseau.

SNCF Réseau also has a five-year €1.25 billion syndicated credit facility, which expires on 19 July 2017. A procedure to renew the syndicated loan is ongoing. This credit facility was not used in 2016.

5.2.2.3.6 Negative fair value of derivative financial instruments

Derivative financial instruments are described in Note 5.3.

5.2.2.3.7 Cash borrowings and overdrafts

For its internal financing and cash management, SNCF Réseau uses both national and international short-term financing and investment instruments such as "Treasury Bill" and "Commercial Paper", granting diversified access to liquid financial resources. Foreign-currency denominated negotiable debt securities are hedged using currency swaps.

Cash borrowings primarily comprise:

— short-term liabilities of more than three months and less than one year (€1,659 million as at 31/12/2016 vs €1,188 million as at 31/12/2015);

— cash collateral liabilities covering asset derivatives (€34 million as at 31/12/2016 vs €358 million as at 31/12/2015).

The amortised cost of cash borrowings (excluding cash collateral) breaks down as follows:

In € millions	Total amount	Maturity 0 to 6 months	Maturity 6 to 12 months	Maturity of 1 year and over
Short-term debt	1,659	1,205	454	-
EUR	181	-	181	-
USD	1,478	1,205	273	-

Overdrafts (€58 million as at 31/12/2016 vs €75 million as at 31/12/2015) mainly comprise current accounts and bank loans.

5.2.2.4 Debt classified as French State debt

Pursuant to Article 2111-17-1 of the rail reform, SNCF Réseau publishes every year the amount of reclassified debt in the French State debt as well as the related forecast changes.

As part of the restructuring of government debt as defined by the Maastricht Treaty, a portion of the SNCF Réseau debt in the amount of €10.9 billion was recognised by INSEE as a government debt in 2014. This reclassification did not lead to a change in the SNCF Réseau financial statements. SNCF Réseau also remains responsible for the operating management of the debt, without any change in current practices.

5.2.2.5 PPP and concession liabilities

The BPL, CNM and GSM-R borrowings relate to the Bretagne-Pays de la Loire, Nîmes-Montpellier bypass and Global System for Mobile communication for Railways PPP. They represent SNCF Réseau's debt to its partners that are pre-financing part of the projects. SNCF Réseau will have to repay these debts as from 2017.

The grants receivable concerning these projects are presented in Note 4.2.1. Claims were received by the company in 2015 and 2016 for the CNM and BPL PPP for €634 million. These claims were mostly challenged by the company and only the accepted portion was recognised.

5.3 MANAGEMENT OF FINANCIAL RISKS AND DERIVATIVE INSTRUMENTS

In SNCF Réseau, the management of transactions and financial risks is strictly governed by the "Principles and limits for trading on capital markets" issued by the Board of Directors.

This document notably sets out the key policy focus in the areas of financing, treasury and overall debt management, the management principles and limits authorised in respect of interest rate, currency and counterparty risks, optimisation transactions, authorised instruments, the ceilings applicable to financing programmes, investment products and delegations of authority granted by the Board of Directors together with delegations of signature granted.

SNCF Réseau also has a manual procedure which specifies the controls to be performed and the manner in which they are to be carried out in order to ensure that, on a day-to-day basis, transactions entered into comply with the defined limits and principles and the target debt structure.

SNCF Réseau also prepares different types of reports on a daily, weekly or monthly basis which describe the transactions performed and control results.

SNCF Réseau is exposed to the following risks related to the use of financial instruments:

- Market risks:
 - interest rate risk;
 - currency risk.
- liquidity risks;
- credit and counterparty risks.

5.3.1 Management of interest rate risk

As part of its financial strategy and to limit its exposure to an increase in its financial expenses, SNCF Réseau has defined principles in order to minimise its exposure to interest rate risk.

The current historically low interest rates and the desire to maintain long-term economic equilibriums led the SNCF Réseau Board of Directors to opt for a breakdown of net debt in repayment value that was 90% fixed-rate, 6% floating-rate and 4% inflation-indexed. A limited margin around each of these thresholds is authorised by the Board of Directors.

Compliance with this breakdown is verified on a daily basis.

To achieve this breakdown, SNCF Réseau may use option-based derivatives or interest rate swaps for hedging purposes.

5.3.1.1 Management of interest rate risk

The breakdown by rate of borrowings, before and after consideration of derivative financial instruments (hedging or trading), is as follows:

Debt structure In € millions	Before hedging		After hedging	
	31/12/2016	31/12/2015	31/12/2016	31/12/2015
Fixed rate	41,064	38,218	40,087	36,779
Floating rate	1,492	1,962	3,908	4,854
Inflation rate	3,037	3,036	1,597	1,584
Total LT borrowings	45,593	43,216	45,593	43,216
ST borrowings	1,659	1,188	1,659	1,188
Total loans and borrowings	47,252	44,404	47,252	44,404

5.3.1.2 Sensitivity of financial instruments to interest rate risks

The sensitivity of profit or loss to the risk of interest rate fluctuations is related to:

- floating-rate net debt after taking into account hedges;
- fair value option debt;
- derivative instruments not qualified as hedges in the meaning of IAS 39;
- derivative instruments designated as cash flow hedges.

The sensitivity of recyclable reserves (equity) to the risk of interest rate fluctuations is related to derivatives qualified as cash flow hedges.

The sensitivity of cash flows of floating-rate instruments was calculated taking into account all variable cash flows of non-derivative instruments and derivative instruments. Derivative instruments not designated as hedges and separately recognised embedded derivatives generate a certain degree of volatility in net finance cost.

Conversely, changes in the value of derivatives designated as cash flows hedges generate a certain degree of volatility in equity.

Sensitivity analyses are prepared assuming that the level of debt and financial instruments in the balance sheet as at 31 December remains constant during one year.

Given the relatively low market rates in 2016, SNCF Réseau decided to perform its sensitivity analyses based on a change in rates of +/-50 basis points.

A change of +/-50 basis points in euro interest rates at the balance sheet date would have the effect of increasing (or decreasing) equity and profit or loss in the amounts presented below. For the purposes of this analysis, other variables, and particularly exchange rates, have been assumed to remain constant. A similar analysis, prepared on the same basis, is presented for 2015.

In € millions	31/12/2016				31/12/2015			
	Profit or loss		Equity		Profit or loss		Equity	
	Impact after change in interest rates of				Impact after change in interest rates of			
Type of instrument	+50 bp	-50 bp	+50 bp	-50 bp	+50 bp	-50 bp	+50 bp	-50 bp
Floating-rate net debt (after taking into account fair value hedges)	7	-7	-	-	8	-8	-	-
Fair value option debt	-	-	-	-	-	-	-	-
Derivatives not qualified as hedges	2	-3	-	-	2	-2	-	-
Derivatives qualified as cash flow hedges	22	-26	747	-840	37	-41	693	-780
Total impact	31	-36	747	-840	46	-51	693	-780

5.3.2 Management of currency risk

5.3.2.1 Net foreign currency exposure

As part of its financial strategy which aims to diversify access to sources of finance and optimise finance costs, SNCF Réseau issues bonds in foreign currencies that are covered by currency hedges. The foreign currency denominated cash flows (principal payments and interest) are hedged by currency derivatives which convert this debt into euro debt.

In millions	Net foreign currency exposure						
	CAD	CHF	GBP	HKD	JPY	NOK	USD
12/31/2016							
Foreign currency-denominated debt	277	1,945	3,595	-	45,000	500	1,220
Foreign currency derivatives	277	1,945	3,595	-	45,000	500	1,220
Net foreign currency exposure	-	-	-	-	-	-	-
12/31/2015							
Foreign currency-denominated debt	277	2,107	3,630	300	45,000	500	370
Foreign currency derivatives	277	2,107	3,630	300	45,000	500	370
Net foreign currency exposure	-	-	-	-	-	-	-

5.3.2.2 Foreign currency-denominated transactions and exchange rates

Foreign currency-denominated transactions are translated by the subsidiary into its functional currency at the exchange rate prevailing on the transaction date.

Monetary items in the balance sheet are retranslated at the closing exchange rate at each balance sheet date, and the resulting translation differences are recorded in profit or loss or as a separate equity component if they relate to hedging transactions qualifying as net investments or cash flow hedges under IFRS.

The commercial activities of the Group do not expose it to material foreign currency risk.

Excluding subsidiaries operating in their own country, SNCF Réseau's net indebtedness denominated in currencies other than the euro is managed in line with the acceptable risk limit defined in the same general framework. SNCF Réseau uses currency swaps for this purpose, generally set up when the borrowing is issued.

Closing exchange rates for the main currencies are as follows:

ECB rates	31/12/2016	31/12/2015
AUD	1.4596	1.4897
CAD	1.4188	1.5116
CHF	1.0739	1.0835
GBP	0.8562	0.7340
HKD	8.1751	8.4376
JPY	123.4000	131.0700
NOK	9.0863	9.6030
SEK	9.5525	9.1895
USD	1.0541	1.0887

5.3.2.3 Debt structure before and after currency hedging

The breakdown by currency of loans and borrowings, before and after adjustment for derivatives (hedging and trading), is as follows:

Debt structure In € millions	Before hedging		After hedging	
	31/12/2016	31/12/2015	31/12/2016	31/12/2015
Euro	37,116	34,652	45,593	43,216
Pound sterling	4,573	5,334	-	-
US dollar	1,159	346	-	-
Yen	394	368	-	-
Swiss franc	2,034	2,182	-	-
Norwegian crown	69	65	-	-
Canadian dollar	248	233	-	-
Hong Kong dollar	-	36	-	-
Total borrowings	45,593	43,216	45,593	43,216

5.3.3 Liquidity risk management

Due to the proactive management of its liquidity, the quality of its signature and its frequent presence on international capital markets, SNCF Réseau enjoys diversified access to both short-term (Treasury Bill, Commercial Paper) and long-term (public and private bond issues) financing sources.

SNCF Réseau also has a five-year €1.25 billion syndicated credit facility, which expires on 19 July 2017. A procedure to renew the syndicated loan is ongoing. This credit facility was not used in 2016.

5.3.3.1 Maturity schedule of loans and borrowings (including derivatives)

In € millions	31/12/2016	31/12/2015
Less than 1 year	1,407	1,730
1 to 5 years	7,973	5,831
5 to 10 years	16,408	13,691
10 to 20 years	12,258	15,154
20 years and thereafter	7,259	6,502
Loans and borrowings excluding the fair value impact	45,305	42,908
Changes in fair value (designated at "fair value")	-	-
Changes in fair value (hedge accounting)	287	308
Loans and borrowings	45,593	43,216
Fair value of non-current asset and liability derivatives	858	-
Fair value of current asset and liability derivatives	-94	-83
Loans and borrowings (including asset and liability derivatives)	46,357	43,133

5.3.3.2 Maturity schedule of contractual cash flows

In € millions	31/12/2016						31/12/2015					
	Total	Less than 1 year	1 to 5 years	5 to 10 years	10 to 20 years	20 years and there-after	Total	Less than 1 year	1 to 5 years	5 to 10 years	10 to 20 years	20 years and there-after
Bonds	-64,497	-2,855	-13,129	-22,031	-15,739	-10,742	-62,995	-2,886	-11,308	-19,729	-18,745	-10,327
Principal	-45,055	-1,395	-7,711	-17,288	-11,422	-7,240	-42,223	-1,433	-5,740	-14,572	-13,909	-6,568
Interest cash flow	-19,441	-1,460	-5,418	-4,744	-4,317	-3,503	-20,773	-1,453	-5,567	-5,157	-4,836	-3,759
Bank borrowings	-521	-4	-17	-21	-119	-359	-423	-350	-	1	-74	-
Principal	-425	-	-	-	-75	-350	-425	-350	-	-	-75	-
Interest cash flow	-95	-4	-17	-21	-44	-9	2	-	-	1	1	-
SNCF borrowings	-1,055	-60	-271	-724	-	-	-1,216	-161	-234	-821	-	-
Principal	-676	-6	-55	-615	-	-	-775	-100	-17	-658	-	-
Interest cash flow	-379	-54	-216	-109	-	-	-440	-61	-216	-163	-	-
Other borrowings	-37	-3	-12	-13	-6	-4	-31	-3	-11	-14	-7	4
Principal	-42	-3	-14	-14	-6	-4	-37	-3	-14	-16	-8	4
Interest cash flow	5	1	2	1	-	-	6	1	3	2	-	-
Cash borrowings and overdrafts	-1,495	-1,495	-	-	-	-	-1,194	-1,194	-	-	-	-
Principal	-1,482	-1,482	-	-	-	-	-1,190	-1,190	-	-	-	-
Interest cash flow	-13	-13	-	-	-	-	-5	-5	-	-	-	-
Gross borrowings	-67,604	-4,416	-13,429	-22,789	-15,863	-11,106	-65,860	-4,594	-11,552	-20,563	-18,827	-10,323
Non-current financial assets	6	-	-	-	-	6	6	-	-	-	-	6
Interest cash flow on hedging derivatives—negative fair value	-1,022	-29	-98	-272	-422	-201	-1,177	-86	-308	-249	-344	-191
Interest cash flow on trading derivatives—negative fair value	-35	-4	-15	-	-2	-13	-35	-3	-14	-4	-1	-13
Interest cash flow on hedging derivatives—positive fair value	1,287	96	278	251	428	234	2,077	149	549	381	545	454
Interest cash flow on trading derivatives—positive fair value	13	1	2	3	5	3	17	1	3	3	6	4
Derivative financial instruments	242	63	166	-18	9	22	882	60	230	132	207	253
PPP liabilities	-4,139	-162	-1,041	-1,157	-1,735	-45	-3,689	-3	-933	-1,069	-1,532	-152
Principal	-2,599	-156	-874	-769	-785	-16	-2,258	-	-790	-724	-694	-50
Interest cash flow	-1,540	-6	-167	-389	-950	-30	-1,431	-3	-143	-345	-838	-102
Grant receivable—PPP	4,047	152	1,020	1,096	1,735	44	3,642	7	893	1,058	1,532	152
Principal	2,537	147	858	732	785	15	2,179	-	744	691	694	50
Interest cash flow	1,510	5	161	364	950	30	1,463	7	149	367	838	102
Concession financial assets and liabilities	-93	-10	-21	-61	-	-1	-47	4	-40	-11	-	-

For financial liabilities, contractual cash flows are not discounted, corresponding to amounts to be repaid, including interest, with the floating-rate portion is pegged to the fixing as at 31 December.

5.3.4 Credit and counterparty risk management

Credit risk is the risk of financial loss for SNCF Réseau should a customer or counterparty to a financial instrument fail to meet its contractual obligations

The carrying amount of financial assets represents the maximum exposure to credit risk.

Pursuant to IFRS 13, the fair value of derivatives was estimated taking into account the CVA (Credit Value Adjustment) and the DVA (Debit Value Adjustment). These items, which did not have a material impact on the value of derivatives as at 31 December 2016, were not recognised.

SNCF Réseau is exposed to counterparty risk in connection with its cash investments and the subscription of derivatives from its financial partners, insofar as the debtor refuses to honour all or part of its commitment or does not have the means to respect it.

To manage and limit this risk, investment instruments and derivatives are only entered into with financial institutions corresponding to the credit rating and equity criteria validated by the SNCF Réseau Board of Directors.

A limited commitment amount by institution is determined according to these criteria.

Compliance with the authorised threshold by counterparty is monitored on a daily basis.

To hedge counterparty risk regarding its derivative financial instruments, SNCF Réseau performs margin calls with its financial counterparties whose rating is lower than the threshold defined by the Board of Directors. Collateral (in cash only) is called up in the amount of the market value of the financial instrument portfolios for each counterparty whom SNCF Réseau is at risk.

The transactions which could generate counterparty risk are mainly financial investments and financial instruments as described below.

5.3.4.1 Financial investments

The general framework defines the counterparty approval procedure, which is based on a quantitative and qualitative analysis of counterparties.

Volume limits according to investment terms are defined for each counterparty, taking into account its rating. The extent to which authorised limits are used, based on the nominal amount of the transactions, is measured daily and reported.

Financial investments are diversified. They primarily consist of negotiable debt instruments (certificates of deposit, Commercial Paper), treasury note repos and subscriptions to French money market mutual funds (UCITS). Given their short residual term and breakdown, no major credit risk exposure is generated.

5.3.4.2 Derivative financial instruments

Derivative transactions seek to manage interest rate and foreign currency risk.

The general framework defines the counterparty approval procedure, which is based on a quantitative and qualitative analysis of counterparties. Investment volume and term limits are also defined for each counterparty, taking into account its equity and rating. The extent to which authorised limits are used is measured daily and reported.

The counterparty approval procedure for derivative products also involves the signature of a framework agreement. A collateral agreement is also signed with certain counterparties in order to limit counterparty risk.

Pursuant to the amendment to IFRS 7 "Disclosures Offsetting Financial Assets and Financial Liabilities", the following tables present the fair value of foreign currency and interest rate derivative instruments used by SNCF Réseau, entered into under framework agreements comprising an enforceable master netting clause.

The "Cash collateral" column corresponds to the outstanding on collateralisation agreements for derivative financial instruments that do not meet the offsetting criteria established by IAS 32 "Financial instruments: Presentation".

31/12/2016	Gross amounts (a)	Amounts offset in the balance sheet (b)	Net amounts presented in the balance sheet (c=a-b)	Amounts not offset in the balance sheet		Net amounts based on IFRS 7 (f=c-d-e)
				Cash collateral (d)	Derivative instruments (e)	
In € millions						
Asset derivatives	1,523	-	1,523	33	1,299	191
Liability derivatives	2,287	-	2,287	-	1,299	988

31/12/2015	Gross amounts (a)	Amounts offset in the balance sheet (b)	Net amounts presented in the balance sheet (c=a-b)	Amounts not offset in the balance sheet		Net amounts based on IFRS 7 (f=c-d-e)
				Cash collateral (d)	Derivative instruments (e)	
In € millions						
Asset derivatives	1,766	-	1,766	357	1,180	229
Liability derivatives	1,683	-	1,683	-	1,180	503

5.4 ACCOUNTING POSITION OF DERIVATIVE INSTRUMENTS

The derivative instruments used by the Group to manage currency and interest rate risks are initially recognised at fair value and remeasured in the balance sheet to their fair value at closing.

Fair value is determined using measurement techniques such as option valuation models or the discounted cash flows method. The models fall under level 2 of the fair value hierarchy set forth in paragraph 81 of IFRS 13.

Changes in the fair value of derivative financial instruments that are not associated with operations and not part of a designated hedging relationship as defined by IAS 39 are recorded in profit or loss for the period, in finance cost. Hedge accounting depends on their designation.

To hedge its exposure to interest rate and currency risks, SNCF Réseau uses derivative instruments that may or may not be designated as hedges for accounting purposes.

The main derivatives used are interest rate swaps, forward currency contracts and cross currency swaps.

5.4.1 Derivative instruments by accounting treatment

The fair value of derivative instruments recognised in the balance sheet breaks down as follows:

In € millions	31/12/2016			31/12/2015		
	Current	Non-current	Total	Current	Non-current	Total
Cash flow hedging derivatives	-	672	672	60	791	850
Fair value hedging derivatives	23	735	759	8	851	859
Trading derivatives	93	-	93	58	-	58
Foreign net investment hedging derivatives	-	-	-	-	-	-
Asset derivative instruments	116	1,407	1,523	125	1,641	1,766
Cash flow hedging derivatives	-	2,201	2,201	16	1,626	1,642
Fair value hedging derivatives	-	64	64	-	16	16
Trading derivatives	22	-	22	26	-	26
Foreign net investment hedging derivatives	-	-	-	-	-	-
Liability derivative instruments	22	2,265	2,287	42	1,641	1,683

5.4.1.1 Cash flow hedging derivatives

The Group trades on the derivatives market to hedge floating-rate receivables and payables and receipts and payments related to its commercial activities.

When IAS 39 criteria are met, the derivative instruments are designated as cash flows hedges and fair value gains and losses are recorded directly in a specific account in other

comprehensive income, except for the ineffective portion of the hedge, which is recorded in profit or loss. When the hedged item impacts profit or loss, the amounts deferred in other comprehensive income are released to profit or loss to match the flows of the hedged item.

In € millions	31/12/2016						Fair value of derivatives	
	Total	Less than 1 year	1 to 5 years	5 to 10 years	10 to 20 years	20 years and thereafter		
Bonds	-1,484	-	-23	38	-901	-598		
Non-bond borrowings	-45	-	-	-	-45	-		
Finance lease borrowings	-	-	-	-	-	-		
Loans and receivables	-	-	-	-	-	-		
TOTAL	-1,529	-	-23	38	-946	-598		

In € millions	31/12/2015						Fair value of derivatives	
	Total	Less than 1 year	1 to 5 years	5 to 10 years	10 to 20 years	20 years and thereafter		
Bonds	-748	46	26	-98	-480	-243		
Non-bond borrowings	-43	-2	-	-	-41	-		
Finance lease borrowings	-	-	-	-	-	-		
Loans and receivables	-	-	-	-	-	-		
TOTAL	-791	44	26	-98	-521	-243		

Cash flow hedging derivatives break down as follows:

31/12/2016	Balance sheet fair value		Notional foreign currency amount		Cash flow hedge reserve					
	Assets	Liabilities	Assets	Liabilities	TOTAL	Less than 1 year	1 to 5 years	5 to 10 years	10 to 20 years	20 years and thereafter
In € millions	Assets	Liabilities	Assets	Liabilities	TOTAL	Less than 1 year	1 to 5 years	5 to 10 years	10 to 20 years	20 years and thereafter
Floating-rate lender/fixed-rate borrower swaps in euros	27	646	2,118	2,978	-639	-50	-181	-144	-217	-46
Fixed-rate lender/fixed-rate borrower swaps in euros	1	5	120	156	-4	-1	-2	-2	-	-
Floating-rate/fixed-rate cross currency swaps	17	-	-	-	1	-	-	-	-	-
GBP	17	-	50	-	1	-	-	-	-	-
USD	-	-	-	-	-	-	-	-	-	-
Fixed-rate / fixed-rate cross currency swaps	376	1,550	-	-	-984	-98	-386	-347	-301	148
AUD	-	-	-	-	-	-	-	-	-	-
CHF	140	-	450	-	35	3	11	14	8	-
GBP	169	1,550	375	2,301	-984	-95	-381	-357	-303	153
JPY	8	-	25,000	-	-10	-2	-7	-	-	-
USD	58	-	1,120	-	-25	-3	-8	-3	-6	-5
Fixed-rate/floating-rate cross currency swaps	251	-	-	-	280	22	77	75	107	-
+ Floating-rate/fixed-rate swap										
CAD	31	-	144	-	13	1	3	4	6	-
GBP	124	-	369	-	243	14	56	71	101	-
USD	-	-	-	-	-	-	-	-	-	-
CHF	97	-	253	-	24	7	18	-	-	-
Future issue pre-hedging transactions	-	-	-	-	12	1	5	3	3	-
TOTAL	672	2,201	-	-	-1,334	-126	-487	-415	-408	102

31/12/2015	Balance sheet fair value		Notional foreign currency amount		Cash flow hedge reserve					
	Assets	Liabilities	Assets	Liabilities	TOTAL	Less than 1 year	1 to 5 years	5 to 10 years	10 to 20 years	20 years and thereafter
In € millions	Assets	Liabilities	Assets	Liabilities	TOTAL	Less than 1 year	1 to 5 years	5 to 10 years	10 to 20 years	20 years and thereafter
Floating-rate lender/fixed-rate borrower swaps in euros	11	573	876	4,562	-579	-47	-172	-139	-184	-38
Fixed-rate lender/fixed-rate borrower swaps in euros	1	6	120	156	-5	-1	-2	-2	-	-
Floating-rate/fixed-rate cross currency swaps	27	14	-	-	-	-	-	-	-	-
GBP	27	14	50	44	-	-	-	-	-	-
USD	-	-	-	-	-	-	-	-	-	-
Fixed-rate/fixed-rate cross currency swaps	501	1,049	-	-	-830	1	-7	-37	-150	-637
AUD	-	-	-	-	-	-	-	-	-	-
CHF	195	-	612	-	47	3	13	17	14	-
GBP	274	1,045	713	1,764	-865	1	-13	-53	-164	-636
JPY	-	5	-	25,000	-11	-2	-8	-1	-	-
USD	31	-	270	-	-1	-	-	-	-	-
Fixed-rate/floating-rate cross currency swaps	311	-	-	-	273	20	77	68	108	-
+ Floating-rate/fixed-rate swap										
CAD	25	-	144	-	13	1	3	3	6	-
GBP	185	-	359	-	227	13	50	63	102	-
USD	-	-	-	-	-	-	-	-	-	-
CHF	102	-	253	-	33	7	24	2	-	-
Future issue pre-hedging transactions	-	-	-	-	13	1	5	4	4	-
TOTAL	850	1,642	-	-	-1,128	-24	-101	-106	-222	-675

Change in recyclable reserves relating to cash flow hedges

The income (expense) deferred in equity includes the foreign currency impact recognised on cash flow hedges.

The impacts on equity, profit or loss for the period and reserves break down as follows:

In € millions	Recyclable equity
2015 opening balance	-1,472
Recycled in profit or loss	-316
Changes in effective portion	660
Change in value of available-for-sale assets	-
2015 closing balance	-1,128

In € millions	Recyclable equity
2016 opening balance	-1,128
Recycled in profit or loss	582
Changes in effective portion	-789
Change in value of available-for-sale assets	-
2016 closing balance	-1,334

The change in recyclable reserves in 2015 totalled €344 million.

The change in recyclable reserves in 2016 totalled -€207 million.

5.4.1.2 Fair value hedging derivatives

SNCF Réseau also uses derivative instruments to hedge the fair value of fixed-rate receivables and payables denominated in euro and foreign currencies.

When IAS 39 criteria are met, the derivative instruments are designated as fair value hedges and:

— fair value gains and losses arising on the derivative are recorded in profit or loss for the period;

— the hedged item is initially recognised at amortised cost and remeasured to its fair value at the balance sheet date, for the hedged portion of the risk, through profit or loss.

As such, fair value gains and losses on the derivative and the hedged item cancel out in profit or loss, except for the ineffective portion of the hedge.

In € millions	31/12/2016	31/12/2015
P&L impact of loan remeasurements	21	24
Change in fair value of asset derivatives	-18	-23
Change in fair value of liability derivatives	-19	-2
Fair value hedging ineffectiveness	-15	-1

5.4.1.3 Derivatives not qualified for hedge accounting

These are derivative financial instruments corresponding to economic hedges that do not satisfy standard requirements to be qualified for hedge accounting. If a derivative financial instrument has not been (or is no longer) qualified for hedge accounting, its successive fair value changes are directly recognised in profit or loss for the period, within a specific heading, e.g. Mark-to-market or MtM on operating financial instruments under current operating profit or loss for non-financial asset derivatives and under finance cost for foreign currency, interest rate or equity derivatives.

In millions	31/12/2016				31/12/2015			
	Fair value in euros		Notional foreign currency amount		Fair value in euros		Notional foreign currency amount	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
Foreign currency derivatives								
US dollar	75	-	1,562	-	35	4	1,015	180
Australian dollar	-	-	-	-	4	-	100	-
Interest rate derivatives	-	22	50	337	-	21	174	341
Embedded derivatives	18	-	211	156	18	-	211	156
Total derivatives not qualified for hedging	93	22	-	-	58	26	-	-

5.4.2 Derivatives by type of instrument

5.4.2.1 Asset derivative instruments

SNCF Réseau regularly operates on the foreign currency derivatives market, primarily in order to hedge borrowings issued. The fair value of these instruments in the balance sheet breaks down as follows by instrument and transaction type:

In € millions	Balance sheet fair value as at 31/12/2016					Balance sheet fair value as at 31/12/2015				
	Cash flow hedge	Fair value hedge	Trading	Net investment hedge	Total	Cash flow hedge	Fair value hedge	Trading	Net investment hedge	Total
Currency swaps	644	663	-	-	1,308	839	762	-	-	1,601
Forward foreign currency purchases	-	-	75	-	75	-	-	39	-	39
Forward foreign currency sales	-	-	-	-	-	-	-	-	-	-
Foreign currency options	-	-	-	-	-	-	-	-	-	-
Asset derivative instruments	644	663	75	-	1,383	839	762	39	-	1,640
Currency swaps	1,550	64	-	-	1,614	1,063	16	-	-	1,079
Forward foreign currency purchases	-	-	-	-	-	-	-	4	-	4
Forward foreign currency sales	-	-	-	-	-	-	-	-	-	-
Foreign currency options	-	-	-	-	-	-	-	-	-	-
Liability derivative instruments	1,550	64	-	-	1,614	1,063	16	4	-	1,083
Net foreign currency position	-906	599	75	-	-231	-224	746	35	-	557

5.4.2.1.1 Nominal commitments of currency swaps with an underlying asset

No position held as at 31 December 2016 and 2015.

5.4.2.1.2 Nominal commitments of currency swaps with an underlying liability

The maturity schedule by foreign currency of the nominal commitments of the instruments subscribed is as follows:

31/12/2016	Total		Less than 1 year		1 to 5 years		5 to 10 years		10 to 20 years		20 years and thereafter	
	euros at the year-end		euros at the year-end		euros at the year-end		euros at the year-end		euros at the year-end		euros at the year-end	
	foreign currency	exchange rate	foreign currency	exchange rate	foreign currency	exchange rate	foreign currency	exchange rate	foreign currency	exchange rate	foreign currency	exchange rate
In millions												
Canadian dollar	277	195	-	-	-	-	-	-	277	195	-	-
Swiss franc	1,945	1,811	-	-	1,090	1,015	150	140	575	535	130	121
Pound sterling	3,595	4,199	-	-	800	934	-	-	1,501	1,753	1,294	1,511
Hong Kong dollar	-	-	-	-	-	-	-	-	-	-	-	-
Yen	45,000	365	-	-	25,000	203	7,000	57	13,000	105	-	-
New Zealand dollar	-	-	-	-	-	-	-	-	-	-	-	-
US dollar	1,220	1,157	100	95	1,000	949	-	-	-	-	120	114
Australian dollar	-	-	-	-	-	-	-	-	-	-	-	-
Norwegian crown	500	55	-	-	-	-	-	-	500	55	-	-
Foreign currency commitments received	-	7,782	-	95	-	3,101	-	196	-	2,644	-	1,746
Euro	-	8,266	-	77	-	3,030	-	157	-	3,038	-	1,964
Euro commitments given	-	8,266	-	77	-	3,030	-	157	-	3,038	-	1,964

31/12/2015	Total		Less than 1 year		1 to 5 years		5 to 10 years		10 to 20 years		20 years and thereafter	
	euros at the year-end		euros at the year-end		euros at the year-end		euros at the year-end		euros at the year-end		euros at the year-end	
	foreign currency	exchange rate	foreign currency	exchange rate	foreign currency	exchange rate	foreign currency	exchange rate	foreign currency	exchange rate	foreign currency	exchange rate
In millions												
Canadian dollar	277	183	-	-	-	-	-	-	277	183	-	-
Swiss franc	2,107	1,945	162	149	790	729	300	277	725	669	130	120
Pound sterling	3,629	4,945	44	60	-	-	800	1,090	1,501	2,045	1,284	1,750
Hong Kong dollar	300	36	300	36	-	-	-	-	-	-	-	-
Yen	45,000	343	-	-	15,000	114	17,000	130	13,000	99	-	-
New Zealand dollar	-	-	-	-	-	-	-	-	-	-	-	-
US dollar	370	340	150	138	100	92	-	-	-	-	120	110
Australian dollar	-	-	-	-	-	-	-	-	-	-	-	-
Norwegian crown	500	52	-	-	-	-	-	-	500	52	-	-
Foreign currency commitments received	-	7,844	-	383	-	935	-	1,497	-	3,048	-	1,980
Euro	-	7,720	-	327	-	715	-	1,547	-	3,182	-	1,949
Euro commitments given	-	7,720	-	327	-	715	-	1,547	-	3,182	-	1,949

5.4.2.1.3 Interest flows of currency swaps

Based on year-end exchange and interest rates and future implicit rates of the year-end rate curve for floating rates, the maturity schedule is as follows:

In € millions	31/12/2016		31/12/2015	
	Interest received	Interest paid	Interest received	Interest paid
Less than 1 year		325	-211	328
1 to 5 years		1,202	-846	1,239
5 to 10 years		1,082	-963	1,185
10 to 20 years		1,394	-1,136	1,648
20 years and thereafter		1,333	-1,244	1,627
TOTAL		5,338	-4,400	6,027
				-4,454

5.4.2.2 Interest rate derivatives

SNCF Réseau operates in the interest rate swap and swaption market in order to manage its exposure to interest rate risk on borrowings. The fair value of these instruments in the balance sheet breaks down as follows by instrument and transaction type:

In € millions	Balance sheet fair value as at 31/12/2016					Balance sheet fair value as at 31/12/2015				
	Cash flow hedge	Fair value hedge	Trading	Net investment hedge	Total	Cash flow hedge	Fair value hedge	Trading	Net investment hedge	Total
Fixed-rate receiver swaps	1	95	18	-	114	1	97	18	-	116
Fixed-rate payer swaps	27	-	-	-	27	11	-	-	-	11
Index swaps	-	-	-	-	-	-	-	-	-	-
Swaptions	-	-	-	-	-	-	-	-	-	-
Asset derivative instruments	27	95	18	-	140	11	97	18	-	126
Fixed-rate receiver swaps	5	-	-	-	5	6	-	-	-	6
Fixed-rate payer swaps	646	-	22	-	668	573	-	21	-	594
Index swaps	-	-	-	-	-	-	-	-	-	-
Swaptions	-	-	-	-	-	-	-	-	-	-
Liability derivative instruments	651	-	22	-	673	578	-	21	-	600
Net foreign currency position	-623	95	-5	-	-533	-567	97	-3	-	-474

5.4.2.2.1 Nominal commitments of interest rate swaps

The maturity schedule, by type of instrument, of the nominal commitments is as follows:

In € millions	31/12/2016		31/12/2015	
	Net debt		Net debt	
	Long-term	Short-term	Long-term	Short-term
Fixed-rate receiver swaps	882	181	1,707	174
Fixed-rate payer swaps	3,601	-	3,942	110
Index swaps	-	-	-	-
Swaptions	-	-	-	-

5.4.2.2 Interest flows of interest rate swaps

Based on year-end exchange and interest rates and future implicit rates of the year-end rate curve for floating rates, the maturity schedule is as follows:

In € millions	Net interest flows as at 31/12/2016				
	Less than 1 year	1 to 5 years	5 to 10 years	10 to 20 years	20 years and thereafter
Fixed-rate receiver swaps					
Fixed-rate payer swaps	-41	-146	-135	-265	-67
Index swaps	-	-	-	-	-
Swaptions	-	-	-	-	-
TOTAL	-51	-190	-138	-250	-67

In € millions	Net interest flows as at 31/12/2015				
	Less than 1 year	1 to 5 years	5 to 10 years	10 to 20 years	20 years and thereafter
Fixed-rate receiver swaps	-11	-63	-39	20	-
Fixed-rate payer swaps	-39	-138	-112	-248	-62
Index swaps	-	-	-	-	-
Swaptions	-	-	-	-	-
TOTAL	-50	-201	-151	-227	-62

6. GROSS PROFIT

Gross profit is equal to revenue plus incidental income, net of expenses directly related to operating activities.

Revenue mainly comprises services carried out in the context of railway activities and is recognised at the date on which these services are rendered.

Added to these infrastructure fees is the rate compensation paid by the French State to cover the marginal cost of freight traffic, together with the fees paid by freight companies. They are recognised in revenue as they are analysed as price supplements.

Other income mainly breaks down into study services, rental income and sales of materials.

Expenses directly related to operating activities include primarily purchases, subcontracting costs, other external services, employee costs, taxes and duties other than income tax, and other miscellaneous items. All charges to employee-related provisions and, specifically, charges relating to employee commitments (excluding the finance cost), are included in "Employee benefit expense".

Gross profit is separate from current operating profit, which includes the majority of non-cash items (depreciation and amortisation, provisions, impairment, etc.) and other miscellaneous items not directly attributable to another income statement account. Impairment and impairment reversals of operating assets are recognised below gross profit under "Net movement in provisions". In this case, the gross profit allocation is entered when the loss becomes effective.

Charges to provisions for liabilities and charges are also recognised under "Net movement in provisions", as are unused reversals. Used reversals are recognised with the expense they hedge within gross profit.

6.1 REVENUE

Revenue breaks down as follows:

In € millions	31/12/2016	31/12/2015	Change
Access fees	1,978	1,985	-7
Reservation fees	2,048	2,056	-8
Traffic fees	1,350	1,410	-61
Platform fees	121	94	27
Additional electrical traction usage and electricity transmission fees*	239	259	-20
Other proceeds	43	43	-
Infrastructure fees	5,778	5,848	-70
Freight compensation	78	31	47
Other income	585	384	201
Revenue	6,441	6,264	177

* Of which electricity transmission fee: €151 million.

6.2 PURCHASES AND EXTERNAL CHARGES

Purchases and other external charges break down as follows:

In € millions	31/12/2016	31/12/2015	Change
Delegated management fees	-	-1,619	1,619
Electricity transmission and traction means	-333	-243	-90
Upkeep and maintenance	-543	-278	-265
Professional fees and IT services	-289	-240	-49
Property	-530	-208	-322
Other purchases and external charges	-405	-261	-144
Purchases and external charges	-2,100	-2,848	748

Delegated management fees until 30 June 2015

Prior to the rail reform, SNCF carried out the following three activities for SNCF Réseau which it invoiced accordingly:

- creation of the system which organises all rail traffic on the network, referred to as "train running diagrams";
- management of safety and control systems and traffic management;
- supervision, maintenance, repair and other measures necessary for the operation of the network and all technical facilities.

Following the implementation of the rail reform on 1 July 2015, the heading "Delegated management fees" was replaced by "Employee benefit expense and external purchases".

Other purchases and external charges

This heading includes the services invoiced by the Group. (See 9.1)

6.3 EMPLOYEE BENEFIT EXPENSE AND HEADCOUNT

Employee benefit expense mainly comprises wages, employee benefits and employee profit-sharing.

Employee benefit expense is reduced by the amount of Competitiveness and Employment Tax Credit (CICE) introduced by the amending finance act of 29 December 2012.

As at 31 December 2016, the employee benefit expenses and headcount break down as follows:

In € millions	31/12/2016	31/12/2015	Change
Wages and salaries	-2,247	-1,192	-1,055
Other employee benefits	1	-3	4
Seconded and temporary employees	-10	-6	-4
Net employee benefit expense	-2,256	-1,202	-1,055
Average number of salaried employees	54,976	27,325	27,651

The changes in employee benefit expense observed between 31 December 2016 and 31 December 2015 were mostly due to the reform of 1 July 2015.

The average number of full-time equivalent employees as at 31 December 2016 was 54,976 FTE due to the transfer of the employees of SNCF Infra and Rail Network Operation and Management on 1 July 2015.

Assuming the transfer had taken place on 1 January 2015, the average number of full-time equivalent employees would be 53,996 FTE for an employee benefit expense of €2,372 million, net of capitalised production.

6.4 TAXES AND DUTIES OTHER THAN INCOME TAX

Taxes and duties other than income tax included in gross profit mainly comprise the Territorial Economic Contribution (CET), property taxes, the corporate social solidarity contribution (C3S) and salary-based taxes (apprenticeship tax, vocational training, employer's contribution to a construction levy).

In € millions	31/12/2016	31/12/2015	Change
CET	-91	-69	-22
Property taxes	-27	-28	1
Salary-based taxes of which	-90	-42	-48
- tax on wages	-7	-4	-3
- apprenticeship tax	-14	-7	-7
- vocational training	-28	-11	-17
- construction levy	-10	-5	-5
- transport payment	-32	-15	-17
Other taxes and duties (including C3S)	-9	-8	-1
Taxes and duties other than income	-216	-146	-70

7 EMPLOYEE BENEFITS

7.1 DESCRIPTION OF EMPLOYEE BENEFITS

Under the law of 4 August 2014 covering the rail reform of 1 July 2015, the employees transferred from EPIC SNCF Mobilités were guaranteed the full earned rights to their employee benefits. The same plans therefore remain in effect within EPIC SNCF Réseau.

Since 1 January 2016, the benefits granted to the employees transferred from EPIC SNCF Mobilités have been gradually extended to the employees of the former Réseau Ferré de France (RFF). This alignment involving around 1,500 employees had no major impacts on the overall commitments.

7.1.1 Pension and similar plans

These benefits comprise end-of-career or termination benefits paid to contractual employees at retirement. In France, these benefits are determined in accordance with the national collective agreement or the company agreement in force. Paid at employment termination, they represent a post-employment benefit calculated on the last estimated end-of-career salary.

7.1.2 Provident plan

The provident plan concerns supplementary benefits for EPIC SNCF Réseau top executives not otherwise covered.

7.1.3 Social welfare initiatives

The SNCF Réseau Group implements various social welfare initiatives for personnel: access to infrastructures, consultation of social workers, etc. Both active (short-term benefits) and retired employees (post-employment benefits) may benefit from these initiatives.

A provision in the amount of benefit granted to retired employees was recognised.

7.1.4 Compensation for work-related injuries

Compensation for work-related injuries is self-financed for active and retired employees of EPIC SNCF Réseau, independently of the current general regime.

Life annuities are provided in full at the date of grant to injured employees without any seniority conditions. They represent long-term (active employees) and post-employment benefits (retired employees).

7.1.5 Gradual cessation of activity

The gradual cessation of activity is a procedure used to adjust the work time of employees who have reached the end of their careers. A work-time formula is thus arranged to provide a transition period between professional activity and retirement. The last agreement signed by EPIC SNCF Mobilités that came into effect in July 2008 offers the possibility of a gradual or complete cessation for the personnel of the three EPICs. The granting of benefits is based on a combination of criteria: years of service, hardship and employee category. The agreement is treated as a long-term benefit in the consolidated financial statements pursuant to IAS 19.

The calculation is mainly based on the assumption related to the expected proportion of employees to be covered by the procedure.

7.1.6 Long-service awards and other benefits

This heading combines the other long-term employee benefits granted by the Group, particularly bonuses with respect to long-term service awards (France).

7.1.7 Agreement on wage increases and buyback of quarters for former apprentices

On 28 October 2016, EPIC SNCF and all the trade union representatives signed a collective agreement negotiated for all the EPICs making up the public rail group. It covers wage increases relating to former apprentices and students and the set-up of a company financial contribution mechanism to buy back non-validated pension quarters of former apprentices, for apprenticeship periods prior to 20 June 2008.

As at 31 December 2016, this agreement covering wage increases and financial aid to buy back quarters from former apprentices resulted in the recognition of a provision for €5.2 million with respect to past service cost.

7.2 CHANGE IN THE NET POSITION OF THE PLANS

7.2.1 Breakdown of liabilities

The Group's main employee benefit plans gave rise to the recognition of the following liabilities:

In € millions	31/12/2016	31/12/2015
Pensions and other similar benefits	14	18
Provident obligations	16	16
Social welfare initiatives	93	96
Compensation for work-related injuries	468	464
Liabilities relating to post-employment benefits	591	595
Compensation for work-related injuries	16	16
Long-service awards and other benefits	41	30
Gradual cessation of activity	185	189
Time savings account	73	59
Liabilities relating to other long-term benefits	316	294
Total liabilities	907	889
<i>of which non-current</i>	<i>847</i>	<i>837</i>
<i>of which current</i>	<i>60</i>	<i>52</i>

7.2.2 Change in liabilities

In € millions	31/12/2016	31/12/2015
Total liabilities at opening date	889	15
Current service cost	58	26
Past service cost	-1	-
Effect of plan settlements	-	-
Net financial interest	15	6
Actuarial gains and losses generated during the period	4	20
Benefits paid to employees by the company	-59	-26
Change in scope	-	848
Foreign exchange impact	-	-
Other	-	-
Total liabilities at closing date	907	889

As at 1 July 2015, pursuant to the law of 4 August 2014 on rail reform, SNCF Réseau recovered around 56,000 employees from EPIC SNCF Mobilités. A total liability of €847 million was recorded in the SNCF Réseau balance sheet.

The substantial increase in the current service cost and net financial interest was primarily due to a scope impact relating to rail reform: the expense recognised in 2016 covers a full year.

Past service cost arises from the alignment of the vested benefits calculation for former RFF employees with regard to termination benefits and the introduction of a new financial aid plan to buy back the quarters of former apprentices. These two events generated a €6 million and a €5 million loss, respectively.

The 1.75% decrease in the discount rate to 1.60% as at 31 December 2016 generated an actuarial loss of €17 million that breaks down as follows: a financial expense of €5 million recognised under "Finance costs of employee benefits" with regard to long-term benefits and a negative impact of €12 million recorded in non-recyclable reserves under equity with regard to post-employment benefits. This actuarial loss was partially offset by an €8 million gain arising from experience adjustments following a decline in the number of beneficiaries for certain plans.

Changes in the present value of obligations, the fair value of plan assets and the net liabilities (assets) for 2016 are as follows:

In € millions	Pensions and other similar benefits	Provident obligations	Social welfare initiatives	Compensation for work-related injuries	Gradual cessation of activity and time savings account	Long-service awards and other benefits	31/12/2016
Present value of the obligation at opening date	18	16	96	480	248	30	889
Current service cost	2	-	2	17	28	9	58
Employee contribution	-	-	-	-	-	-	-
Past service cost arising from a plan amendment	-6	-	-	-	-	5	-1
Past service cost arising from a plan curtailment	-	-	-	-	-	-	-
Effect of settlements	-	-	-	-	-	-	-
Finance cost	-	-	2	8	4	-	15
Actuarial gains and losses generated during the period	-	-1	-2	5	1	-1	4
Benefits paid to employees by the company	-1	-1	-4	-27	-23	-3	-59
Effect of changes in Group structure	-	-	-	-	-	-	-
Foreign exchange impact	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-
Present value of the obligation at closing date	14	16	93	484	258	41	907
<i>of which present value of unfunded obligations</i>	14	16	93	484	258	41	907

Changes in the present value of obligations, the fair value of plan assets and the net liabilities (assets) for 2015 are as follows:

In € millions	Pensions and other similar benefits	Provident obligations	Social welfare initiatives	Compensation for work-related injuries	Gradual cessation of activity and time savings account	Long-service awards and other benefits	31/12/2015
Present value of the obligation at opening date	15	-	-	-	-	-	15
Current service cost	3	-	1	8	13	2	26
Employee contribution	-	-	-	-	-	-	-
Past service cost arising from a plan amendment	-	-	-	-	-	-	-
Past service cost arising from a plan curtailment	-	-	-	-	-	-	-
Effect of settlements	-	-	-	-	-	-	-
Finance cost	-	-	1	3	1	-	6
Actuarial gains and losses generated during the period	-4	-	4	13	7	-	20
Benefits paid to employees by the company	-1	-	-2	-13	-9	-1	-26
Effect of changes in Group structure	5	16	92	470	235	29	848
Foreign exchange impact	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-
Present value of the obligation at closing date	18	16	96	480	248	30	889
<i>of which present value of unfunded obligations</i>	18	16	96	480	248	30	889

7.3 EMPLOYEE BENEFIT PLAN EXPENSES

For the basic plans and other defined-contribution plans, the Group expenses contributions payable when they are due. No provisions are recognised as the Group does not have any obligation beyond the contributions paid.

In the case of defined-benefit plans, when benefits are covered by third parties (insurance contracts, provident organisations unrelated to the Group), and the Group has no legal or implicit obligation to cover any losses relating to past services over the period or prior periods, no obligation is recognised and the insurance/provident premiums paid are recognised as payments to a defined contribution plan, the obligation to provide benefits to employees being the sole responsibility of the third party organisation. In the other cases, the obligations are subject to actuarial valuations and provisions are recorded on the balance sheet upon vesting of benefit rights by employees.

The actuarial liability (or present value of the obligation with respect to defined benefits) is determined according to the projected unit credit actuarial method, which stipulates that each period of service gives rise to an additional unit of benefit and measures each unit separately to determine the final obligation. These calculations include assumptions concerning the discount rate, mortality, employee turnover and expected future salary levels.

In the case of plans partially or fully funded by plan assets, the net liability (asset) is recognised in the amount of the negative or positive difference between the present value of the obligation and the fair value of the plan assets.

Changes in the net obligation are recorded according to their nature.

The net charge is recognised:

— in current operating profit for the portion corresponding to service costs representing the straight-line vesting of benefits, past service costs (plan amendment and curtailment) and the impact of settlements. Past service costs are immediately recorded in profit or loss whether the rights are vested or not;

— in finance cost for the portion corresponding to the net financial interest (cost of the reverse discounting of the debt less the implicit return on plan assets, if any, and the interest on the asset ceiling impact) and the actuarial gains and losses generated by other long-term benefits.

7.3.1 Net expense with respect to defined benefit plans

The income statement expense for 2016 and 2015 breaks down as follows:

31/12/2016							
In € millions	Pensions and other similar benefits	Provident obligations	Social welfare initiatives	Compensation for work-related injuries	Gradual cessation of activity and time savings account	Long-service awards and other benefits	Total
Current service cost	2	-	2	17	28	9	58
Past service cost	-6	-	-	-	-	5	-1
<i>of which effect of plan amendments</i>	-6	-	-	-	-	5	-1
<i>of which effect of plan curtailments</i>	-	-	-	-	-	-	-
Effect of settlements on the obligation	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-
Gross profit	-4	-	2	17	28	14	58
Net financial interest	-	-	2	8	4	-	15
Actuarial gains and losses generated during the year with respect to long-term benefits	-	-	-	-	1	-1	-
Other	-	-	-	-	-	-	-
Finance cost	-	-	2	8	6	-	15
TOTAL	-4	1	3	25	34	14	73

31/12/2015							
In € millions	Pensions and other similar benefits	Provident obligations	Social welfare initiatives	Compensation for work-related injuries	Gradual cessation of activity and time savings account	Long-service awards and other benefits	Total
Current service cost	3	-	1	8	13	2	26
Past service cost	-	-	-	-	-	-	-
<i>of which effect of plan amendments</i>	-	-	-	-	-	-	-
<i>of which effect of plan curtailments</i>	-	-	-	-	-	-	-
Effect of settlements on the obligation	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-
Gross profit	3	-	1	8	13	2	26
Net financial interest	-	-	1	3	1	-	6
Actuarial gains and losses generated during the year with respect to long-term benefits	-	-	-	-	7	-	7
Other	-	-	-	-	-	-	-
Finance cost	-	-	1	3	8	-	13
TOTAL	3	-	2	11	22	2	39

7.3.2 Net expense with respect to defined contribution plans

The expense recorded for defined contribution plans included in "Employee benefit expense" amounted to €0.6 billion in 2016 (€0.3 billion in 2015).

7.4 ACTUARIAL ASSUMPTIONS AND GAINS AND LOSSES

7.4.1 Main actuarial assumptions used

Provisions for employee obligations are calculated on an actuarial basis, using the projected unit credit method. The parameters used in the modelling of the main employee benefits are as follows:

— Discount rate

Obligations relating to the main post-employment benefits were discounted at the closing dates market rate based on leading corporate bonds of comparable maturity. The benchmark used to determine the discount rate is Bloomberg AA for the Eurozone.

— Mortality table

EPIC SNCF Réseau social welfare initiatives and provident obligations were measured using a prospective mortality table by gender specific to railway employees (special pension plan base). This table prepared by the provident pension fund (Caisse de Prévoyance Retraite) was validated by a certifying actuary.

A table including a degradation coefficient was extrapolated for compensation for work-related injuries/illnesses. Based on the certified table, the mortality tables of the other plans were also modified.

These mortality table changes satisfy the requirement of the revised standard according to which mortality assumptions must reflect that of the plan members both during and after employment.

— Gradual cessation of activity plan membership

The amount of the obligation under the gradual cessation of activity agreement was calculated using a membership assumption rate of 31.89%. A 100 point increase or decrease in this assumption would have an impact of around €6 million on the obligation amount.

— Assumptions used for the EPIC SNCF Réseau main plans

The main actuarial assumptions used for the measurement of the EPIC SNCF Réseau plans are described below:

	31/12/2016	31/12/2015
Discount rate	1.60%	1.75%
Inflation rate	1.75%	1.75%
Benefit remeasurement rate		
Provident obligations	2.40%	2.80%
Social welfare initiatives	1.75%	1.75%
Compensation for work-related injuries	1.75%	1.75%
Gradual cessation of activity	2.37%	2.37%
Retirement benefits and long-service awards	2.37%	2.37%
Mortality table		
Provident obligations and social welfare initiatives	CPR H / CPR F	CPR H / CPR F
Active and retired employees with work-related injuries	CPR AT	CPR AT
Widows of employees with work-related injuries	CPR F	CPR F
Gradual cessation of activity	CPR 80 % H / CPR 20 % F	CPR 80 % H / CPR 20 % F
Retirement benefits and long-service awards	CPR 80 % H / CPR 20 % F	CPR 80 % H / CPR 20 % F
Gradual cessation of activity plan membership	31.89%	31.89%

7.4.2 Analysis by nature of actuarial gains and losses

Actuarial gains and losses are recognised according to the plan's qualification:

— for defined benefit plans covering post-employment benefits, actuarial gains and losses are recognised in other comprehensive income under non-recyclable reserves. They are never recycled in profit or loss but can be reclassified in undistributed reserves if the entity concerned is removed from the consolidation scope;

— for other long-term defined benefit plans (long-service awards, unemployment, salary maintenance, gradual cessation of activity, etc.), actuarial gains and losses and any past service costs are immediately recognised in finance cost.

— Change and breakdown of actuarial gains and losses

With respect to fiscal 2016, the impacts relating to changes in financial assumptions were mainly due to the 0.15 point decline in the discount rate; those relating to experience adjustments were primarily due to the reduction in the number of employee beneficiaries.

With respect to fiscal 2015, the impacts relating to changes in financial assumptions were mainly due to the 0.30 point decline in the discount rate between 1 July 2015 (2.05%) and 31 December 2015 (1.75%) with respect to transferred obligations.

31/12/2016	Pensions and other similar benefits	Provident obligations	Social welfare initiatives	Post-employment compensation for work-related injuries	TOTAL Post-employment benefits	Long-term compensation for work-related injuries	Gradual cessation of activity and time savings account	Long-service awards and other benefits	TOTAL Long-term benefits
In € millions									
Opening actuarial gains (losses)	1	-	-4	-13	-16				
Experience adjustments relating to liabilities	-	-	4	4	8	-	3	1	5
Effects of changes in demographic assumptions relating to liabilities	-	-	-	-	-	-	-	-	-
Effects of changes in financial assumptions relating to liabilities	-	1	-2	-10	-12	-	-5	-	-5
Actuarial gains and losses on the obligation generated over the year	-	1	2	-6	-4	-	-1	1	-
Foreign exchange impact	-				-			-	-
Other	-	-	-	-	-	-	-	-	-
Closing actuarial gains (losses)	1	1	-2	-19	-20				
Total experience adjustments	-	-	4	4	8	-	3	1	5
Total impacts relating to changes in actuarial assumptions	-	1	-2	-10	-12	-	-5	-	-5
31/12/2015	Pensions and other similar benefits	Provident obligations	Social welfare initiatives	Post-employment compensation for work-related injuries	TOTAL Post-employment benefits	Long-term compensation for work-related injuries	Gradual cessation of activity and time savings account	Long-service awards and other benefits	TOTAL Long-term benefits
In € millions									
Opening actuarial gains (losses)	-3	-	-	-	-3				
Experience adjustments relating to liabilities	-	-	-	7	8	1	-	1	1
Effects of changes in demographic assumptions relating to liabilities	-	-	-	-	-	-	-	-	-
Effects of changes in financial assumptions relating to liabilities	4	-1	-4	-20	-21	-	-7	-	-8
Actuarial gains and losses on the obligation generated over the year	4	-	-4	-13	-14	-	-7	-	-7
Foreign exchange impact	-				-			-	-
Other	-	-	-	-	-	-	-	-	-
Closing actuarial gains (losses)	1	-	-4	-13	-16				
Total experience adjustments	-	-	-	7	8	1	-	1	1
Total impacts relating to changes in actuarial assumptions	4	-1	-4	-20	-21	-	-7	-	-8

Analysis of the obligation's sensitivity to the main actuarial assumptions

The amounts below correspond to the decrease (actuarial gain) or increase (actuarial loss) in obligations as recognised as at 31 December 2016.

31/12/2016	Pensions and other similar benefits	Provident obligations	Social welfare initiatives	Compensation for work-related injuries	Gradual cessation of activity and time savings account	Long-service awards and other benefits	Total
In € millions							
Actuarial (gains) losses							
Sensitivity to the discount rate							
Change of +0.25 pt	-1	-1	-3	-17	-7	-1	-29
Change of -0.25 pt	-1	1	4	18	7	1	29
Sensitivity to the inflation rate							
Change of +0.25 pt	-	1	4	18	-	-	15
Change of -0.25 pt	-	-1	-3	-17	-	-	-21
Sensitivity to gradual cessation of activity membership rate							
Change of +1 pt	-	-	-	-	6	-	6
Change of -1 pt	-	-	-	-	-6	-	-6

31/12/2015	Pensions and other similar benefits	Provident obligations	Social welfare initiatives	Compensation for work-related injuries	Gradual cessation of activity and time savings account	Long-service awards and other benefits	Total
In € millions							
Actuarial (gains) losses							
Sensitivity to the discount rate							
Change of +0.25 pt	-1	-1	-4	-16	-6	-1	-29
Change of -0.25 pt	1	1	4	17	6	-	29
Sensitivity to the inflation rate							
Change of +0.25 pt	-	-	-	-	-	-	-
Change of -0.25 pt	-	-	-	-	-	-	-
Sensitivity to gradual cessation of activity membership rate							
Change of +1 pt	-	-	-	-	6	-	6
Change of -1 pt	-	-	-	-	-6	-	-6

7.5 MANAGEMENT COMPENSATION

The Group's key management personnel are members of the SNCF Réseau Group Executive Committee. Their cumulative taxable compensation indicated below corresponds to short-term benefits.

	31/12/2016	31/12/2015	Change
Average number of managers during the year	10	10	
Total compensation in € thousands	2,498	2,435	63

8 INCOME TAX EXPENSE

Income tax expense encompasses all taxes calculated on an accounting profit or loss net of income and expenses. The following items are recognized under this line item at the bottom of the income statement:

- corporate income tax and the various additional contributions associated with it;
- sponsorship and foreign tax credits;
- the impact of tax reassessments in respect of income tax;
- deferred tax.

Deferred tax

The Group recognises deferred tax on all timing differences between the tax and book values of assets and liabilities in the consolidated balance sheet. Deferred tax is calculated using the liability method, applying the most recently voted tax rate at the year-end applicable to the period in which the timing differences are expected to reverse.

Deferred tax assets in respect of timing differences and tax losses or credits carried forward are recognised when recovery is deemed probable. The Group's ability to recover these tax assets is assessed through an analysis of its business plan and the uncertainties presented by the economy and Group markets.

Other income tax expense

Income tax expense other than deferred tax is offset against operating payables and receivables in the balance sheet. Deferred tax assets and liabilities are not discounted in accordance with IAS 12 and are offset in a separate line item under non-current assets and liabilities.

As at 31 December 2015, SNCF Réseau had decided to freeze its deferred tax asset amount at the amount calculated as at 30 June 2015 (effective date of the reform), pending more precise items of analysis and, in particular, the finalisation of the 2017-2026 performance contract. As mentioned previously, the deferred tax receivable was tested in the Infrastructure CGU.

This analysis was completed at the end of 2016 and led to a review of the measurement of deferred tax assets, mainly by excluding the net deferred tax asset receivable from the Infrastructure CGU reference assets so as to apply a measurement method specific to this type of receivable in accordance with IAS 12.

In this context, the Group calculated a net deferred tax asset receivable of €6.2 billion. Prior to the analysis of its recoverable portion, this amount comprised:

- loss carryforwards for €3.1 billion;
- temporary differences for €2.9 billion;
- IFRS restatements for €0.2 billion.

The recognised amount takes into account the decrease in the tax rate from 34.43% to 28.92%. Considering its life cycle, the Group considered a period of 25 years to be a reasonable period for the utilisation of the tax asset in order to recognise a deferred tax asset receivable. Hence, the deferred tax receivable was recognised for €3.8 billion out of a total of €6.2 billion as at 31 December 2016, i.e. a €2.4 billion reduction.

8.1 INCOME TAX EXPENSE ANALYSIS

In € millions	31/12/2016	31/12/2015	Change
Current tax (expense)/income	-	-	1
Deferred tax (expense)/income	36	-44	81
Total	37	-45	82

Since 1 January 2015, SNCF Réseau has belonged to the tax consolidation scope headed by SNCF. A tax consolidation agreement was signed by both entities to guarantee a neutral option for SNCF Réseau under this tax regime.

Deferred taxes were measured at a rate of 34.43% or 28.92% according to the year in which they will be settled.

8.2 TAX PROOF

For its tax proof, the Group adopted the corporate income tax rate (33.33%) applicable in France, plus the 3.3% social security contribution, but without the 10.7% exceptional contribution. This exceptional contribution applies to businesses whose revenue exceeds €250 million during fiscal years up to 30 December 2016.

In € millions	31/12/2016	31/12/2015
Net profit/(loss) for the year	-120	-9,916
Share of net profit/(loss) of companies consolidated under the equity method	1	1
Income tax expense	37	-45
Net profit/(loss) before tax from ordinary activities and before the share of net profit of companies consolidated under the equity method	-157	-9,873
Income tax rate applicable in France	34.43%	34.43%
Theoretical income tax (expense)/income	54	3,399
Permanent differences	-126	-119
Tax bases not utilised	77	-3,340
Tax credits	30	16
Income tax expense	37	-44
Effective tax rate	NA	NA

The Competitiveness and Employment Tax Credit (CICE), which was set up to finance and improve the competitiveness of French companies and came into effect from 1 January 2013, had a €29 million positive impact on the tax proof heading "Tax credit".

9 RELATED PARTY TRANSACTIONS

SNCF Réseau, as an industrial and commercial public institution wholly owned by the French State (via the French Government Shareholding Agency), is related, in the meaning of IAS 24, Related Party Disclosures, to all companies and entities controlled by the French State.

Disclosures on individually or collectively material transactions with these entities concern the following related parties:

- the EPICs belonging to the Public Rail Group, SNCF Mobilités and SNCF;
- the French State.

Transactions between SNCF Réseau Group and other State companies (EDF, La Poste, etc.) are all performed on an arm's length basis.

No Group companies other than the parent company carry out material transactions with these related parties.

9.1 RELATIONS WITH THE PUBLIC RAIL GROUP

9.1.1 Relations with SNCF Mobilités

SNCF Mobilités is currently one of SNCF Réseau's main customers in terms of French rail network infrastructure fees.

Furthermore, until the rail reform, SNCF carried out delegated rail infrastructure management services on behalf of SNCF Réseau. From 1 July 2015, the delegated management fees paid to SNCF Mobilités (formerly SNCF) was replaced by internal operating and investment expenses.

Balance sheet headings In € millions	31/12/2016	31/12/2015
Production of fixed assets delegated to SNCF	-	1,057
Operating receivables	759	1,002
Operating payables*	726	540

* Balance sheet headings excluding borrowings presented separately in balance sheet liabilities (see Note 5.2.2).

Income and expenses In € millions	31/12/2016	31/12/2015
Infrastructure fees	3,502	3,631
Operating expenses	-513	-1,917

9.1.2 Relations with SNCF

SNCF is responsible for the strategic control of the Public Rail Group as well as the shared functions carried out for all the Group EPICs, with regard to the Group's coordination, support and shared service centre departments. These shared functions include:

- administrative management of human resources, payroll and social security protection;
- management of the Group's information systems;
- management of the Group's real estate and property;
- organisation of the Group's general purchases.

Balance sheet headings In € millions	31/12/2016	31/12/2015
Operating receivables	35	99
Operating liabilities	63	74

Income and expenses In € millions	31/12/2016	31/12/2015
Operating income	66	38
Operating expenses	-489	-408

9.2 RELATIONS WITH THE FRENCH STATE

Pursuant to the legislation applicable to companies whose sole shareholder is the French State, SNCF Réseau is subject to the economic and financial supervision of the French State, the French Court of Auditors, the French Parliament, as well as the verifications of the French General Inspectorate of Finance.

SNCF Réseau invoices the French State for the access fees related to TER regional passenger trains and Trains d'Équilibre de Territoire (TET).

As from 1 January 2016, the French State has also paid SNCF Réseau freight compensation grants and investment project financing grants, some of them via SNCF (see Note 2.1.1.5).

The government aid granted to the SNCF Réseau Group by the French State is presented in the following table:

Balance sheet headings In € millions	31/12/2016	31/12/2015
Claimed grants to be collected (assets)	559	819

Income and expenses In € millions	31/12/2016	31/12/2015
Access fees*	1,831	1,831
Freight compensation	78	31

* Of which TER fees: €1,391 million and TET fees: €440 million.

10 OFF-BALANCE SHEET COMMITMENTS

Commitments given	31/12/2016				31/12/2015	
	In € millions	Total commitment	Amount of commitments per period			Total commitment
			Less than 1 year	1 to 5 years	More than 5 years	
Commitments relating to financing	-	-	-	-	-	
Commitments relating to operations	2,037	881	383	772	2,339	
Investment purchase commitments: other non-current assets	65	25	39	1	28	
Investment purchase commitments: PPP and Eole project/concession	808	614	194	-	1,214	
Property sale undertakings	17	16	1	-	54	
Operating leases: equipment	176	158	18	-	169	
Operating leases: property	207	65	130	12	109	
Financial guarantees given to third parties	764	3	2	759	765	
Commitments relating to the Group consolidation scope	-	-	-	-	-	
Other commitments given	-	-	-	-	-	
Total commitments given	2,037	881	383	772	2,339	

Commitments received	31/12/2016				31/12/2015	
	In € millions	Total commitment	Amount of commitments per period			Total commitment
			Less than 1 year	1 to 5 years	More than 5 years	
Commitments relating to financing	1,250	1,250	-	-	1,250	
Unused confirmed credit lines	1,250	1,250	-	-	1,250	
Commitments relating to operations	940	545	374	21	1,200	
Investment purchase commitments: other non-current assets	423	423	-	-	1,029	
Property sale undertakings	17	16	1	-	54	
Operating leases: property	8	5	3	-	5	
Financial guarantees received from third parties	493	102	371	21	112	
Commitments relating to the Group consolidation scope	-	-	-	-	-	
Other commitments received	-	-	-	-	-	
Total commitments received	2,190	1,795	374	21	2,450	

10.1 ASSET PURCHASE COMMITMENTS

Off-balance sheet commitments as at 31 December 2016 primarily include commitments undertaken with PPP relating to the high-speed lines: commitments given correspond to investments still to be recognised; commitments received correspond to grants still to be recognised over the course of the projects.

PPP and concession agreements

The present value as at 31 December 2016 of amounts still to be paid under PPP and concession amounted to €551 million and breaks down as follows:

- €193 million for CNM;
- €295 million for BPL;
- €63 million for SEA.

The present value as at 31 December 2016 of grants still to be collected under PPP agreements amounted to €424 million and breaks down as follows:

- €189 million for CNM;
- €206 million for BPL;
- €29 million for SEA.

10.2 RAILWAY PROJECT COMMITMENTS

Charles-de-Gaulle Express Project

The law of 28 December 2016 on the ratification of the CDG Express line assigned a work concession to a company, majority owned by SNCF Réseau and the ADP Group (with a possible third party minority investment). The company will be responsible for the design, financing, production or development, operation and maintenance, including upkeep and renewal, of the railway infrastructure. The law also enabled the French State to designate, via a call for tenders, the rail operator in charge of passenger transport.

The French State passed an amendment in order to specify that the golden rule does not apply to SNCF Réseau's contribution to the financing of CDG Express given its specific status. The financial arrangement for this concession is currently being finalised.

Eole project

An interprefectoral decree of 31 March 2016 authorised the work and operation for the westerly extension of the RER E from Haussmann Saint-Lazare station to Nanterre-La Folie.

All the financiers have now approved the framework financing agreement, with the exception of the Hauts de Seine General Council.

The agreement approves the project's overall financing plan totalling €3.4 billion, of which €256 million in SNCF Réseau equity. The work carried out under SNCF Réseau project ownership amounts to €3 billion. Commissioning will take place between 2022 and 2024.

As decided by the French State, SNCF Réseau will guarantee a cash advance (repayable) capped at 40% of all the expenditure incurred at each stage, i.e. a maximum amount of €805 million. This advance, which will be granted over a period of ten years, will bear interest at 1.5%. The piggyback costs are borne by the French State and la Société du Grand Paris (SGP).

SNCF Réseau is now awaiting notification of the financing by STIF.

10.3 TRACK RESERVATION COMMITMENTS

The *Document de Référence du Réseau* for 2017, which can be consulted at the SNCF Réseau website, provides for a new reciprocal compensation mechanism should track allocations or reservations be cancelled or significantly modified by either party.

The applicable penalties will now range between €0.5/tr/Km and €8/tr/Km according to variable terms between the cancellation or modification date and the track reservation date. They are more significant for SNCF Réseau than for the rail companies.

The amounts to be reported in off-balance sheet commitments must reflect the objective reality of the transactions that could impact the company's accounts in the future.

In this case, in the absence of a history and sufficient perspective to reliably measure the impacts arising from this new mechanism, no amount has been reported in off-balance sheet commitments given or received with respect to these penalties in the accounts for the year ended 31 December 2016.

10.4 FINANCIAL GUARANTEES GIVEN TO THIRD PARTIES

— Financial guarantees given to third parties as at 31 December 2016 primarily comprised the guarantee issued in 2011 by RFF for the Caisse des Dépôts et Consignations (CDC);

— Financial guarantees received amounted to €493 million and mainly break down as follows:

- a financial guarantee from Eiffage Rail Express in the amount of €187 million;
- a financial guarantee from OCVIA in the amount of €122 million.

10.5 COMPANY LABOUR AND BRANCH AGREEMENT FRAMEWORK

The new employee work regime for Public Rail Group employees was definitively adopted in June 2016 (core decree, division agreement and company agreement). It came into effect on 12 December 2016, the start date of the 2017 annual service.

The negotiations at the end of 2016 with the trade unions representing the Public Rail Group on the introduction of a flat rate salary for a given number of days per year, following the provisions of Law no. 2014-872 of 4 August on rail reform and the company agreement of 14 June 2016 on work organisation, have not, at this stage, resulted in the conclusion of a company agreement on this matter. The need to provide PRG management with a work arrangement adapted to its responsibilities and constraints at a time when the new company labour framework will be applied necessitates the introduction of a flat rate salary for a given number of days per year, thus safeguarding the work arrangement previously applicable to Title III of RH77. The flat rate salary for a given number of days per year stipulated in Section II, Article 51 of the division's collective agreement of 31 May 2016 on employment contracts and the organisation of work within the railway division has therefore been applied.

11 STATUTORY AUDITORS' FEES

Pursuant to Article 222-8 of the general regulations of AMF, the table below presents the fees paid by SNCF Réseau, its wholly-consolidated subsidiaries and joint operations to each of the statutory auditors responsible for auditing the SNCF Réseau Group company and consolidated financial statements.

SNCF Réseau's principal statutory auditors have been PriceWaterHouseCoopers and Ernst & Young for fiscal years starting on or after 1 January 2015.

The following table shows the breakdown of fees by audit firm:

In € millions	Ernst & Young		PriceWaterHouseCoopers	
	31/12/2016	31/12/2015	31/12/2016	31/12/2015
Statutory audit (consolidated and individual)	0,3	0,3	0,3	0,3
Other procedures and services directly related to the statutory audit engagement	0,2	-	0,3	0,2
Other services	-	-	-	-
Total	0,4	0,3	0,6	0,5

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SNCF RÉSEAU IN 2016

1 SNCF RÉSEAU IN 2015

1.1 PRESENTATION OF THE ACTIVITY

On 1 July 2015, following the rail reform law enacted on 4 August 2014, SNCF Réseau combined the teams of Réseau Ferré de France and the Infrastructure division of SNCF (Infra and Rail network operation and management) under a single public entity within the SNCF Group. In February, the SNCF Réseau Board of Directors set up its head office at 15-17 rue Jean-Philippe Rameau in Saint-Denis, which marked a major step in the creation of a unified infrastructure manager with the physical merger of the RFF and SNCF teams.

SNCF Réseau manages, maintains, develops and markets the services offered by the National Rail Network. It manages safety and performance for nearly 30,000 km of rail lines, of which 2,000 high-speed lines. It also manages customer access to the network and service infrastructures under transparent and non-discriminatory conditions: 26 rail companies circulate on the network and 12 other companies, known as candidates (combined transport operators, ports, etc.), order train paths which they then assign to the rail company of their choice.

SNCF Réseau is organised according to four business lines and an Île-de-France Executive Management Department:

SNCF RÉSEAU

MAINTENANCE & WORKS

Network maintenance, operational security

TRAFFIC

Rail traffic management

ENGINEERING & PROJECTS

Delegated project ownership, project management and site logistics engineering services, in France and abroad

NETWORK ACCESS

Network access management in accordance with the essential functions

Île-de-France Executive Management combines Traffic Management, Maintenance and Works, and Engineering and Projects under the authority of a General Director in order to respond to the specificities of this high-density rail zone.

There are also 11 regional departments that are directly attached to the General Secretariat. Within their respective regions, they oversee the company's institutional representation in dealing with local partners, and particularly the transport organising authorities, under the management of Deputy General Directors.

SNCF Réseau acts as the intermediary between the transport organising authorities and the French State for all the regional and national rail network development projects that it undertakes and leads.

In addition, its three subsidiaries (CDG Express Études, SFERIS and Eurailsout BV) are involved in the following activities: work and support services for projects in France, on-board track inspection and analysis, and a rail link project in France, between Paris-Est Station and Paris-Charles-de-Gaulle Airport (joint venture with Aéroports de Paris).

Lastly, pursuant to the decision of the French and Spanish States, concession grantors for the Perpignan-Figueras line, SNCF Réseau and ADIF were tasked with the line's operational management in December 2016, via the creation of a new joint subsidiary, Linea Figueiras Perpignan SA. The States guarantee that operations will break even. The Board of Directors voted to acquire an interest in the joint company for €30,000 representing 50% of the capital.

1.2 CORPORATE STRATEGY

The corporate strategy is part of the Réseau 2020 ambition: “Build an industrial champion together for an efficient, innovative and ever safer network.”

The national rail network must transform itself to accompany a rapidly changing world. It must meet the challenges of these times: demographic growth, climate change, technological revolutions, the complexity of flows, the opening of competition in Europe, export development, rail Europe and new societal aspirations, etc.

Wishing to best meet the expectations of this new world, SNCF Réseau has co-produced a Réseau 2020 strategy with three major commitments:

- strengthen the fundamentals of industrial and social excellence;
- initiate a transformation to support the industrial and economic performance;
- develop cooperation within SNCF Réseau, the public Group and stakeholders.

1.3 HIGHLIGHTS

2016 was the first full year since the reform’s implementation and the creation of SNCF Réseau.

Jacques Rapoport, the Chairman of the Board of Directors, resigned on 18 February 2016. He continued to carry out his duties until his successor Patrick Jeantet was appointed on 25 May 2016.

Despite a difficult context marked by floods, strikes and terrorist attacks in the first half, network maintenance and renewal work amounting to over €5 billion was completed. This represents over 1,500 projects throughout France, of which half were carried out at night. This success was due to the commitment of all the employees, who have mobilised to create a safer and more efficient network, offering better service quality to its clients.

Investments in safety, an absolute priority for the Group, were boosted, through the PRISME Safety Excellence programme for example. As part of the Vigirail plan, 463 switches were renewed in 2016, following 405 renewals in 2015 and 363 renewals in 2014.

In addition, pursuing its commitment to “tighten” its maintenance rules, SNCF Réseau has accelerated the pace of replacement for certain components and applied the principle of anticipation for fault correction (predictive maintenance). By way of example, 15,300 rail sections were replaced in 2016, of which nearly 4,000 in Île-de-France.

The dense Île-de-France zone is characterised by exceptional traffic concentration. In 2016, nearly €700 million was devoted to the renewal of the Île-de-France network, a significant increase over the 2015 investment effort. SNCF Réseau thus upgraded 172 points and crossings as part of the Vigirail plan, following the 150 points and crossings upgraded in 2015, and renovated 214 km of track, compared to 123 in 2015 (+74%). The Île-de-France teams also continued to modernise several signalling stations whose commissioning in 2017 will improve train reliability.

SNCF Réseau also boosted its investments for the development of Île-de-France mobility. The extension of the Eole line westward has now reached the active phase with the signature of the NEXTEO contracts (future automated system for train spacing, intended for the central track section of the RER E) and financing agreement now being concluded by all public partners. With Gares & Connexions, the company has also contributed to accessibility improvements for 12 stations. Despite a significant rise in the work volume and an Île-de-France network that continues to age, SNCF Réseau does its utmost to maintain train reliability and a high safety level.

Among the highlights in the other regions, was the elimination of rail gridlock in Bordeaux in early May following eleven years of work and an investment of €435 million. The final phase of work will enable the introduction of the Tours-Bordeaux high-speed line as early as 2017. Other work, specifically in connection with the Grand Projet ferroviaire du Sud-Ouest, (major Southwest rail project) contributed to the overhaul of freight, Intercités and TER services throughout the Nouvelle-Aquitaine region. Likewise, the maintenance reliability plan for the Lyon rail hub has been launched.

Work also continued on lines 7 to 9 and the capillary freight lines: lines such as Oloron-Bedous, Chartres-Voves or Fécamp-Breauté were reopened in 2016, as well as the Bec d’Ambès freight line.

Fiscal 2016 was also a significant year in terms of systems innovations and modernisation. The industrial transformation of SNCF Réseau in support of performance is driven by the development of new technologies:

- the scope of two SNCF Réseau network command centres in Dijon and Lyon was extended, thus marking the transition towards switching remote control at the regional level and automated route planning;
- the numerous information system developments include the SIPH project—industrial hourly production system—which will be the first major information system to be based on a single infrastructure digital framework (GAIA), which is being prepared for all the SNCF Réseau business lines;
- continued development and deployment of a computerised maintenance management system (CMMS);
- engines to automate and modernise network surveillance are being tested, including the Surveillance train (automated tail tours);
- digital technology within maintenance business lines: production agents received nearly 14,000 tablets and phablets; applications were rolled out for these tools, particularly in regard to tail tours for catenaries, rails, standard linesides and the monitoring of points and crossings; each business line will gradually integrate new functionalities.

Innovation is not simply a matter of introducing new technological objects, it is also the profound process of transforming business lines and ways of doing things.

The collective vitality of SNCF Réseau in support of effective network management relies on employees. Fiscal 2016 marked a historical level of recruitment to accompany the ambition of these shared challenges over the long term. Over 3,000 new employees were recruited. SNCF Réseau has thus increased its workforce for the third year running bringing the number to 54,027 employees.

Furthermore, the new employee work regime for Public Rail Group employees was adopted. The core decree of the French State following discussions with company and union representatives of the rail division was published on June 9; it shall apply to all rail companies in France. The rail branch collective agreement was signed by the Union des transports publics et ferroviaires (UTP) and the union organisations. The SNCF company agreement was signed by the management of the Public Rail Group and the union organisations. The new work regime will enter into effect at the time of the changeover to the 2017 annual service.

With respect to traffic, and beyond the economic context, the passenger component fell up to the end of summer, a decline that was more structural than was the case last year. However, this drop in traffic has slowed since September. With respect to freight, traffic in 2016 declined overall compared to last year, except for a few market players.

Nine years after the commissioning of the LGV Est, an additional 106 km was commissioned on 3 July 2016. The extension of the LGV Est has accelerated the links between Alsace and central Europe. A time gain that places Strasbourg, with 16 daily returns, at less than two hours from Paris by TGV (1h48 compared to 2h20 previously).

Moreover, fiscal 2016 was an opportunity to overhaul the SNCF Réseau financing policy to take into account the trend in terms of the market and investor expectations. The company has put an emphasis on the diversification of its financing, in geographical and format terms, in order to further diversify its financing sources, market depth and the company's financing capacity.

To achieve this, two new financing programmes were initiated in 2016:

- an inaugural foreign currency (US Dollar) public issue with a three-year maturity for USD 1 billion—57% of this issue was distributed in North America, Asia and the Middle East, three zones where SNCF Réseau had little or no presence previously (10% of total RFF/SNCF Réseau issues since 1997).

- an inaugural Green Bond public issue with a 15-year maturity for €900 million in order to finance the primary network's priority modernisation. This inaugural transaction was very well met by the market (order book of €1.4 billion) and enabled a diversification with Socially Responsible Investors (who represented 62% of acquirers). SNCF Réseau has thus become the number 1 rail infrastructure manager in the world and the first transport sector company in Europe to issue a Green Bond.

Pursuant to the rail reform law, measures for financing the rail system were introduced to:

- guarantee a high level of safety for persons and goods on the network;

- improve the quality of service offered to transport operators, particularly freight;

- facilitate the financial recovery of SNCF Réseau: financial trajectory agreement that should cover, within a period of ten years from the effective date of the multi-year performance contract, the full cost of the network and control the change in debt carried by SNCF Réseau.

These measures are essentially reflected in:

- the conclusion of a multi-year performance contract (2017-2026) with the French State;

- the institution of the golden rule principle.

On 20 December 2016, the SNCF Réseau Board of Directors approved a draft version of the multi-year performance contract (2017-2026). It was submitted to Autorité de régulation des activités ferroviaires et routières (Arafer) for an advisory opinion prior to the joint signing with the French State. A public consultation was launched in January 2017.

Over a period of ten years, the contract provides for the increase in budgets earmarked for the modernisation of the primary network, thus providing SNCF Réseau with a long-term view of the available resources:

- nearly €34 billion will be invested in primary network renewal and compliance upgrades over a period of ten years:

- €27.9 billion, financed by SNCF Réseau, will be devoted to renewal of the primary network, with a peak of €3 billion annually (before the productivity gain) as of 2020;

- €4.5 billion will be invested by the French State, regional authorities and SNCF Réseau in safety and accessibility compliance work.

- €1.8 billion will be devoted to industrial and technological investments (engines, IT, digital tools, etc.), of which nearly €300 million annually from 2017 to 2019, in order to support future productivity;

- €12 billion in investments will be dedicated to modernising the primary network, regional lines and rail hubs as part of contracts with the French State and regional authorities, particularly State-Region Contractual Plans;

- over and above the French State's measures, a sustainable return to break even for the trajectory also requires productivity efforts from SNCF Réseau, with €1.2 billion in cumulative savings by 2026, through the roll-out of the performance plan. A performance tracking table (industrial and financial indicators shown in section 2.6) provided in the contract will ensure that these objectives are met.

To achieve this performance commitment, SNCF Réseau management has initiated a performance plan, in order to steer the company towards a transformation mind-set in regard to its operating methods.

The objective of this plan is to reach:

- €0.5 billion in productivity for investments and operating expenses by the end of 2021;

- savings of €1.2 billion by the end of 2026 (compared to a trajectory determined before productivity gains).

The scalable plan is structured according to innovative levers:

- productivity gain driven by higher renewal volume and the implementation of industrial efficiency levers (technological innovation, process reengineering, maximisation of night work shifts);

- productivity gains reinvested in the network;

- scheduled reduction in the maintenance volume, the result of network renewal efforts until 2021 (i.e. nearly €270 million in 2026);
- reduction in commercial expenses (progress in service quality).

Governance principles introduce close monitoring of the Executive Committee, particularly the Chairman:

- based on monthly reporting at the beginning, and every two months subsequently;
- each Executive Committee member has a dual collective and individual responsibility for each lever.

As part of the SNCF Réseau debt assessment, the French State deemed that it was not an opportune time to consider a mechanism for assuming the infrastructure manager's historical debt: "It is the ability to control the growth of this debt, by reducing annual losses and then returning to profits in the medium term that will be key to the rail group's financial recovery rather than the question of assuming the debt [...] The solutions implemented to control and reduce the SNCF Réseau debt with regard to the attainment of objectives and compliance with the guidelines shown in the contract will be re-examined on the performance contract's next update, three years after its signature".

Finally, the purpose of the golden rule is to help control SNCF Réseau's debt by setting a ratio (net debt/gross profit) threshold, beyond which SNCF Réseau can no longer participate in investment financing for rail network development, which then must be fully covered by requesting parties (State, local authorities, etc.).

The draft application decree for this measure was transmitted to the State Council in early January after consideration of the Arafer opinion. The ratio threshold is set at 18, which was reached in the 2015 accounts (18.76). Based on the accounts presented at the end of 2016, the ratio threshold would stand at 22.24.

1.4 FINANCIAL KEY FIGURES

In € millions	2016	2015
Revenue	6,397	6,275
Gross profit	1,696	2,005
Operating profit/(loss)	883	871
Finance cost	-1,442	-1,444
Net profit/(loss) from ordinary activities before tax	-559	-573
Exceptional profit/(loss)	59	-9,544

1.5 PRESENT VALUE OF ASSETS AT THE YEAR-END

To recap, an impairment test had been carried out at the 31 December 2015 year-end that resulted in an impairment loss of €9.6 billion. It was based on ongoing discussions with the French State prior to the signing of the multi-year performance contract stipulated by the law of 4 August 2014 and a financial trajectory for SNCF Réseau taking into account the key changes and assumptions discussed with the French State on that date.

The finalisation of the performance contract with the French State and its validation by the SNCF Réseau Board of Directors on 20 December 2016 represented an indication of a change in value and a new test was performed on 31 December 2016.

The impairment test key assumptions remain the level of infrastructure fees, public backing and current network maintenance.

The outcome of this test did not modify the impairment loss recognised as at 31 December 2015.

1.6 SUBSEQUENT EVENTS

On 30 November 2016, the Board of Directors validated the creation of the subsidiary Altamétris, wholly owned by EPIC SNCF Réseau, responsible for industrialising and marketing the acquisition, processing and valuation of data via automated mobile vehicles, mainly drones and satellites. Currently in progress, its creation should be finalised in early 2017.

2 2016 RESULTS

2.1 GENERAL OBSERVATIONS ON 2016 GROUP RESULTS

In € millions	31/12/2016	31/12/2015
Revenue	6,397	6,275
Own production and change in inventories and WIP	3,861	2,036
Purchases and external charges	-4,886	-4,472
Added value	5,372	3,840
Other operating income (including operating grants)	112	88
Taxes and duties other than income tax	-221	-140
Employee benefit expense	-3,567	-1,783
Gross profit	1,696	2,005
Reversal of impairment, operating provisions and investment grants; Expense reclassifications	995	774
Depreciation, amortisation, impairment and operating provisions	-1,806	-1,908
Other management expenses	-1	-1
Operating profit/(loss)	883	871
Financial income	483	510
Financial expenses	-1,925	-1,954
Finance cost	-1,442	-1,444
Net profit/(loss) from ordinary activities before tax	-559	-573
Exceptional income	667	95
Exceptional expenses	-608	-9,640
Exceptional profit/(loss)	59	-9,544
Income tax expense	87	44
Net profit/(loss) for the year	-413	-10,073

2.1.1 Revenue

In € millions	31/12/2016	31/12/2015	Change
Access fees	1,978	1,985	-7
Reservation fees	2,048	2,056	-8
Traffic fees	1,350	1,410	-61
Platform fees	121	94	27
Additional electrical traction fees	239	259	-20
Sub-total infrastructure sale proceeds	5,735	5,806	-70
Other income	661	470	191
Total revenue	6,397	6,275	121

The -€70 million (-1%) decrease in revenue compared to 2015 essentially reflects the significant reduction in traffic (-20 million trains-km/-4%):

The -€66 million (-1%) decrease in infrastructure fees breaks down as follows:

- -€75 million for strikes and adverse weather;
- +€21 million due to the commissioning of the second phase of the LGV Est project;
- -€31 million arising from a volume impact (reduction in traffic — see p. 9);
- +€9 million arising from a price impact (+0.4% rise in infrastructure fees);
- +€10 million in non-recurring items (2014 strikes invoiced in 2015 for €8 million and +€18 million in adjusted access and platform fees in 2016).

2.1.2 Own production

In € millions	31/12/2016	31/12/2015	Change
Own production			
Purchases and external charges	2,598	1,492	1,106
Own production			
Employee benefit expense	1,154	498	656
Change in inventories and work-in-progress	109	46	63
Total	3,861	2,036	1,825

2.1.3 Other operating income

In € millions	31/12/2016	31/12/2015	Change
Operating grants	105	76	29
Other income	8	12	-5
Total other operating income	112	88	24

2.1.4 Purchases and external charges

2.1.4.1 Breakdown of purchases and external charges

In € millions	31/12/2016	31/12/2015	Change
Delegated infrastructure management fees	-	-1,619	1,619
Transmission and traction means	-336	-252	-84
Upkeep and maintenance	-1,877	-1,115	-762
Professional fees and IT services	-551	-374	-177
Property	-657	-403	-254
Other purchases and external charges	-1,465	-708	-757
Total	-4,886	-4,472	-414

2.1.4.2 Delegated management fees (until 30 June 2015)

Prior to the rail reform, SNCF carried out the following three activities for SNCF Réseau which it invoiced accordingly:

- creation of the system which organises all rail traffic on the network, referred to as “train running diagrams”;
- management of safety and control systems and traffic management;
- supervision, maintenance, repair and other measures necessary for the operation of the network and all technical facilities.

The amount shown therefore corresponds to the amount for the first half of 2015.

Following the implementation of the rail reform on 1 July 2015, the heading “Delegated management fees” was replaced in the second half of the year and 2016 by “Employee benefit expense and external purchases”.

2.1.4.3 Other purchases and external charges

Prior to the rail reform, most capitalisable expenditure was directly recorded in the balance sheet without passing through the income statement. Following the implementation of the reform on 1 July 2015, assets were produced internally within SNCF Réseau, resulting in the expensing of purchases and external charges and a corresponding entry in own production.

2.1.5 Employee benefit expense

In € millions	31/12/2016	31/12/2015	Change
Wages and salaries	-2,283	-1,194	-1,089
Pension contributions	-640	-353	-287
Other social security contributions	-581	-255	-326
Expenses relating to vacation, leave and early departures	-16	50	-66
Sub-total	-3,520	-1,753	-1,766
Seconded personnel	-47	-30	-17
Total employee benefit expense	-3,567	-1,783	-1,783
Total average number of paid employees	57,744	27,521	30,223

The changes in employee benefit expense observed between 31 December 2016 and 31 December 2015 were mostly due to the reform of 1 July 2015.

The average number of full-time equivalent employees as at 31 December 2016 was 57,744 FTE due to the transfer of the employees of SNCF Infra and Rail Network Operation and Management on 1 July 2015.

2.1.6 Finance cost

In € millions	31/12/2016	31/12/2015	Change
Net borrowing costs	-1,408	-1,413	4
Net finance cost of employee benefits	-19	-26	8
Dividends	-	-	-
Other financial expenses	-28	-21	-6
Other financial income	12	17	-5
Total finance cost	-1,442	-1,444	1

2.1.7 Exceptional profit/(loss)

The 2016 net exceptional loss of -€59 million mainly includes:

— net proceeds from asset disposals in the amount of €66 million (including €1 million for rail installations and €65 million for Property);

— an exceptional depreciation/amortisation charge of €365 million;

— an exceptional depreciation/amortisation reversal of €362 million.

The reclassification of assets under the ZAC Paris Rive Gauche long-term contract had no impact on the exceptional loss (see Note 4.9 "Provisions for liabilities and charges").

3 INVESTMENTS

In € millions	31/12/2016	31/12/2015	Change	
			In € M	In %
Major development projects	1,205	2,337	-1,132	-48%
<i>of which PPP share</i>	<i>957</i>	<i>2,072</i>	<i>-1,115</i>	<i>-54%</i>
Regional development projects	546	619	-73	-12%
Network compliance upgrade	246	254	-8	-3%
Renewal and performance	2,785	2,665	+120	+4%
Property and third party	126	112	+14	+13%
Total rail investments	4,908	5,987	-1,079	-18%
Industrial	335	237	+98	+41%
Total expenditure	5,244	6,224	-980	-16%

Investments, presented in total expenditure.

The network's renovation and modernisation (initiated in 2008 to combat aging infrastructures) is continuing at a steady pace, the majority of the operations covering the primary section of the current network.

Priority will be given to the renovation of the current primary network (renewal, safety, accessibility improvements), and the completion of ongoing development projects (operations included in State-Region Project Contracts and the four high-speed lines under construction: Eastern Europe high-speed line, the Southern Europe Atlantic (SEA) high-speed line, the Bretagne-Pays de la Loire high-speed line and the Nîmes-Montpellier bypass). Furthermore, the studies relating to future major projects were ranked in order of importance based on the priorities established by the Mobility 21 Commission.

Renewal and performance investments

The purpose of these investments is to maintain, and even boost, the current network's performance, based on unchanged functionalities. The network's renovation and modernisation (initiated in 2008 to combat aging infrastructures) is continuing at a steady pace. In 2015, operations continued to be rolled out, in particular the renovation of track and points and crossings for the main network (Vigirail plan), the renovation of signalling equipment or its streamlining via the creation of network command centres to pool together several minor switching stations, as well as the renovation of telecommunication facilities, primarily by implementing GSM-R track-to-train radio communication systems. An industrial transformation has begun: the objective of replacing 450 points and crossing was reached with a total of 463 replacements in 2016 (172 in Île-de-France and 291 in the regions).

These programmes, of which around 70% focus on track renewal, are in keeping with fiscal 2014, while taking into account the emergence of a policy tailored to high-density areas, specifically in Île-de-France.

Network compliance upgrade

These investments are undertaken to satisfy the legal and regulatory requirements placed on the infrastructure manager, primarily for collective socioeconomic reasons.

Network development

Network development investments include investments in major national projects and regional projects—mainly projects included in State-Region Project Contracts (CPER).

Major pre-work projects

This category corresponds to major projects in the upstream study phase.

Major projects in the upstream phase were classified into three groups in descending order of priority by the Mobility 21 Commission.

In € millions	Total project costs in € millions (OPEX/CAPEX)		Change	
	Total actual costs 31/12/2016	Total actual costs 31/12/2015	In € M	In %
Major national pre-work projects	38	51	-15	-28%
Major South-West Projects (GPSO)	9	16	-6	-41%
Roissy-Picardie line	-1	1	-2	-143%
Paris-Lyon LN1 capacity increase	1	5	-4	-80%
Lyon rail hub	0	2	-1	-82%
Provence Côte d'Azur new line	9	11	-2	-21%
Paris-Normandie new line	4	3	1	31%
Other major national pre-work projects (priority 2 and 3)	14	13	2	12%

Major projects in progress

This category comprises major high-speed line projects under SNCF Réseau project ownership in progress, i.e. mainly phase 2 of the LGV Est project, and the Eole project.

4 NET BORROWINGS AND FINANCING

SNCF Réseau raises funds on international capital markets in order to cover its long-term financing needs, mainly through bond issues and private placements and, to a lesser extent, borrowings from banks and/or local authorities.

The IFRS net debt repayment amount—excluding public-private-partnerships (PPP), collateral, accrued interest receivable—totalled €42 billion, compared to €39.3 billion as at 31 December 2015, i.e. an increase of €2.7 billion, comprising:

- long-term resources raised by SNCF on government bond markets in 2016 represented a total repayment value of €4.6 billion;
- public euro and dollar-denominated bond issues for €4.2 billion in 12 operations (four primary issues and eight additional issues);
- private euro-denominated bond issues for €0.4 billion and MLT loan repayments for -€1.7 billion;
- a decrease in short-term cash and liabilities for -€0.2 billion.

For its internal financing and cash management, SNCF Réseau uses both national and international short-term financing and investment instruments such as Treasury Bill and Commercial Paper.

In € millions	31/12/2016	31/12/2015	Change
Long-term debt	43,544	40,473	3,072
Outstanding principal:	42,914	39,832	3,082
- Long term	42,458	39,391	3,066
at the hedged rate	-	-	-
inflation	227	220	7
- RIF loans	37	41	-3
Zero coupon	419	400	19
Accrued interest	630	640	-11
SNCF debt	697	840	-143
Outstanding principal:	676	817	-141
- Transferred debt (historical price)	671	742	-70
- RIF loans	4	5	-
- EIB credit line renewal	-	70	-70
Accrued interest	21	24	-2
Guarantee deposits received	4	4	-
Short-term debt	1,599	1,158	441
Margin calls	34	358	-324
Bank overdrafts	58	64	-7
PPP (BPL, CNM and GSM-R) debt	2,067	1,705	363
Total debt	48,004	44,602	3,402
Guarantee deposits received	-4	-4	-
Total debt excluding guarantee deposits received	48,000	44,598	3,402
Cash and cash equivalents—marketable securities	-3,219	-2,561	-658
PPP (BPL, CNM and GSM-R) debt	-2,067	-1,705	-363
Net debt as a carrying amount	42,714	40,332	2,381
Accrued interest receivable	-651	-664	13
Margin calls	-34	-358	324
Net debt as a repayment value	42,028	39,310	2,718

The BPL and CNM borrowings relate to the Bretagne-Pays de la Loire line and Nîmes-Montpellier bypass PPP. They represent SNCF Réseau's debt to its partners that are pre-financing part of the projects. SNCF Réseau will have to repay these debts as from 2017.

It should be noted that the repayment of these SNCF Réseau debts will be financed by the French State from 2017 based on the same payment schedule.

The grants receivable concerning these projects are presented in Note 4.2.1. Claims were received by the company in 2015 and 2016 for the CNM and BPL PPP for €634 million. These claims were mostly challenged by the company and only the accepted portion was recognised.

4.1 MARKET RISK MANAGEMENT

— Interest rate risk hedging

As part of its financial strategy and to limit its exposure to an increase in its financial expenses, SNCF Réseau has defined principles in order to minimise its exposure to interest rate risk.

The current historically low interest rates and the desire to maintain long-term economic equilibrium led the SNCF Réseau Board of Directors to opt for a breakdown of net debt in repayment value that was 90% fixed-rate, 6% floating-rate and 4% inflation-indexed. A limited margin around each of these thresholds is authorised by the Board of Directors. Compliance with this breakdown is verified on a daily basis.

To achieve this breakdown, SNCF Réseau may use option-based derivatives or interest rate swaps for hedging purposes.

As at 31 December 2016, the net debt breakdown of SNCF Réseau after hedging was 92.6% fixed rate, 3.8% floating rate and 3.6% inflation-indexed.

— Foreign exchange risk hedging

Foreign exchange risk related to resources raised in foreign currencies is hedged in order to convert these resources into euros.

— Counterparty risk management

SNCF Réseau is exposed to counterparty risk in connection with its cash investments and the subscription of derivatives from its financial partners, insofar as the debtor refuses to honour all or part of its commitment or does not have the means to respect it.

To manage and limit this risk, investment instruments and derivatives are only entered into with financial institutions corresponding to the credit rating and equity criteria validated by the SNCF Réseau Board of Directors.

A limited commitment amount by institution is determined according to these criteria.

Compliance with the authorised threshold by counterparty is monitored on a daily basis.

To hedge counterparty risk, SNCF Réseau performs margin calls with its financial counterparties whose rating is lower than the threshold defined by the Board of Directors. Collateral (in cash only) is called up in the amount of the market value of the financial instrument portfolios for each counterparty whom SNCF Réseau is at risk.

The sums thus received by SNCF Réseau amounted to €34.27 million at the end of 2016, compared to €358.03 million at the end of 2015. The decrease in collateral was primarily due to the depreciation of the pound sterling against the euro.

5 COMPANY ECONOMIC ACTIVITY

5.1 BUSINESS ACTIVITY: IMPROVE NETWORK ACCESS

Improving the service in respect of customers (railway undertakings and authorised candidates) is a major challenge for the sustainability of the rail transport system. It is rooted above all in the capacity distribution and traffic management processes.

This quality of service approach is accompanied by objectification work and the measurement of the degree of customer satisfaction.

Existing incentives for both the infrastructure manager and train path applicants were renewed in 2016:

— the reciprocal incentive scheme established in 2015, which sanctions railway undertakings and/or the infrastructure manager for any modification or cancellation of confirmed train path-days based on confirmed train path-days allocated in the timetable, was renewed in 2016 in a more industrialised manner covering the entire service schedule;

— the Performance Improvement System (PIS), an incentive measure that sanctions the infrastructure manager (IM) and/or railway undertakings (RU) responsible for irregularities resulting in traffic delays (penalties are based on the number of minutes lost per 100 km);

INDICATOR	2016	2015
Number of minutes lost per 100 km by RC:		
- for IM causes (min)	1.39	1.29
- for RU causes (min)	2.09	2.05
Capital expenditure to improve reliability (€ million)	44	26

— the framework agreements under which the infrastructure manager undertakes to allocate a commercial capacity, defined upstream, to a customer that agrees to order it, with a system of penalties based on the reservation fee in the event of default;

— the train path quality agreements (TPQA) under which the infrastructure manager undertakes to eliminate uncertainty within a defined timeframe on a pre-determined list of train paths.

The “passenger stations” activity is responsible for access to trains from public spaces (platforms and access to platforms) in the 2,984 national rail network stops. As part of the quality of service improvement initiative, investments continue to improve accessibility for people with disabilities. SNCF Réseau’s scope in railway stations represents an investment of €307 million and operating expenses of €74.5 million (cleaning, snow removal, maintenance of lifts and escalators, maintenance of platforms and shelters, etc.). In return, it generates platform fees of €121 million for more than 40 million train departures. (See also 4.2.3)

Lastly, at the request of the Minister of Transport, to ensure transparency on the maintenance operations carried out on the national rail network, SNCF Réseau makes weekly updates to an interactive map on its website that gives information to railway undertakings as well as travellers on the work and maintenance operations scheduled on each line for the following week.

5.2 NETWORK OPERATIONS: SAFETY AND RELIABILITY CHALLENGES

In terms of reliability, the number of events triggering delay for causes under the Infrastructure Manager's control improved overall in 2016, falling by 2% compared with 2015.

At year-end, the deterioration in performance (notably among catenaries) nevertheless shows how important it is to remain vigilant in pursuing substantive actions already underway.

The ambitious project for the modernisation of the operational management of traffic, GOC 2.0, continues. It is aimed at improving reliability for all activities, the management of major incidents, and the information given to travellers, thereby enabling railway undertakings to better manage their resources during disruptions.

A digital reliability observatory has been created to represent incidents in infrastructure management and rail transport graphically.

A new IT tool, OpenGov, is being deployed. It optimises the occupation of tracks in railway stations and facilitates smoother traffic flows, improving reliability and safety, and reducing the time taken by such studies. It is operating notably in Paris (Austerlitz, Montparnasse, Saint-Lazare) and Lyon (Part Dieu, Perrache).

5.3 NETWORK MAINTENANCE: SAFETY AND INNOVATION

Despite floods in early June and strikes that disrupted production in 2016, the year was generally a strong one thanks to a high level of commitment. Aside from the aforementioned exceptional events, maintenance is carried out in a context where, despite significant renovation work, part of the infrastructure continues to age. A substantial amount of maintenance work was accordingly performed in 2016, with efforts increasing in certain areas and on certain geographies.

Two measures play a particular role in guiding the action of network maintenance personnel:

- the implementation of tightened maintenance measures, in addition to the action plans drawn up following the Brétigny and Denguin accidents, underscore the importance placed on safety within the company;

- the improvement of the reliability of the network in high-density rail zones with the launch of a specific plan for the Lyon rail hub, inspired by the reliability plan developed for Île-de-France.

The five-year maintenance action plan for the Lyon rail hub provides for an increase in pruning operations, additional inspections in tunnels, the replacement of additional rail sections and better surveillance of signalling facilities and catenaries.

Maintenance production is generally performed with varying observations depending on the different techniques:

- on rails, 16,000 rail sections were replaced, roughly the same volume as in 2015. In addition, the implementation of head wash repair (HWR) resulted in the repair of defects in 350 rail sections, thereby avoiding their replacement; the number of tightened maintenance operations on B families of line crossings in response to the accident at Brétigny has increased (verification of over 600 additional crossings, an increase of 160% compared with 2015);

- in the field of signalling, compliance with intervention times for the preventive maintenance of facilities improved significantly, and work continued on signal bungalows scheduled in the wake of the Denguin accident in the summer of 2014. More than one-third of bungalows had accordingly been protected against rodents by the end of 2016;

- clearing operations increased by 20%, notably within an outsourcing policy, with mechanical means now given precedence over chemical means. A specific plan has been launched for monitoring trees presenting a risk.

Efforts to improve SNCF Réseau's performance continue in a lean management approach, as well as in terms of innovations, particularly in respect of IT tools and technical processes. Examples are numerous:

- the development and deployment of computer-assisted maintenance management software is continuing;

- machinery designed to automate and modernise network supervision is being tested; reinforcement of the Surveillance plan (inspections using machinery to replace inspections by foot) has resulted in an increase in inspection work by machinery to 31,000 km of tracks, making up for a reduction in inspection visits carried out on foot of 4 km of tracks;

- a new technique for rail repair and welding, approved for UIC60 rails in 2015, is gradually being implemented. It shortens the time devoted to each job, and as such the time during which traffic is interrupted. It also helps prevent the appearance of defects. Approval for U50 rails is pending. It will allow this repair procedure to be extended to the majority of types of rails in the network during the second half of 2017;

- digital transformation is underway in the field of maintenance: production employees have received 13,700 pieces of equipment, and maintenances applications have been rolled out on this hardware.

5.4 PROPERTY-REAL ESTATE ACTIVITY

— Real estate management and valuation agreement with SNCF

In July 2016, SNCF and SNCF Réseau reached an agreement on the application of the real estate management and valuation agreement, which organises relations between SNCF Réseau and SNCF Immobilier at the national and regional level.

— Property leasing

Temporary occupancy agreements generated revenue of €81.5 million for 2016 as a whole, compared to €89 million in 2015. Fiscal 2016 was marked by three major renegotiations: two station and non-station advertising contracts and the automatic distribution contract.

— Disposals and participation in the national housing policy

The most significant events of the property and real estate activity concern Île-de-France. Under the guidance of SNCF Immobilier, the unused portion of the Paris Little Belt Railway will be revitalised.

Various public domain occupancy agreements and allocation overlays for the 13th, 14th and 15th districts, as well as management transfer agreements for the 16th district, were finalised and validated by the Paris City Council in April 2016.

In November 2016, SNCF Réseau and SNCF Mobilités concluded an operating agreement with the City of Paris under which new installations, public facilities and nearly 9,000 housing units will be built on rail land in the northeast (five sites) and southeast (two sites) of the capital, for a development potential of over one million square meters. The agreement, which is valid until 2020, concerns seven sites for a total of 50 hectares. As part of this operation, SNCF Réseau will sell land to a real estate development company to be created in partnership with SNCF Mobilités and its subsidiary SNEF.

— Development of unused lines

SNCF Réseau owns approximately 8,000 km of linear infrastructures, where traffic is absent and which will not be reopened in the short or mid term. These assets are developed via tourist rail operations or greenways under management transfer agreements. Many of these transfer agreements were signed in 2016, marking the full appropriation of this policy by the various contributors within SNCF Group contributors.

6 FINANCIAL RELATIONS WITH THE FRENCH STATE

6.1 PUBLIC FUNDING RELATED TO NETWORK INVESTMENTS

With regard to its network investments and project studies, SNCF Réseau receives co-financing from public and private partners. Public partners may differ depending on whether it involves the Agence de financement des infrastructures de transport de France (AFITF) or other government authorities.

The grants obtained by SNCF Réseau in 2016 totalled €1,207 million, of which €191 million from the AFITF.

Grants receivables due decreased to €1,181 million (of which €621 million from the French State and AFITF), compared to €1,296 million at the end of 2015 (of which €767 million from the French State and AFITF), but the portion exceeding six months decreased by €90 million.

6.2 TAXATION

The business activity of SNCF Réseau is solely carried out on French soil and, with the exception of technical assignments, it has no presence or investment project on its own account in a country other than France. SNCF Réseau does not make use of any tax shelters.

6.3 RECLASSIFICATION OF A PORTION OF THE SNCF RÉSEAU DEBT

As part of the reorganisation of government debt as defined by the Maastricht Treaty, a portion of the SNCF Réseau debt was recognised by INSEE as a government debt in 2014 for €10.9 billion. This reclassification did not lead to a change in the SNCF Réseau financial statements. SNCF Réseau also remains responsible for the operating management of the debt, without any change in current practices.

7 EMPLOYEE MATTERS

For further information on “Employee matters”, see the SNCF Réseau Consolidated Financial Statements.

8 INFORMATION ON SUPPLIER PAYMENT DEADLINES

As at 31 December 2016, amounts payable to suppliers totalled €2,724 million, reconciled as follows with the figures shown in the financial statements:

In € millions	31/12/2016	31/12/2015	Change
Trade payables and related accounts shown in balance sheet liabilities	706.4	571.1	-135.3
Purchase invoice accruals included under this heading	2,000.2	2,253.8	253.6
Contract warranties and penalties included under this heading	17.5	15.66	-2.0
Total	2,724.1	2,840.5	116.4

In € millions	31/12/2016	31/12/2015	Change
Invoices not past due	591.4	540.3	51.1
Past due <30 days	103.1	-3.0	106.1
Past due between 30 and 60 days	4.7	1.6	3.1
Past due between 60 and 365 days	5.5	30.3	-24.8
Past due >365 days	1.7	1.9	-0.2
Total past due	115	30.8	84.2
Total trade payables	706.4	571.1	135.3

The amount of €103.1 million past due for less than 30 days mainly relates to the information system deadlines for the accounts closing that deferred payments due on 28, 29, 30 and 31 December 2016 to January 2017.

The remaining past due amount of €11.9 million relates to disputed invoices. These disputes are being discussed in an attempt to settle them.

9 CHALLENGES AND OUTLOOK

SNCF Réseau’s aim is to become Europe’s most efficient and most innovative infrastructure manager. To this end, it plans to carry out 1,600 infrastructure modernisation projects in 2017. 1,000 km of track, 500 switches and over 400 km of catenary wire will be replaced to improve network performance. A fourth Fast Suite will accompany track renewal.

The productivity and efficiency of traffic management are backed up by the continuation of large-scale projects scheduled for 2017: commissioning of the computerised switching post at the Gare de Lyon in Paris, the Paris-Aulnay-Roissy-Mitry centralised control network (CCN) and the Express 11 tram line (Tangentielle Légère Nord) between Le Bourget and Épinay-sur-Seine in Île-de-France. This project will ultimately link 14 passenger stations, including six new ones, and will be approximately 28 km long.

However, the most eagerly anticipated event will be the opening of the Sud Europe Atlantique and Bretagne-Pays de la Loire high-speed (TGV) rail service on 2 July. Two new high-speed lines will come into service simultaneously—a first on the network! The 484 km of new lines and 70 km of connections-junctions to the conventional network will put Paris 1 hour and 27 minutes from Rennes and 2 hours and 4 minutes from Bordeaux. These works of unprecedented scale will be accompanied by a new service offering in all regions. All network users will reap benefits: the TGV naturally, but also regional trains (TER), most long distance trains (TET) and freight trains. SNCF Réseau is optimising the use of its network while modernising its infrastructure.

By the end of the year, the Nîmes-Montpellier bypass will also be in service.

The industrialisation of innovation is a strong and decisive commitment in the digital transition and automation of our systems to monitor, maintain, renovate and operate the national rail network. Our business is undergoing a profound transformation. An illustration is provided by the Board of Directors' 30 November 2016 authorisation of the creation in 2017 of Altamétris, a new subsidiary that will be tasked with managing the industrial-scale use of drones designed to acquire maintenance data and monitor infrastructure.

To meet SNCF Réseau's challenges, the consolidation of the modes of acquisition, sharing and transmitting knowledge (recruitment, training, job and skills planning) is required. The modernisation of SNCF Réseau's recruitment and training policy will be initiated in 2017 to meet the significant recruitment challenges facing the company.

The *Document de Référence du Réseau* giving the 2018 service schedule was published on 9 December 2016. It provides for an overhaul of minimum service commitments, as well as aspects relative to the use of other service facilities. The price reform has focused on:

- giving clear and consistent economic signals to railway undertakings;
- preserving SNCF Réseau's Infrastructure Manager revenues, which are vital for the renewal and maintenance of the network without compromising the 2017 level;
- taking into account the comments of the various stakeholders (freight companies, travellers, industry bodies, all regions) issued during the consultation process and the framework laid down by the supervisory authorities.

On 1 February 2017, Arafer issued an unfavourable opinion on the infrastructure fee scale. The response to this opinion which was transmitted to SNCF Réseau on 7 February is being examined.

In this context, SNCF Réseau is assisting in the preparation of the opening of the sector to competition, and is committed to offering the organising bodies the benefit of its expertise and detailed knowledge of the network. Central and regional governments are responsible for opening the rail passenger market to competition.

2017 is the first year of the multi-year performance contract, a ten-year contract between the central government and SNCF Réseau, which provides long-term and shared visibility on the trajectory and mutual commitments, as well as the related means, which will increase in volume and over time to an unprecedented scale (€46 billion over ten years).

The lifespan of the infrastructure, the time needed to complete projects and the magnitude of investments clearly put the rail transport sector in a long-term perspective. Anticipation is essential for it to fully meet challenges as they emerge, because we must invest today to meet the challenges of tomorrow.

Rail transport can lay claim to numerous advantages that should entrench its status as a major mode of transport for the 21st century. It alone can meet the challenges of increased traffic volumes stemming from population growth and the concentration of populations in urban and peri-urban areas, where road traffic will be vulnerable to the dual pitfall of congestion and air pollution. It alone can preserve mobility in the context of the energy and ecological transition, while other motorised modes of transport—responsible for pollution or simply too demanding in terms of energy and urban space—have seen their relevance decrease greatly; trains are the most efficient mode of transport from an energy point of view, and the cleanest since it involves pooled traffic flows.

10 GOVERNANCE AND RISK TYPES

For further information on "Governance and risk types", see the SNCF Réseau Consolidated Financial Statements.

11 CORPORATE SOCIAL RESPONSIBILITY

For further information on "Corporate social responsibility", see the SNCF Réseau Consolidated Financial Statements.

O5— SNCF RÉSEAU STATUTORY FINANCIAL STATEMENTS

French GAAP—In € millions

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BALANCE SHEET

ASSETS				31/12/2016	31/12/2015
	Note	Gross	Depreciation, amortisation and impairment	Net	Net
Intangible assets	5.1	1,706	-401	1,306	1,302
Property, plant and equipment (PP&E)	5.2	67,803	-30,468	37,335	35,301
PP&E in the course of construction	5.2	16,192	-32	16,160	15,024
PP&E in the course of construction made available to the concession-holder	5.2	190	-	190	190
Long-term investments	5.3	2,120	-	2,120	1,738
Total non-current assets		88,011	-30,901	57,110	53,555
Inventories and work-in-progress	5.4	597	-109	487	473
Payments on account for inventories	5.5	297	-	297	230
Trade receivables and related accounts	5.5	1,340	-45	1,295	1,205
Other operating receivables	5.5	3,371	-83	3,288	3,722
Marketable securities	5.7	2,403	-	2,403	2,211
Cash and cash equivalents	5.7	816	-	816	351
Total current assets		8,824	-238	8,586	8,192
Prepayments and deferred charges	5.8	1,029	-272	756	805
Unrealised foreign exchange losses	5.9	227	-	227	220
Total assets		98,091	-31,411	66,680	62,772

EQUITY AND LIABILITIES	Note	31/12/2016	31/12/2015
Share capital	5.10	9,765	9,765
Accumulated deficit	5.10	-24,341	-14,267
Net profit/(loss) for the year	5.10	-413	-10,073
Net worth		-14,990	-14,576
Investment grants	5.11	23,851	23,135
Total equity		8,861	8,559
Provisions for liabilities and charges	5.12	1,575	1,725
Borrowings	5.13	48,004	44,602
Payments received on account for work-in-progress	5.14	277	314
Trade payables	5.14	2,724	2,840
Tax and employee-related payables	5.14	1,062	1,033
Other operating payables	5.14	2,062	1,954
Prepayments and deferred charges	5.16	2,114	1,744
Total equity & liabilities		66,680	62,772

INCOME STATEMENT

INCOME STATEMENT	Note	31/12/2016	31/12/2015
Revenue	6.1	6,397	6,275
Own production and change in inventories and WIP	6.2	3,861	2,036
Purchases and external charges	6.4	-4,886	-4,472
Added value		5,372	3,840
Other operating income (including operating grants)	6.3	112	88
Taxes and duties other than income tax	6.5	-221	-140
Employee benefit expense	6.6	-3,567	-1,783
Gross profit		1,696	2,005
Reversal of impairment, operating provisions and investment grants; Expense reclassifications	6.8	995	774
Depreciation, amortisation, impairment and operating provisions	6.8	-1,806	-1,908
Other management expenses		-1	-1
Operating profit/(loss)		883	871
Financial income	6.9	483	510
Financial expenses	6.9	-1,925	-1,954
Finance cost		-1,442	-1,444
Net profit/(loss) from ordinary activities before tax		-559	-573
Exceptional income	6.10	682	95
Exceptional expenses	6.10	-623	-9,640
Exceptional profit/(loss)		59	-9,544
Income tax expense	6.11	87	44
Net profit/(loss) for the year		-413	-10,073

NOTES TO THE FINANCIAL STATEMENTS

1 ACCOUNTING STANDARDS BASE

SNCF Réseau is a State-owned industrial and commercial institution (EPIC), subject to commercial accounting rules. The accounting and financial obligations of the EPICs are governed by the instructions issued by the Direction Générale de la Comptabilité Publique called "Budgetary, financial and accounting regulations for national, industrial and commercial public institutions": pursuant to these instructions, confirmed by Article L.2102-13 of Law 2014-872 of 4 August 2014 on rail reform, SNCF Réseau is required to apply the French General Chart of Accounts and, hence, present the necessary summary accounting documents (balance sheet, income statement and notes thereto).

The financial statements are presented in millions of euros, rounded off to the nearest million. Accordingly, the sum of the figures may differ from the total shown.

1.1 ACCOUNTING JUDGEMENTS AND ESTIMATES

In preparing the company's accounts, management must make estimates, as numerous items included in the financial statements cannot be measured precisely. The accounting estimates used for the 31 December 2016 financial statements were prepared using the best information available at the year-end.

Major estimates and assumptions primarily concern:

— Impairment of non-financial assets

At each balance sheet date, the company assesses whether there is any indication that a non-financial asset may have lost value, necessitating the performance of a test.

These tests seek, in part, to determine a value in use. Value in use calculations are based on management estimates of expected future cash flows from the asset or cash-generating unit (CGU), the appropriate discount rate to be used to calculate the present value of these future cash flows and the growth rate adopted. Market value calculations are based on an assessment by management of the transaction price that could be obtained for the sale of the assets tested, taking into account the current condition of such assets.

— Employee benefit-related items

Considering that these benefits are settled several years after the personnel has rendered the corresponding services, the obligations under defined benefit plans and other long-term liabilities are recognised using actuarial valuations based on financial and demographic assumptions including discount, inflation, and salary increase rates and mortality tables. Due to the long-term nature of these plans, changes in these assumptions can generate actuarial gains and losses and may lead to significant changes in the recorded commitments.

— Provisions for environmental risks

The company records a provision for environmental risks when there is a legal or implicit obligation towards a third party that can be reliably measured and which would result in an outflow of resources.

Amounts recorded for site decontamination are based on the best possible estimate resulting from year-end assessments and take into account these valuations for known risks currently being assessed.

Amounts recorded for the removal of asbestos from rolling stock correspond to the estimated costs at the end of the equipment's life. These costs are determined based on new contracts signed, orders placed or the target prices of ongoing calls for tender (see Note 5.12 "Provisions for liabilities and charges").

2 MAJOR EVENTS

2.1 FINALISATION OF REFORM MEASURES

2.1.1 Measures for financing the rail system

2.1.1.1 Introduction

Pursuant to the rail reform law, measures for financing the rail system were introduced to:

- guarantee a high level of safety for persons and goods on the network;
- improve the quality of service offered to transport operators, particularly freight;
- facilitate the financial recovery of SNCF Réseau based on a financial trajectory agreement in line with the strategic objectives adopted by the French State that should cover, within a period of ten years, the full cost of the network and control the change in debt carried by SNCF Réseau.

These measures are essentially reflected in:

- the conclusion of a multi-year performance contract (2017-2026) with the French State;
- the institution of the golden rule principle;
- the set-up of a grant payment by SNCF to SNCF Réseau.

2.1.1.2 Multi-year performance contract (2017-2026)

On 20 December 2016, the SNCF Réseau Board of Directors validated a draft version of the multi-year performance contract (2017-2026). This contract was submitted to the Autorité de régulation des activités ferroviaires et routières (Arafer) for an advisory opinion prior to the joint signing with the French State. Over a period of ten years, the contract provides for the increase in budgets earmarked for the modernisation of the primary network, thus providing SNCF Réseau with a long-term view of the available resources:

- a primary network renovation budget fixed at €34 billion;
- €12 billion will be dedicated to regional lines and rail hubs as part of State-Region Contractual Plans.

The multi-year performance contract also creates a strong commitment for SNCF Réseau in terms of performance and savings.

2.1.1.3 Golden rule governing the financing of development investments

The purpose of this rule is to control SNCF Réseau debt by setting a ratio threshold of 18 (net debt/gross profit), beyond which SNCF Réseau can no longer contribute to these investment financing, which must then be covered by the requesting party (French State, regional authorities, etc.).

The application decree for this measure was transmitted to the State Council in early January 2017 after consideration of the Arafer opinion.

2.1.1.4 Grant received

The procedure involving the payment of a grant to SNCF Réseau, resulting from all or part of the dividends collected by SNCF from SNCF Mobilités earnings, was disclosed in the 2016 financial statements. A payment of €126 million was therefore recognised as a renewal investment grant as at 31 December 2016.

2.1.2 Asset transfers

2.1.2.1 Transfert under article 29 of the law of 4 August 2014

An additional asset transfer of €22 million under Article 29 of the Law of 4 August 2014 was carried out as at 1 January 2016, pursuant to an amendment to the initial asset transfer agreement signed in early 2017. This transfer involves assets pertaining to infrastructure management: land, buildings, switching stations and technical facilities, passenger platforms and intangible assets (domain names, brands, software).

This involves the last asset transfers under the rail reform.

2.1.2.2 Transfer under article 31-2 of the law of 4 August 2014

An additional asset transfer of €47 million under Article 31-2 of the Law of 4 August 2014 was carried out as at 1 July 2016, pursuant to an amendment to the initial asset transfer agreement. The amendment is currently being signed.

This transfer involves service facilities: service stations, freight yards, industrial sidings and other service facilities (garage tracks, national railway tracks).

2.2 OTHER FINANCIAL INFORMATION

2.2.1 Tax audit

SNCF Réseau was the subject of a tax audit concerning fiscal years 2012, 2013 and 2014 that resulted in the receipt of a tax reassessment at the end of July 2016.

The main grounds for reassessment involve the reclassification of TER access fees as a balancing grant, which directly subjected the company to the tax on wages and indirectly weakened the Infrastructure asset impairment test. This reassessment was formally challenged by the company.

The reassessments that were not challenged were covered by a provision of €3 million.

2.2.2 Impairment loss

The finalisation of the 2017-2026 performance contract represented an indication of a change in the value of Infrastructure CGU assets. A test was therefore carried out on 31 December 2016. The detailed components of this test are shown in Note 5.2.3 "Impairment test of non-current assets". The outcome of this test did not modify the impairment loss of €9.6 billion recognised as at 31 December 2015.

3 SUBSEQUENT EVENTS

Creation of the Altamétris subsidiary (SASU—simplified limited company with a sole shareholder)

On 30 November 2016, the Board of Directors validated the creation of the subsidiary Altamétris, wholly owned by EPIC SNCF Réseau, responsible for developing and marketing the acquisition, and data processing and exploitation via automated mobile vehicles, primarily drones and satellites.

Currently in progress, its creation should be finalised in early 2017.

Opinion of Arafer on the 2018 infrastructure fee scale

The *Document de Référence du Réseau* published on 9 December 2016 for the 2018 service timetable provides for an overhaul of minimal services and services relating to the service installation usage. On 1 February 2017, Arafer handed down an unfavourable opinion on the infrastructure fee scale. This opinion was communicated to SNCF Réseau on 7 February and the response is currently under study.

4 ACCOUNTING PRINCIPLES AND METHODS

Article 3 of the Act of 13 February 1997 stipulates that SNCF Réseau is subject to the rules applicable to industrial and commercial companies with respect to its financial and accounting management. The financial statements of SNCF Réseau have been prepared in accordance with the French Chart of Accounts and French generally accepted accounting principles and comply with the following basic assumptions:

- accruals;
- going concern;
- consistency.

4.1 PROPERTY, PLANT AND EQUIPMENT

Pursuant to Article 5 of Decree no. 97-445 of 5 May 1997 and Article 11 of the corresponding law governing its initial property holdings, SNCF Réseau owns property that it can actively manage. SNCF Réseau was granted full ownership of this property comprising railway tracks and other land and buildings that it may either develop or sell subject to compliance with the rules governing public land.

Under Article 46 of Decree no. 97-444, public land owned by SNCF Réseau may not be sold and cannot be subject to attachment.

4.1.1 Property, plant and equipment in the course of construction

— Production cost of property, plant and equipment

Property, plant and equipment is stated at acquisition or production cost.

The production cost of projects is capitalised in the balance sheet as from the “pre-project” phase.

For projects carried out directly, production cost includes the cost of studies, construction work, purchase cost and compensation paid for land acquisitions and direct operating expenses.

The production cost of work carried out under Public-Private-Partnerships (PPP) or concession arrangements is recognised in line with the physical progress of work based on the percentage completion communicated by the partners or concession holder. It consists of the sum of the value of the fees invoiced by the partners or concession holders, plus the present value of the fees payable, to which the percentage of completion is applied.

— Impairment of projects in progress

SNCF Réseau recognises impairment provisions for certain projects in progress which are recorded in property, plant and equipment in the course of construction. The objective is to represent the risk of non-completion of the project, which would result in costs being capitalised in circumstances where no asset will ultimately be created.

Two types of criteria are used in determining impairment provisions:

- the exception procedure: this is used when an exceptional event calls the completion of the project into question. If the risk of non-completion is greater than 50%, the project costs are written down in full;

- the fixed-percentage procedure: capitalised project costs are written down by 25%, 55% or 100%, where the investments have been discontinued for two, three or four or more years, respectively. Studies related to upgrade and compliance projects are written down only if the work is not scheduled for future years.

Impairment is calculated net of earned grants relating to the projects in question.

4.1.2 Property, plant and equipment commissioned

— Property, plant and equipment categories

In accordance with CRC regulation no. 2002-10, SNCF Réseau has established a list of component types for its infrastructure assets.

This classification includes 11 families comprising approximately 100 components. In addition, tracks are classified based on International Union of Railways (UIC) line traffic indicators.

— Depreciation of property, plant and equipment

As part of the CRC regulation no. 2002-10 compliance process, SNCF Réseau has defined useful lives for each component in its list. Depreciation is calculated on a straight-line basis over the following periods defined in accordance with the recommendations of technical experts in the relevant field:

Land	Not depreciated
Improvements to land	from 20 to 30 years
Buildings	from 15 to 50 years
Improvements to buildings	10 years
Earthworks	10 years
Tracks	from 20 to 100 years
Electricity supply equipment	from 10 to 75 years
Signalling	from 15 to 50 years
Telecommunications	from 5 to 30 years
Level crossings	15 years
Engineering works	from 30 to 70 years

Operating property, plant and equipment is depreciated on a straight-line basis over the following useful lives:

Trains	30 years
Improvements to buildings owned by third parties	from 10 to 15 years
Furniture and office equipment	from 5 to 7 years
IT and telecommunications	from 3 to 5 years
Cars	5 years
Software	from 1 to 5 years
Machinery and equipment	from 5 to 20 years

— Valuation of commissioned property, plant and equipment

Step 1. Allocation of assets to cash generating units

CRC regulation no. 2002-10 specifies the methods for calculating the recoverable amount of assets and the circumstances in which assets must be tested for impairment.

In the case of SNCF Réseau, it is not possible to estimate the recoverable amounts of stand-alone assets. Consequently, SNCF Réseau departed from the CRC regulation and uses the concept of the cash-generating unit as defined by IFRS (IAS 36).

A cash-generating unit (CGU) is the smallest identifiable group of assets which includes the asset and which generates cash inflows that are largely independent of the cash inflows generated by other groups of assets.

The first group identified by SNCF Réseau includes assets used in its infrastructure management activities, that is land and buildings dedicated to these activities, and all infrastructure equipment. Cash-in and outflows generated by this asset group are separately identifiable and largely independent of SNCF Réseau's other cash flows.

The second group identified by SNCF Réseau includes assets not used in its infrastructure management activities. These include land and buildings regarded as ultimately saleable, some of which may be occupied by third parties under tenancy agreements. They generate cash-in and outflows that can be distinguished from those generated by SNCF Réseau's other assets, using allocation criteria.

SNCF Réseau thus identified two CGUs for the performance of impairment tests: an "Infrastructure" CGU and a "Property" CGU.

Step 2. Assets valuation and impairment

Assets valuation and impairment are described in Note 5.2.3.

4.1.3 Disposals

Assets may be sold either by SNCF Réseau itself or by delegated agents acting on behalf of SNCF Réseau. In the latter case, the delegated agents inform SNCF Réseau of the disposal proceeds of the assets sold.

4.2 INTANGIBLE ASSETS

Intangible assets include:

- software purchased and created by the company itself, amortised on a straight-line basis over a probable period of use of no more than five years;
- concessions and licences amortised over a period of four years.

4.3 LONG-TERM INVESTMENTS

Equity investments and other long-term investments are stated in the balance sheet at purchase cost, net of any impairment.

An impairment loss is recognised once the net carrying amount exceeds the fair value.

The fair value of investments corresponds to the value in use for the company. This value is determined either using the market value for listed companies (stock market price), or according to the share of net worth held and a dataset comprising:

- historical items used to assess the initial value of the investments;
- current items such as the company's profitability or the present value of the underlying assets;
- future items corresponding to forecast profitability or achievement and economic climate trends.

The assessment of the value of the investments takes into account the business' maturity (if the business is in a launch phase, no impairment is recorded if future profitability is secured).

4.4 GRANTS

SNCF Réseau receives grants under financing agreements for investment projects concluded with third parties (French State, local authorities, Regions, etc.).

They are included in:

— operating income when they relate to operating expenses (general studies, preliminary studies);

— equity when they relate to capitalised expenditure. These grants are then released to profit or loss to match the depreciation recognised on the commissioned property, plant and equipment. For non-depreciable land, SNCF Réseau applies the average depreciation period of the assets associated with the land.

At each closing, and for each project, grants claims are reconciled with the amount of expenditure recognised. Adjustments are then made and recorded either in assets under "Grants not yet claimed" or in the "Grants" line item of current liabilities for grants "claimed in advance". These adjustments then make it possible to record the "earned grant".

The payment provisions for these grants differ according to the investment project and the payer's identity. They are paid according to a schedule included in the financing agreement or according to the actual progress of work.

"Earned grants" relating to PPP arrangements are recognised in the same manner according to the percentage completion of work, to mirror the recognition of production in progress.

4.5 INVENTORIES

Inventories are stated at the lower of cost price and net realisable value. Cost price is equal to acquisition or production cost. Production cost includes both direct and indirect production expenses.

Cost price is calculated using the weighted average cost method.

Inventories are written down based on the age, turnover and economic useful life of items.

4.6 OPERATING RECEIVABLES

Receivables are stated at their nominal amount. A provision for impairment is recorded if their fair value is less than their carrying amount.

An impairment loss is recorded once there is a potential risk of non-recovery (major payment delays, bankruptcy, litigation). This impairment loss is determined based on an individual appraisal of non-recovery risk.

4.7 MARKETABLE AND SIMILAR SECURITIES

Marketable securities are stated in the balance sheet at the lower of their purchase cost or market value.

Bonds are recognised at their acquisition date at the nominal amount adjusted for the premium or discount. At the year-end, they include the amount of accrued interest receivable.

Shares in UCITS are recognised at purchase cost excluding registration fees.

At the year-end, they are compared with the net asset value. Should the purchase cost exceed the net asset value, an impairment loss is recorded.

Negotiable debt securities are recognised at purchase cost. Interest is recorded in financial income on a time-apportioned basis.

4.8 TRANSACTIONS IN FOREIGN CURRENCIES AND PROVISIONS FOR FOREIGN EXCHANGE LOSSES

Monetary assets and liabilities denominated in foreign currencies are translated into euros at the year-end exchange rate and offset against profit or loss, except for assets and liabilities effectively hedged by currency swaps, which are translated at the hedging rate.

At the closing, differences between the euro equivalent amount originally recognised and the euro equivalent amount arising from retranslation at the year-end rate are recorded under assets (unrealised foreign exchange losses) and liabilities (unrealised foreign exchange gains). A provision is recorded for any unrealised foreign exchange losses.

4.9. PROVISIONS FOR LIABILITIES AND CHARGES

Provisions are recorded when, at the closing, the company has a present obligation to a third party as a result of a past event and the settlement of this obligation will require an outflow of company resources.

This obligation may be legal, regulatory or contractual. It may also result from company practice or external commitments that create valid expectations in third parties that the company will assume certain responsibilities.

The estimated amount of the provision reflects the outflow of resources that is likely to be necessary to settle the company's obligation. If a reliable estimate of this amount cannot be made, no provision is recorded. Disclosure is provided in the notes to the financial statements.

A contingent liability is a possible obligation that arises from past events whose existence will only be confirmed by the occurrence of uncertain future events not wholly within the control of the company, or a probable obligation where it is not probable that an outflow of resources will be required. Contingent liabilities are not recognised. Disclosure is provided in the notes to the financial statements.

4.9.1 Provisions for environmental risks

The company records provisions for environmental risks when it is considered probable that the risk will occur. This provision covers the costs of environmental protection and site restoration and clean-up. It specifically includes a provision for asbestos risks (mandatory diagnoses and asbestos removal) as well as a provision for the elimination of creosote-treated railway sleepers classified by the French Environmental Code as hazardous waste that must be eliminated in authorised hazardous waste disposal facilities (cement kiln, cogeneration plant, etc.).

With regard to rail equipment, since 1 January 1997, the application date of the 96-1133 decree of 24 December 1996, regarding the protection of employees and consumers, the manufacturing, importing, holding for sale of all types of asbestos and any product containing asbestos are prohibited in France. Accordingly, EPIC SNCF Réseau provided for the costs of these asbestos removal operations and offset them against a decommissioning asset.

4.9.2 Provisions for tax and employee-related risks

EPIC SNCF Réseau respectively recognises provisions for tax and employee-related risks when there is a probable risk of an outflow of resources as a result of a past event towards the tax authorities, personnel and social security organisations. The recorded provision is measured for the amount of outflow of resources that is likely to occur.

4.9.3 Provisions for contractual litigation and risks

The provision for contractual litigation and risks mainly includes risks associated with legal disputes and contract settlements in addition to contractual risks.

— Provisions for litigation

The company is involved in certain legal disputes arising in its normal course of business, particularly with regards to the following actions:

- performance bonds received from companies providing construction work;
- guarantees granted to freight transport sector customers for unforeseen events occurring during transportation.

Such disputes are provided based on an assessment of the related risk.

— Provisions for onerous contracts

Provisions are recognised for long-term contracts when they become onerous, that is to say when the inevitable costs required to satisfy the contractual obligations exceed the future economic benefits expected from these contracts. Provisions are valued based on inevitable costs, which reflect the net contract exit cost, that is to say the lower of the contract performance cost or any other compensation or penalty arising from failure of performance.

4.10 EMPLOYEE BENEFITS

Employee benefits are all forms of consideration given by an entity in exchange for services rendered by employees.

4.10.1 Short-term employee benefits

Short-term employee benefits are employee benefits (other than termination benefits) that are due to be totally settled twelve months after the end of the period in which the employees render the corresponding service.

4.10.2 Post-employment benefits

Post-employment benefits are employee benefits (other than termination benefits) which are payable after the completion of employment.

Post-employment benefit plans are formal or informal arrangements under which an entity provides post-employment benefits for one or more employees.

— Defined contribution plans

Defined contribution plans are post-employment benefit plans under which an entity pays fixed contributions into a separate entity (a fund) and will have no legal or constructive obligation to pay further contributions if the fund does not hold sufficient assets to pay all employee benefits related to employee service in the current and prior periods.

The creation of the SNCF Employee Pension and Provident Fund on 30 June 2007 released SNCF from its pension and provident commitments, the company being committed to its employees through a defined contribution plan.

— Defined benefit plans

Defined benefit plans are post-employment benefit plans other than defined contribution plans.

To enhance the quality of the financial information published on pension and similar commitments, EPIC SNCF Réseau adopted from 1 January 2013 the preferential method recommended by Article 335-1 of the French General Chart of Accounts and opinion 00-0A of 6 July 2000 issued by the French National Accounting Council (Conseil national de la comptabilité—CNC) Emergency Committee. This method consists in recognising a balance sheet provision for all employee benefits (active and retired employees). Current service cost and benefits paid are recognised respectively in operating provision charges and reversals. Actuarial gains and losses and reverse discounting impacts are recognised in finance cost.

The provisions recorded for post-employment defined benefits concern compensation for work-related injuries, the senior executive supplemental provident plan, social welfare initiatives and retirement termination benefits:

• Provisions for the senior executive supplemental provident plan

A provision covering the benefits arising from the supplemental provident plan for senior executives is recorded in the amount of the commitment.

• Provisions for social welfare initiatives

The company itself provides for social welfare initiatives which, outside of the SNCF framework, fall under statutory plans. Most of those who benefit from these social welfare initiatives are retired rail employees. A provision is recorded for the social welfare benefits to be paid out to retirees or, in some cases, their widows. This mainly involves the payment of admission to care facilities, psychological counselling, healthcare, family allowances and home improvement funding.

• Provisions for retirement termination benefits

Pursuant to the statutory plan, contractual employees who voluntarily leave EPIC SNCF Réseau for retirement purposes are entitled to a benefit. Accordingly, the company records a provision, calculated on the employee's past service within the company.

4.10.3 Other long-term employee benefits

Other long-term employee benefits are employee benefits (other than post-employment benefits and termination benefits) that are not due to be settled in twelve months after the end of the period in which the employees render the related service.

The provisions recorded for long-term benefits concern the gradual/early cessation of activity, compensation for work-related injuries involving active employees, long-service awards, time savings accounts and unemployment benefits.

— Provisions for the gradual cessation of activity

The gradual cessation of activity is a procedure used to adjust the work time of employees who have reached the end of their careers. A work-time formula is thus arranged to provide a transition period between professional activity and retirement. An agreement effective in July 2008 offers the possibility of a gradual or complete cessation for EPIC SNCF Réseau personnel. The granting of benefits is based on a combination of criteria: years of service, hardship and employee category. The agreement is treated as a provision.

This provision is calculated on an actuarial basis using the projected unit credit method. The calculation is based on a theoretical utilisation rate for the gradual cessation of activity procedure.

— Provisions for compensation for work-related injuries

• Provisions for compensation for work-related injuries involving active employees

The company itself provides for compensation for work-related injuries involving active employees. Accordingly, it recognises a provision for liabilities in order to cover the compensation paid to active employees who have suffered work-related injuries or contracted a work-related disease.

The calculated commitment includes the transferability of the compensation. In principle, compensation for work-related injuries are only transferable if the death of an active employee is due to a work-related injury or disease. In this case, the surviving spouse receives the compensation.

• Provisions for compensation for work-related injuries involving retirees

The company itself provides for compensation for work-related injuries involving retirees. Accordingly, it recognises a provision for liabilities.

The provision is measured on an actuarial basis using discount rate, salary increase rate, mortality and inflation rate assumptions. It includes the transferability of the compensation.

— Provisions for long-service awards

The French Medal of Honour for Railway Service is awarded to employees for services rendered during their employment. The Silver Medal can be awarded to any employee, regardless of their age or whether or not they are still active, with at least twenty-five years of service. Under the same conditions, the Vermeil Medal can be awarded to any employee with at least thirty-five years of service and the Gold Medal to any employee with at least thirty-eight years of service.

A provision corresponding to probable payments to employees is recognised. This provision is calculated by measuring the cost of this award and the two additional days of paid leave obtained after twenty-five, thirty-five and thirty-eight years of service in the SNCF EPICs or after twenty, thirty and thirty-three years of service for train drivers.

The amounts of the various awards are set by decree and only change if new amounts are published.

— Provisions for time savings accounts

Following the publication of the law 2005-296 of 31 March 2005 on the change in the organisation of working time in companies and the decree of 3 September 2008 on the application of the purchasing power law of 8 February 2008, a collective agreement was signed, providing for the creation of a Time Savings Account in order to save, in two sub-accounts, paid holidays to be used:

- during employment, in addition to the annual paid holidays (short-term time savings account);
- at employment termination or in connection with a gradual cessation of activity (end-of-career time savings account).

The provided amounts are used to cover the company's commitment with regard to end-of-career time savings accounts.

— Provisions for unemployment benefits

Provisions are recorded for the benefits paid by the French unemployment office to permanent or contractual employees in the event of:

- resignation;
- dismissal through disciplinary measures;
- retraining (permanent employees).

4.10.4. Termination benefits

Termination benefits are employee benefits payable as a result of either:

- an entity's decision to terminate an employee's employment before the normal retirement date;
- an employee's decision to accept voluntary redundancy in exchange for those benefits.

A voluntary departure procedure enables permanent or contractual employees at overstuffed companies to receive lump-sum termination benefits and back-to-work allowances on leaving the company. An accrued expense for the benefits provided by the procedure is recorded in the accounts on signature of the agreement between the employee and the company.

4.11 DERIVATIVE FINANCIAL INSTRUMENTS

SNCF Réseau is exposed to the following risks related to the use of financial instruments:

- currency risk;
- interest rate risk;
- liquidity risks;
- credit and counterparty risks.

In SNCF Réseau, the management of transactions and financial risks is strictly governed by the "Principles and limits for trading on capital markets" issued by the Board of Directors. This document notably sets out the key policy focus in the areas of financing, treasury and overall debt management, the management principles and limits authorised in respect of interest rate, currency and counterparty risks, optimisation

transactions, authorised instruments, the ceilings applicable to financing programmes, investment products and delegations of authority granted by the Board of Directors together with delegations of signature granted.

SNCF Réseau also has a manual procedure which specifies the controls to be performed and the manner in which they are to be carried out in order to ensure that, on a day-to-day basis, transactions entered into comply with the defined limits and principles and the target debt structure.

SNCF Réseau also prepares different reports describing the transactions performed and results of controls on a daily, weekly or monthly basis.

4.11.1 Management of currency risk

As part of its financial strategy which aims to diversify access to sources of finance and limit finance costs, SNCF Réseau issues bonds in foreign currencies that are covered by currency hedges. The foreign currency denominated cash flows (principal payments and interest) are hedged by currency derivatives which convert this debt into euro debt.

At the year-end, unrealised losses on foreign currency financial instruments and hedged underlying are covered by a provision.

4.11.2 Management of interest rate risk

As part of its financial strategy and to limit its exposure to an increase in its financial expenses, SNCF Réseau has defined principles in order to minimise its exposure to interest rate risk.

The current historically low interest rates and the desire to maintain long-term economic equilibrium led the SNCF Réseau Board of Directors to opt for a breakdown of net debt in repayment value that was 90% fixed-rate, 6% floating-rate and 4% inflation-indexed. A limited margin around each of these thresholds is authorised by the Board of Directors.

Compliance with this breakdown is verified on a daily basis.

To achieve this breakdown, SNCF Réseau may use option-based derivatives or interest rate swaps for hedging purposes.

— Interest-rate swaps

The company uses interest-rate swaps for its loan issues or to manage its existing net debt.

In connection with the active management of its interest rate risk, the company endeavours, wherever possible, to cancel existing contracts rather than carry out new hedging transactions, thus limiting its counterparty risks and commitments. The amount of balancing cash payments made or received on conclusion or cancellation of swaps is amortised over the life of the corresponding hedged items.

When a hedging strategy does not satisfy the hedging criteria set by the company, the unrealised capital gains or losses are recorded in the balance sheet. Unrealised foreign exchange losses are covered by a provision for interest rate risk in the income statement.

4.11.3 Management of liquidity risk

Due to the proactive management of its liquidity, the quality of its signature and its frequent presence on international capital markets, SNCF Réseau enjoys diversified access to both short-term (Treasury Bill, Commercial Paper) and long-term (public and private bond issues) financing sources.

In addition, SNCF Réseau has a five-year syndicated credit line of €1.25 billion. This facility was not drawn down in 2016.

4.11.4 Management of counterparty risk

The management of counterparty risk is described in Note 8.1.

4.12 BORROWINGS

4.12.1 Debt transferred from SNCF

When RFF was established on 1 January 1997, a €20.5 billion debt was transferred to RFF's liabilities from SNCF. The term, interest rate and currency of this borrowing were representative of SNCF's debt structure at the time of the formation of RFF.

The characteristics of the debt were modified in 2001 due to loan extension clauses. No further modifications have been made since then.

Unamortised issuance costs on the SNCF debt transferred to RFF on 1 January 1997, amounting to around €21.4 million, are amortised over the average residual term of the borrowing. Issue premiums and issuance costs on debts contracted by RFF are amortised on a straight-line basis in proportion to the accrued interest on the borrowings.

4.12.2 SNCF Réseau debt

Zero-coupon bonds are recognised in liabilities at issue price. Capitalised accrued interest is recognised as a financial expense and is added to the principal borrowing amount in liabilities at each closing.

For inflation-indexed issues, SNCF Réseau revalues the redemption premium based on changes in inflation. A provision for liabilities and charges is recorded at each year-end, representing the amount of the unrealised loss at the year-end.

4.13 INSURANCE

SNCF Réseau has subscribed to insurance policies since 1 January 2007. These policies cover civil liability risks related to all of its activities and risks of damages to its assets and consequential loss of infrastructure revenues.

These "all risks subject to exclusions" policies also cover natural disasters and are subscribed with leading insurers.

4.14 RECOGNITION OF REVENUE AND OTHER INCOME

4.14.1 Distinction between profit or loss from ordinary activities before tax and exceptional profit or loss

Profit or loss from ordinary activities before tax corresponds to the sum of operating profit or loss and profit or loss from financial transactions. It therefore includes all the income and expenses directly relating to the company's operations.

Exceptional profit or loss includes material items which, due to their type, unusual nature or non-recurrence, cannot be considered as inherent to the company's operations.

4.14.2 Competitiveness and employment tax credit

A Competitiveness and Employment Tax Credit (CICE) introduced by the Amending Finance Act of 9 December 2012 was created to help companies finance their competitiveness particularly through investment, research, innovation, recruitment, new market prospection, environmental and energy transition and working capital restoration measures. It is based on compensation not exceeding two and a half times the minimum growth salary that companies pay their employees during the calendar year. From fiscal year 2014, the tax credit amounted to 6%.

The CICE is offset against the corporate income tax payable for the year in which the compensation used for the tax credit calculation was paid. The amount receivable from the French State corresponding to the amount not offset may therefore be used to settle the tax payable in the three years following the year in which the credit is recorded. At the end of this period, the non-offset portion is paid back to the company.

Insofar the CICE is used by the company to finance expenditure related to working capital, it was analysed as a tax gain. Accordingly, the CICE is presented under "Income tax expense".

5 NOTES TO THE BALANCE SHEET

5.1 INTANGIBLE ASSETS

	31/12/2016			31/12/2015		
	Gross	Amortisation and impairment	Net	Gross	Amortisation and impairment	Net
Intangible assets	1,603	-401	1,202	1,556	-335	1,220
Intangible assets in the course of development	103	-	103	82	-	82
TOTAL	1,706	-401	1,306	1,638	-335	1,302

	Intangible assets	Intangible assets in the course of development	Total
Net carrying amount as at 31/12/2015	1,220	82	1,302
Gross acquisitions	5	59	64
Gross disposals	-3	-	-3
Amortisation	-76	-	-76
Amortisation reversals	19	-	19
Provisions for impairment	8	-	8
Transfer	-	-	-
Commissionings	45	-38	7
Other changes	-16	-	-15
Net carrying amount as at 31/12/2016	1,202	103	1,306

Investments in intangible assets for 2016 totalled €64 million, including €4 million for the SEA concession agreement.

5.2 PROPERTY, PLANT AND EQUIPMENT

	31/12/2016			31/12/2015		
	Gross	Depreciation and impairment	Net	Gross	Depreciation and impairment	Net
Land and buildings	9,754	-3,133	6,620	9,267	-2,650	6,617
Tracks, earthworks, engineering works and level crossings	42,494	-18,047	24,446	40,244	-17,416	22,829
Industrial and technical plant (ITP) and other assets	919	-694	225	837	-702	135
Electrification, telecommunications, signalling	13,486	-7,641	5,845	12,863	-7,370	5,494
Transportation equipment	1,151	-952	199	1,147	-921	226
Property, plant and equipment in the course of construction	16,382	-32	16,349	15,236	-22	15,214
TOTAL	84,185	-30,500	53,685	79,595	-29,081	50,514

	Land and buildings	Tracks, earthworks, engineering works and level crossings	Industrial and technical plant (ITP) and other assets	Electrification, telecommunications, signalling	Transport equipment	PP&E in the course of construction	Total
Net carrying amount as at 31/12/2015	6,617	22,829	135	5,494	226	15,214	50,514
Gross acquisitions	-	-	-	-	-	4,709	4,709
Gross disposals	-42	-37	-21	-39	-7	-53	-198
Depreciation	-151	-1,013	-57	-534	-35	-	-1,791
Provisions for impairment	-	21	-	-	5	-11	16
Depreciation reversals	7	223	25	99	7	-	360
Impairment losses	-	-	-	-	-	-	-
Transfer	64	1	4	-	-	-	69
Commissionings	400	2,285	88	698	31	-3,509	-7
Other changes	-275	138	51	127	-29	-1	11
Net carrying amount as at 31/12/2016	6,620	24,446	225	5,845	199	16,349	53,684

Assets impaired as at 31 December 2015 were subject to an exceptional depreciation charge based on the initial depreciation plan. An asset impairment reversal was recognised as at 31 December 2016 for €360 million.

In 2016, pursuant to the rail reform law 2014-872 of 4 August 2014, service facilities (Article 31.2) and assets relating to infrastructure management (Article 29) were transferred from SNCF Mobilités in the amount of €69 million.

5.2.1 Investments

Investments in property, plant and equipment for 2016 totalled €4,709 million and mainly include:

— €4,452 million in infrastructure investment project expenses, of which €662 million in production from PPPs and concessions, €142 million from delegated agents and €137 million in major maintenance;

— €257 million in direct acquisitions in other projects.

5.2.2 Commissionings during the year

Commissioned items of property, plant and equipment totalled €3,506 million:

— €3,113 million related to railway projects, of which Phase 2 of LGV Est for €1,910 million;

— €181 million for the GSM-R PPP;

— €212 million for other projects, including rail equipment, machinery, property and other items.

5.2.3 Present value of assets at the year-end

As at 31 December 2016, the Infrastructure CGU includes:

— National Rail Network assets representing 30,000 km of lines in service and renewal work in progress for an amount of €26.8 billion net of the grant and impairment;

— high-speed lines on the verge of completion (CNM, BPL and SEA) valued at €3.3 billion net of the grant and the concession grantor's financing;

— other ongoing projects amounting to €1.4 billion net of the grant, for an overall total of €31.5 billion.

Until the previous closing, the CGU also included deferred tax receivables in the amount of €3.7 billion as at 31 December 2015. Deferred tax assets are now excluded from Infrastructure CGU assets. These deferred tax assets are not recognised under French accounting principles.

To recap, an impairment test had been carried out at the 31 December 2015 year-end that resulted in an impairment loss of €9.6 billion. It was based on ongoing discussions with the French State prior to the signing of the multi-year performance agreement stipulated by the law of 4 August 2014 and a financial trajectory for SNCF Réseau taking into account the key changes and assumptions discussed with the French State on that date.

The finalisation of the performance contract with the French State and its validation by the SNCF Réseau Board of Directors on 20 December 2016 represented an indication of a change in value. A new test was performed on 31 December 2016 and the impairment amount of €9.6 billion was subsequently maintained in the 2016 financial statements.

The main assumption changes arising from the finalised version of the performance contract concerned:

— the consideration of additional productivity assumptions for expenses;

— the downward revision of platform fees;

— the upward revision of compliance, renewal and industrial investments.

Tested assets

For the lines in service and the renewal outstanding (€26.8 million as at 31 December 2016), the discounted cash flows are calculated over the ten-year business trajectory from the 2017-2026 performance contract with the French State, extended until 2030, which represents a normative year, as the network will therefore be considered as stabilised at that date with a sufficient level of performance.

The cash flows related to three major high-speed lines, currently being completed (€3.3 billion net of the grant and the concession grantor's financing), and scheduled for commissioning in 2017, namely the Eastern high-speed line, the Bretagne-Pays de la Loire high-speed line, the Nîmes-Montpellier bypass, and the Southern Europe Atlantic high-speed line, were tested. With respect to the SEA concession, the cash flows forecasts took into account the line's renewed operation following the concession grantor's operating phase, that is to say by 2061.

The value of other assets under construction (€1.4 billion as at 31 December 2016, compared to €1.5 billion as at 31 December 2015) comprising capacity investments under development is analysed separately as part of a specific review.

Presentation of the key parameters

The impairment test key assumptions cover the level of infrastructure fees, public backing and current network maintenance.

Traffic forecasts under the ten-year plan were prepared for the Public Rail Group. They are consistent with the SNCF Mobilités forecasts. Despite a change in behaviour for certain customers within the passenger activity with the development of intermodal competition, such as long-distance bus transport and car-pooling, SNCF Réseau is anticipating an increase in traffic thanks to a better quality of service that benefits all rail companies.

The public backing contributing to the support of this renewal trajectory was approved based on commitments confirmed by the French State.

In addition, the French State approved the rail index sequencing adopted for the estimate of infrastructure fees.

The allocations paid to SNCF Réseau pursuant to the rail reform law were also taken into account. They were qualified as investment grants used to finance network renewal.

Rail network maintenance in fact includes two major categories of activity:

— renewal: facilities replacement or significant upgrade;

— facilities maintenance: preventive and corrective maintenance and tail.

The SNCF Réseau financial trajectory calls for a much more substantial renewal effort for the existing network than in the previous decade. It also includes the first major renewals of the high-speed lines currently in service. Priority is given to the Île-de-France network and the major lines with the most traffic. The effort is two-phased: a gradual step-up in the process until 2020 so as to progressively mobilise human and material resources and subsequently a stabilisation from 2020 to 2027, followed by a gradual decrease until the normative year 2030 to reach a replacement level that is aligned with the network.

The combined effect of an unprecedented maintenance effort and a forecast traffic increase optimised the trajectory in line with the productivity plans based on a strategy to intensify the outsourcing of studies, services and work and a performance and savings programme.

Other items

The terminal value is calculated using the indefinite projection at a rate of 1.7% of cash flows generated by 2030.

For the post-tax cash flow projection, a theoretical tax rate of 34.43 (or 28.92% as from 2020) is adopted and applied to projected current operating profit. This represents a change compared to previous practices which adopted a tax paid to take into account the utilisation of loss carryforwards. At the same time, future cash flows were discounted at a rate of 5.1% without taking into account the tax loss carryforward, compared to 5.5% as at 31 December 2015, which incorporated the impact of a loss carryforward. As from 2020, the cash flows were discounted at a rate of 5.2% to take into account the impact of the decrease in the tax rate forecast by the 2017 Finance Law.

The possible impacts of the opinion issued by Arafer on 1 February 2017 on the pricing for the 2018 service timetable were not incorporated into the cash flows, since the company considers that the discussions with the Authority are still ongoing.

Impairment test results

The recoverable amount of the assets tested totalled €30.4 billion as at 31 December 2016. The terminal value, calculated using the indefinite projection of cash flows generated on 2030, represents 99.7% (including the scope

with the three high-speed lines under completion) of this recoverable amount. As this value was slightly higher than the reference asset tested (three high-speed lines under completion), SNCF Réseau maintained the same impairment amount of €9.6 billion (gross value) recognised in the previous year.

The estimates and assumptions taken into account to assess the recoverable amount of the assets are primarily based on the performance contract. This recoverable amount also depends on the French State's implementation of all the resources and commitments necessary for its support and the company's ability to meet its productivity plans. Actual results and certain future assumptions could differ significantly from the estimates adopted.

Sensitivity analyses

Sensitivity to the valuation parameters:

— a change of +/- 10 basis points in the discount rate represents a change of +/- €1.2 billion in the recoverable amount;

— a change of +/- 10 basis points in the perpetual growth rate results in a change of +/- €9 billion;

Sensitivity to cash flows over the 2017-2030 period (including corporate tax impact):

— a change of +/- €100 million in net annual renewal expenses represents a change of +/- €2 billion in the recoverable amount. This amount is indicative only since, beyond a certain threshold, the impact of the change in renewal expenses on the recoverable amount of assets is not linear and the impacts may be material for maintenance, traffic and therefore infrastructure fees;

— an annual change of +/- €100 million in the infrastructure fees or the backing of the French State represents a change of +/- €1.7 billion in the recoverable amount;

— a change of +/- 10% in annual productivity gains represents a change of +/- €1.8 billion in the recoverable amount.

5.3 LONG-TERM INVESTMENTS

	31/12/2016	31/12/2015	Change
Investment grants to be claimed	2,067	1,705	363
Guarantee deposits	6	6	-
Other financial receivables	20	-	20
Equity investments	28	28	-
TOTAL	2,120	1,738	382

As at 31 December 2016, long-term investments included grants to be claimed in the amount of €2,067 million for current PPP agreements, including €1,074 million for the Bretagne-Pays de la Loire project and €993 million for the Nîmes-Montpellier bypass.

These long-term investments represent grants to be collected from the State by SNCF Réseau, enabling it to repay its debts owed to Eiffage for the Bretagne-Pays de la Loire project and Oc'Via for the Nîmes-Montpellier bypass. These grants will be collected from 2017.

SNCF Réseau recorded borrowings for the same amounts that it will also have to repay from 2017 (see Note 5.13).

The amount of €2,067 million represents the progress of the projects as at 31 December 2016.

The financial receivables of €20 million mainly correspond to cash advances from a subsidiary.

List of subsidiaries and affiliates

Information in thousands of euros (K€)					Carrying amount of shares held		Loans and advances granted by the companies and not yet repaid	Guarantees and endor- sements granted by the company	Pre-tax revenue of the prior year	Earnings (profit or loss of the prior year ended)	Dividends collected by the company during the year
	Subsidiary name and registered office	Share capital	Equity	Capital held	Percentage of capital or earnings held	Gross					
1. Subsidiaries (to be broken down)											
(+50% of capital held by the company)											
SFERIS	1,500	5,382	1,500	100%	6,000	6,000	5,985	-	74,400	1,455	-
1 Cité Paradis, 75010 PARIS											
2. Affiliates (to be broken down)											
(10%-50% of capital held by the company)											
EURAILSCOUT BV	18,746	17,870	9,373	50%	21,000	21,000	-	-	-	1	-
Amersfoort, Netherlands											
ADIF Perpignan Figueras (LFP)	60	60	30	50%	30	30	-	-	-	-	-
SNCF INFRA LBA DEVELOPPEMENT	350	NC	140	40%	138	138	-	-	NC	NC	-
18 rue de Dunkerque, 75010 PARIS											
CDG EXPRESS ÉTUDES	10	10	3	33.33%	3	3	-	-	929	-	-
291 bd Raspail, 75014 PARIS											
CADEMCE	1,860	NC	464	24.95%	464	464	-	-	NC	NC	-
14 quai de la Somme, 80080 AMIENS											
EURAILSCOUT France	38	1,071	1	2.63%	1	1	-	-	7,975	-	-
20 rue des Petits Hôtels 75010 PARIS											
GIE/GEIE											
GEIE CFM4	-	-	-	33%	-	-	-	-	-	NC	-
92 av de France, 75013 PARIS											
GEIE SEA VITORIA DAX	-	-	-	50%	-	-	-	-	-	NC	-
7A terrasse du Front du Médoc, 33075 BORDEAUX											
GEIE NAF GCT	-	-	-	50%	-	-	-	-	-	NC	-
Place de Nuestra Senora del Pilar, 50071 SARAGOSSE											
GEIE RFC2 CORRIDOR C	-	-	-	49%	-	-	-	-	-	NC	-
9 pl. de la Gare, LUXEMBOURG											
GEIE RFC6	-	-	-	20%	-	-	-	-	-	NC	-
Piazza Della Croce Rossa, ROME											
GEIE des utilisateurs de ERTMS	-	-	-	16.67%	-	-	-	-	-	NC	-
123/133 rue Froissart, BRUXELLES											
Fondation RAILENIUM											
Académie de Lille VALENCIENNES											

5.4 INVENTORY AND WORK-IN-PROGRESS

	31/12/2016			31/12/2015	
	Gross	Impairment	Net	Net	Change
Raw materials	510	-109	401	391	9
Finished goods	67	-	67	68	-1
Work-in-progress	20	-	20	14	6
Total inventories	597	-109	487	473	14

	31/12/2015	Charges	Reversals	31/12/2016
Raw materials	-111	-101	102	-109
Finished goods	-	-	-	-
Work-in-progress	-	-	-	-
TOTAL	-111	-101	102	-109

Inventories are written down based on the turnover, nature, age and useful life of items.

5.5 OPERATING RECEIVABLES

	31/12/2016	31/12/2015	Change
Trade receivables and related accounts	1,340	1,225	114
Other operating receivables	3,371	3,779	-408
Grants to be collected	1,160	1,501	-341
Grants to be claimed	1,138	1,172	-34
VAT receivables	507	511	-4
SNCF Mobilités receivable, including CICE	41	177	-136
Tax receivables and tax credits*	198	127	71
Other receivables	295	244	51
Receivables from asset disposals	32	47	-15
Payments on account for inventories	297	230	67
Gross value	5,008	5,235	-227
Impairment	-128	-77	-52
Net value	4,880	5,158	-278

*€68 million in deferred tax assets classified as tax receivables.

The impairment losses relating to the transfer under the rail reform based on the IFRS values to which a tax credit was allocated on the same bases as the relevant assets mainly involve grant and trade receivables.

5.6 DEBT MATURITY ANALYSIS—ASSETS

	31/12/2016	< 1 year	> 1 year
Trade receivables and related accounts	1,340	1,272	68
Other operating receivables	3,371	2,335	1,036
Grants to be collected	1,160	363	797
Grants to be claimed	1,138	1,138	-
VAT receivables	507	507	-
Mobility receivable, including CICE	41	-	41
Tax receivables and tax credits	198	-	198
Other receivables	295	295	-
Receivables from asset disposals	32	32	-
Payments on account for inventories	297	297	-
Gross value	5,008	3,904	1,104

5.7 MARKETABLE AND SIMILAR SECURITIES, CASH AND CASH EQUIVALENTS

	31/12/2016	31/12/2015	Change
Initial maturity of more than three months and/or subject to interest rate risk	-	48	-48
Bonds	-	-	-
Negotiable debt securities	-	48	-48
Initial maturity of less than three months and without interest rate risk	2,403	2,163	240
Bonds	-	-	-
Negotiable debt securities	150	193	-43
Unsecured loan	300	-	300
UCITS	1,953	1,970	-17
Foreign currency investments	-	-	-
Accrued interest receivable	-	-	-
Sub-total marketable securities	2,403	2,211	192
Cash and cash equivalents	816	351	466
TOTAL	3,219	2,561	658

All UCITS correspond to low-risk mutual funds.

5.8 PREPAYMENTS AND DEFERRED CHARGES

	31/12/2016	31/12/2015	Change
Prepaid expenses	38	55	-17
Deferred charges	543	590	-46
Loan issue costs	175	161	14
TOTAL	756	805	-48

5.9 UNREALISED FOREIGN EXCHANGE GAINS AND LOSSES

	31/12/2016	31/12/2015	Change
Unrealised foreign exchange losses	227	220	7
Unrealised foreign exchange gains	-	-	-
TOTAL	227	220	7

5.10 EQUITY

	Capital injection	Accumulated deficit	Net profit/ (loss) for the year	Net worth	Investment grants	Equity
Equity as at 31/12/2015	9,765	-14,267	-10,073	-14,576	23,135	8,559
Appropriation of 2015 loss	-	-10,073	10,073	-	-	-
2016 net loss	-	-	-413	-413	-	-413
Movements in grants	-	-	-	-	1,389	1,389
Grants recorded in the income statement	-	-	-	-	-673	-673
Transfer	-	-	-	-	1	1
Equity as at 31/12/2016	9,765	-24,340	-413	-14,989	23,851	8,862

As a State-owned industrial and commercial institution, SNCF Réseau does not have any capital in the legal sense of the term, nor shares, nor does it pay dividends.

difference in value between its assets and liabilities. The French State then increased this initial capital by means of additional injections until early 2003.

At the time of its creation, SNCF Réseau had equity of €0.86 billion for accounting purposes, corresponding to the

As at 31 December 2016, capital injections totalled €9.8 billion.

5.11 INVESTMENT GRANTS

5.11.1 Summary of grants for assets in the course of construction and commissioned assets

	31/12/2016			31/12/2015		
	Grants for commissioned assets	Grants for assets in the course of construction	Total	Grants for commissioned assets	Grants for assets in the course of construction	Total
Development grants for assets in the course of construction	-	6,820	6,820	-	7,368	7,368
Development grants for commissioned assets	13,604	-	13,604	12,331	-	12,331
Renewal grants for commissioned assets	3,301	-	3,301	3,435	-	3,435
Renewal grants for assets in the course of construction	126	-	126	-	-	-
TOTAL	17,031	6,820	23,851	15,766	7,368	23,135

The renewal investment grant paid by SNCF in 2017, in the name and on behalf of the French State, was recognised for €126 million as at 31 December 2016.

	Net amount as at 31/12/2015	Grants allocated to commissioned assets during the year	Share of grant released to profit or loss	Other changes	Net amount as at 31/12/2016
Land, buildings and fixtures and fittings	1,641	197	-81	7	1,764
Tracks, earthworks, engineering works and level crossings	7,748	1,335	-231	-12	8,840
ITP, electrification, telecom	2,926	294	-217	-19	2,983
Intangible assets	15	-	-10	11	17
TOTAL	12,331	1,825	-539	-13	13,604

5.11.2. Grants for assets in the course of construction

Earned grants related to assets in course of construction are recognised under the percentage of completion method. They are included in equity under "Investment grants for assets in the course of construction.

5.11.3. Grants for renewals and upgrade and compliance work

All the renewal grants received from the French State until 2008 inclusive were allocated to commissioned programmes. They continue to be released to profit or loss according to the schedule presented in the table below:

Year of commissioning	Commissioning date	Period of release (in years)	Amount commissioned	Accumulated release	Net amount as at 31/12/2016
2004	01/07/2004	38	675	222	453
2005	25/03/2005	42	574	161	413
2006	09/05/2006	42	878	223	656
2007	21/03/2007	35	734	205	529
2008	17/04/2008	33	69	18	50
2009	17/01/2009	42	844	208	637
2010	22/01/2010	38	436	128	307
2011	01/01/2011	51	20	3	17
2012	01/01/2012	28	255	83	171
2013	01/01/2013	41	75	7	68
TOTAL		390	4,560	1,260	3,301

5.12 PROVISIONS FOR LIABILITIES AND CHARGES

	31/12/2015	Charges	Reversals	Reclassification	31/12/2016
Employee benefits	889	137	-119	-	907
Environmental risks	147	30	-9	1	169
Tax and employee-related risks	46	7	-	-	53
Contractual litigation	194	54	-37	-	210
Financial risks	223	9	-	-	231
Other provisions for liabilities and charges	226	5	-227	-	5
Total provisions	1,725	242	-392	1	1,575

Employee benefits include benefits involving compensation for work-related injuries (€484 million), gradual cessation of activity (€185 million), social welfare initiatives (€94 million), time savings account (€74 million), long-service awards (€25 million), the senior executive supplemental provident plan (€16 million), pensions, unemployment benefits and termination benefits (€30 million).

Environmental risks primarily concern the elimination of creosote-treated railway sleepers for €85 million and asbestos removal for €45 million.

The company was subject to a tax audit and recorded a provision for the accepted reassessment. However, it challenged other reassessments, including the reclassification as a balancing grant of the TER access fees paid by the French State on behalf of the regions and will initiate litigation proceedings. No provision was therefore recorded for these amounts challenged by the company. This risk may amount to around €7 million.

Regarding tax and employee-related risks, as a precautionary measure, the company provides for tax reassessments and employee-related risks. This heading mainly concerns the litigation with employees. An additional provision of €2 million was recorded in 2016.

The contractual litigation heading for €210 million mainly concerns Arles (€119 million), Culoz (€8 million), the Eckwersheim accident (€3 million), the Marseille Saint-Charles derailment (€3 million), flooding in 2016 (€28 million) and commercial litigation (€8 million).

Financial risks involve indexation risks (€227 million) and swap interest rate risks (€4 million).

Other provisions for liabilities and charges involve the provision for lease payments for 92 avenue de France.

Despite the provision updates in 2016, an uncertainty surrounding the assessment of two provisions remains:

— Litigation regarding floods in Arles in December 2003

The Marseille administrative court rejected 18 claims filed against RFF, now SNCF Réseau and SNCF, considering the floods to be a case of "force majeure exonerating from all liability" SNCF Réseau and SNCF. The reporting judge also concluded that the claims should be rejected based on the merits. As the period for appeal is still open, the provision was maintained as a precautionary measure, in the amount of €119 million.

— Decontamination and environmental risks

The provision recognised at the year-end was calculated based on the knowledge on this date of the assets to be treated; this provision is still to be gradually updated as SNCF Réseau continues its work to identify the programs to be implemented and quantify the corresponding decontamination costs.

The assessment of the potential risk of asbestos in open-land installations, platforms, walkways and underground passages within the stations scope entrusted to a specialised service provider has been completed. The types of assets requiring a call-out or technical asbestos file were identified.

SNCF Réseau will be able to estimate a possible provision for environmental risks when the list of these facilities is finalised.

— Ongoing litigation: Brétigny-sur-Orge accident

Following the derailment on 12 July 2013 of Paris-Limoges intercity train no. 3657 in Brétigny-sur-Orge (Essonne) station, and after having filed the two expert reports requested by the investigating judges, RFF and SNCF, which became SNCF Réseau and SNCF Mobilités, respectively, on 1 January 2015, were indicted for “involuntary manslaughter and unintentional injuries through carelessness, recklessness, inattention, negligence, or failure to observe an obligation of due care or precaution” and heard by the judges.

SNCF Réseau and SNCF Mobilités firmly challenged the expert reports, cast doubt on the seriousness of the metallurgical evaluation, and requested that additional work was to be carried out for which the approval was notified at the end of January 2016.

Since the accident, SNCF Mobilités has set up a dedicated team to assist the victims and their families. Under the aegis of the coordination authority designated by the Ministry of Transport, SNCF Mobilités immediately committed to a compensation programme for the accidents human and material consequences. The liability insurer has now assumed responsibility for the compensation since the date the deductible (€3 million) was exceeded.

As a precautionary measure, on 8 October 2013, SNCF Mobilités and SNCF Réseau launched the Vigirail programme, designed to improve switching safety and upgrade track maintenance. This program includes actions that meet the recommendations issued by the BEA-TT in its progress report of 10 January 2014. Following the conclusions of the final report made public by the BEA-TT on 18 September 2015, SNCF Mobilités has pledged to implement three new recommendations.

— Eckwersheim TGV high-speed train accident

On 14 November 2015, a test train on the high-speed train derailed, leaving 11 dead and 42 injured in Eckwersheim, Alsace, on the new future East European line. In the minutes following the accident, the General Director for Railway System Safety initiated an immediate investigation with the SNCF General Safety Audit Department, at the request of the SNCF Executive Board. The internal report was submitted to the Chairmen on 19 November 2015. After examining the events recorder, the investigators established that the speed of the test train at the moment it entered the track section exceeded the recommended speed for a test program. This high speed was due to a late braking sequence in the test train.

The remaining provisions for contractual litigation and risks include amounts that are individually immaterial.

Regarding other provisions for liabilities and charges, a simplification of accounting entries with regard to the ZAC PRG contract resulted in a net reversal of €216 million with no P&L impact, considering its reclassification in deferred income and the withdrawal in relation to the costs incurred.

5.13. BORROWINGS

SNCF Réseau raises funds on international capital markets in order to cover its long-term financing needs, mainly through bond issues and private placements and, to a lesser extent, borrowings from banks and/or local authorities.

The IFRS net debt repayment amount (excluding PPP, collateral, accrued interest receivable) totalled €42 billion, compared to €39.3 billion as at 31 December 2015, i.e. an increase of €2.7 billion, comprising:

- long-term resources raised by SNCF on government bond markets in 2016 represented a total repayment value of €4.6 billion;

- public euro and dollar-denominated bond issues for €4.2 billion in 12 operations (four primary issues and eight additional issues);

- private euro-denominated bond issues for €0.4 billion and MLT loan repayments for -€1.7 billion;

- a decrease in short-term cash and liabilities for -€0.2 billion.

For its internal financing and cash management, SNCF Réseau uses both national and international short-term financing and investment instruments such as Treasury Bill and Commercial Paper.

	31/12/2016	31/12/2015	Change
Long-term debt	43,544	40,473	3,072
Outstanding principal:	42,914	39,832	3,082
- Long term	42,458	39,391	3,066
<i>at the hedged rate</i>	-	-	-
<i>inflation</i>	227	220	7
- RIF loans	37	41	-3
Zero coupon	419	400	19
Accrued interest	630	640	-11
SNCF debt	697	840	-143
Outstanding principal:	676	817	-141
- Transferred debt (historical price)	671	742	-70
- RIF loans	4	5	-
- EIB credit line renewal	-	70	-70
Accrued interest	21	24	-2
Guarantee deposits received	4	4	-
Short-term debt	1,599	1,158	441
Margin calls	34	358	-324
Bank overdrafts	58	64	-7
PPP (BPL, CNM and GSM-R) debt	2,067	1,705	363
Total debt	48,004	44,602	3,402
Guarantee deposits received	-4	-4	-
Total debt excluding guarantee deposits received	48,000	44,598	3,402
Cash and cash equivalents—marketable securities	-3,219	-2,561	-658
PPP (BPL, CNM and GSM-R) debt	-2,067	-1,705	-363
Net debt as a carrying amount	42,714	40,332	2,381
Accrued interest receivable	-651	-664	13
Margin calls	-34	-358	324
Net debt as a repayment value	42,028	39,310	2,718

The BPL and CNM borrowings relate to the Bretagne-Pays de la Loire line and the Nîmes-Montpellier bypass PPP. They represent SNCF Réseau's debt to its partners that are pre-financing part of the projects. SNCF Réseau will have to repay these debts as from 2017.

Claims were received by the company in 2015 for the CNM and BPL PPPs for €634 million. These claims were challenged by the company and are subject to analysis, the impacts of which were not taken into account in the 2016 financial statements.

It should be noted that the repayment of these SNCF Réseau debts will be financed by the French State from 2017 based on the same payment schedule.

— SNCF Réseau borrowings

The following tables provide a breakdown by foreign currency and interest rate type of SNCF Réseau's short and long-term borrowings:

	Gross	≤ 1 year	> 1 year and ≤ 5 years	> 5 years
A - SNCF Réseau debt:	44,514	2,980	7,654	33,879
1. Bond issues:	42,914	1,381	7,654	33,879
Total fixed rate	38,450	1,377	7,185	29,888
Total inflation	2,808	-	-	2,808
Total floating rate	1,657	3	469	1,184
EUR fixed rate	30,267	1,300	4,155	24,812
EUR inflation	2,808	-	-	2,808
EUR floating rate	1,574	3	469	1,101
Total EUR	34,649	1,303	4,624	28,721
CAD fixed rate	192	-	-	192
CAD floating rate	-	-	-	-
Total CAD	192	-	-	192
CHF fixed rate	1,342	-	727	616
CHF floating rate	-	-	-	-
Total CHF	1,342	-	727	616
GBP fixed rate	5,184	-	1,229	3,956
GBP floating rate	83	-	-	83
Total GBP	5,267	-	1,229	4,038
JPY fixed rate	343	-	184	159
JPY floating rate	-	-	-	-
Total JPY	343	-	184	159
NOK fixed rate	66	-	-	66
NOK floating rate	-	-	-	-
Total NOK	66	-	-	66
USD fixed rate	1,055	77	891	87
USD floating rate	-	-	-	-
Total USD	1,055	77	891	87
2. Negotiable debt securities:				
Treasury Bill	-	-	-	-
Commercial Paper	1,599	1,599	-	-
EUR	180	180	-	-
USD	1,419	1,419	-	-

	Gross	≤ 1 year	> 1 year and ≤ 5 years	> 5 years
B - Accrued interest:	639	639	-	-
Bond issues:	630	630	-	-
Total fixed rate	562	562	-	-
Total inflation	58	58	-	-
Total floating rate	9	9	-	-
EUR fixed rate	429	429	-	-
EUR inflation	58	58	-	-
EUR floating rate	8	8	-	-
Total EUR	495	495	-	-
CAD fixed rate	1	1	-	-
CAD floating rate	-	-	-	-
Total CAD	1	1	-	-
CHF fixed rate	30	30	-	-
CHF floating rate	-	-	-	-
Total CHF	30	30	-	-
GBP fixed rate	93	93	-	-
GBP floating rate	1	1	-	-
Total GBP	94	94	-	-
JPY fixed rate	2	2	-	-
JPY floating rate	-	-	-	-
Total JPY	2	2	-	-
NOK fixed rate	2	2	-	-
NOK floating rate	-	-	-	-
Total NOK	2	2	-	-
USD fixed rate	6	6	-	-
USD floating rate	-	-	-	-
Total USD	6	6	-	-
Negotiable debt securities	9	9	-	-
Commercial Paper	-	-	-	-
AUD	9	9	-	-
C - Deferred interest:	-12	-12	-	-
USD	-12	-12	-	-

— SNCF debt

The following table provides a breakdown by currency and rate of the transferred SNCF debt:

	Gross	≤ 1 year	> 1 year and ≤ 5 years	> 5 years
A - SNCF debt:	676	6	55	615
Total fixed rate	613	-	-	613
Total floating rate	62	6	55	2
EUR fixed rate	613	-	-	613
EUR floating rate	62	6	55	2
of which RIF loans	4	-	2	2
Total EUR	676	6	55	615
B - Accrued interest:	21	21	-	-
Total fixed rate	21	21	-	-
Total floating rate	-	-	-	-
EUR fixed rate	21	21	-	-
EUR floating rate	-	-	-	-
Total EUR	21	21	-	-
TOTAL (A)+(B)	697	27	55	615

— Long-term borrowings

The breakdown of long-term borrowings after hedging is as follows:

	Fixed rate		Inflation-indexed rate		Floating rate		Total	
	Dec. 16	Dec. 15	Dec. 16	Dec. 15	Dec. 16	Dec. 15	Dec. 16	Dec. 15
SNCF Réseau	38,450	34,301	2,808	1,497	1,657	4,034	42,914	39,832
SNCF	613	749	-	-	62	68	676	817
Total EUR	39,063	35,049	2,808	1,497	1,719	4,103	43,590	40,649
As a %	90%	86%	6%	4%	4%	10%	100%	100%

5.14 OPERATING PAYABLES AND OTHER ACCOUNTS IN CREDIT

	31/12/2016	31/12/2015	Change
Tax and employee-related payables	1,062	1,033	28
Personnel and social security bodies	586	564	21
Tax on revenue	416	407	9
French State and local authorities	30	30	-
Tax payable on investments	27	28	-1
VAT on fixed assets	3	4	-1
Payments received on account for work-in-progress	277	314	-36
Trade payables and related accounts	2,724	2,840	-116
of which fixed asset suppliers	924	1,387	-464
Other operating payables	2,062	1,954	108
Grants claimed in advance	1,866	1,649	217
Other payables	196	306	-109
Total operating payables	6,125	6,141	-16

5.15 DEBT MATURITY ANALYSIS—LIABILITIES

	31/12/2016	< 1 year	> 1 year
Tax and employee-related payables	1,062	1,062	-
Personnel and social security bodies	586	586	-
Tax on revenue	416	416	-
French State and local authorities	30	30	-
Tax payable on investments	27	27	-
VAT on fixed assets	3	3	-
Payments received on account for work-in-progress	277	277	-
Trade payables and related accounts	2,724	2,724	-
<i>of which fixed asset suppliers</i>	924	924	-
Other operating payables	2,062	2,062	-
Grants claimed in advance	1,866	1,866	-
Other payables	196	196	-
Total operating payables	6,125	6,125	-

5.16 ACCRUALS AND DEFERRED INCOME

	31/12/2016	31/12/2015	Change
Other deferred income	778	433	345
Accruals and deferred income—Financial transactions	1,336	1,311	25
TOTAL	2,114	1,744	370

6 NOTES TO THE INCOME STATEMENT

6.1 BREAKDOWN OF REVENUE

Revenue mainly includes services carried out in the context of railway activities and is recognised at the date on which these services are rendered. These infrastructure fees primarily break down as follows:

- train path access fee;
- reservation fee;
- traffic fee;

— station access fee (platform fee);

— electrical traction usage fee, including the fee to use electrical traction installations (RCE) and the electricity transmission and distribution fee (RCTE).

Added to these infrastructure fees is the rate compensation paid by the French State to cover the marginal cost of freight traffic, together with the fees paid by freight companies. They are recognised in revenue as they are analysed as price supplements.

Other income primarily includes sales of supplies (old materials) and “non-traffic” related products comprising rental income.

	31/12/2016	31/12/2015	Change
Access fees	1,978	1,985	-7
Reservation fees	2,048	2,056	-8
Traffic fees	1,350	1,410	-61
Platform fees	121	94	27
Additional electrical traction fees	239	259	-20
Sub-total infrastructure sale proceeds	5,735	5,806	-70
Other income	661	470	191
Total revenue	6,397	6,275	121

6.2 OWN PRODUCTION AND CHANGE IN INVENTORIES AND WORK-IN-PROGRESS

Prior to the rail reform, most capitalisable expenditure was directly recorded in the balance sheet without passing through the income statement.

	31/12/2016	31/12/2015	Change
Own production—Purchases and external charges	2,598	1,492	1,106
Own production—Employee benefit expense	1,154	498	656
Change in inventories and work-in-progress	109	46	63
Total own production	3,861	2,036	1,825

6.3 OTHER OPERATING INCOME

	31/12/2016	31/12/2015	Change
Operating grants	105	76	29
Other income	7	12	-5
Total other operating income	112	88	23

6.4 PURCHASES AND EXTERNAL CHARGES

6.4.1 Breakdown of purchases and external charges

	31/12/2016	31/12/2015	Change
Delegated infrastructure management fees	-	-1,619	1,619
Transmission and traction means	-336	-252	-84
Upkeep and maintenance	-1,877	-1,115	-762
Professional fees and IT services	-551	-374	-177
Property	-657	-403	-254
Other purchases and external charges	-1,465	-708	-757
TOTAL	-4,886	-4,472	-414

6.4.2 Delegated management fees (until 30 June 2015)

Prior to the rail reform, SNCF carried out the following three activities for SNCF Réseau which it invoiced accordingly:

- creation of the system which organises all rail traffic on the network, referred to as “train running diagrams”;
- management of safety and control systems and traffic management;
- supervision, maintenance, repair and other measures necessary for the operation of the network and all technical facilities.

The amount shown therefore corresponds to the amount for the first half of 2015.

Following the implementation of the rail reform on 1 July 2015, the heading “Delegated management fees” was replaced in the second half of the year by “Employee benefit expense and external purchases”.

6.4.3. Other purchases and external charges

Following the implementation of the reform on 1 July 2015, assets were produced internally within SNCF Réseau, resulting in the expensing of purchases and external charges and a corresponding entry in own production.

6.5 TAXES AND DUTIES OTHER THAN INCOME TAX

	31/12/2016	31/12/2015	Change
Property taxes	-26	-28	1
Company value-added contribution and company property contribution	-90	-64	-26
Sub-total other taxes and duties	-105	-48	-57
Tax on wages	-7	-4	-3
Apprenticeship tax	-14	-7	-7
Vocational training	-28	-11	-17
Construction levy	-10	-5	-5
Other taxes and duties (including C3S)	-15	-6	-9
Transport payment	-32	-15	-17
Taxes and duties other than income	-221	-140	-81

6.6 EMPLOYEE BENEFIT EXPENSE

	31/12/2016	31/12/2015	Change
Wages and salaries	-2,283	-1,194	-1,089
Pension contributions	-640	-353	-287
Other social security contributions	-581	-255	-326
Expenses relating to vacation, leave and early departures	-16	50	-66
Sub-total	-3,520	-1,753	-1,766
Seconded personnel	-47	-30	-17
Total employee benefit expense	-3,567	-1,783	-1,783
Total average number of paid employees	57,744	27,521	30,223

The breakdown of employees by category is as follows:

Average number of salaried employees	31/12/2016
Managers	14,300
Supervisors	21,044
Workers	22,400
Total average number of salaried employees	57,744

The changes in employee benefit expense observed between 31 December 2016 and 31 December 2015 were mostly due to the reform of 1 July 2015.

The average number of full-time equivalent employees as at 31 December 2016 was 57,744 FTE due to the transfer of the employees of SNCF Infra and Rail Network Operation and Management on 1 July 2015.

Under the new provisions of ANC regulation no. 2016-07 of 4 November 2016, workforce calculation methods were modified for 2016. As from 2016, each salaried employee, whether working under an open-ended contract or a fixed-term contract or on a part-time or full-time basis, represents 1 employee.

6.7 STATUTORY AUDITORS' FEES

Statutory auditors' fees amounted to €1 million in 2016 and break down as follows:

— statutory audit of the 2016 financial statements for €0.6 million (PWC for €0.3 million, EY for €0.3 million);

— additional engagements for €0.5 million (PWC for €0.3 million, EY for €0.2 million).

6.8 DEPRECIATION, AMORTISATION AND PROVISIONS, NET

	31/12/2016	31/12/2015	Change
Charge to depreciation and amortisation	-1,502	-1,767	265
Charge to provisions for non-current assets	-14	-17	3
Charge to provisions for impairment of receivables	-36	-28	-8
Charge to provisions for inventory impairment	-101	-10	-91
Charge to provisions for liabilities and charges	-153	-86	-67
Total charges	-1,806	-1,908	102

	31/12/2016	31/12/2015	Change
Share of the grant released to profit or loss	671	495	176
Reversal of the renewal grant	-	134	-134
Reversals of provisions for non-current assets	3	9	-6
Reversals of provisions for impairment of receivables	6	24	-18
Reversals of provisions for inventory impairment	102	4	98
Reversals of provisions for liabilities and charges	119	63	56
Expense reclassifications	92	44	48
Total reversals	995	774	221

6.9 FINANCE COST

	31/12/2016	31/12/2015	Change
Net borrowing costs	-1,408	-1,413	4
Net finance cost of employee benefits	-19	-26	8
Dividends	-	-	-
Other financial expenses	-28	-21	-6
Other financial income	12	17	-5
Total finance cost	-1,442	-1,444	1

6.10 NET EXCEPTIONAL PROFIT/(LOSS)

The 2016 net exceptional profit of €59 million primarily included proceeds from asset disposals in the amount of €66 million (including €1 million for rail installations and €65 million for Property).

6.11 INCOME TAX EXPENSE

Since 1 January 2015, SNCF Réseau has belonged to the tax consolidation scope headed by SNCF. A tax consolidation agreement was signed by both entities to guarantee a neutral option for SNCF Réseau under this tax regime.

Accordingly, tax loss carryforwards break down as follows:

— tax losses prior to SNCF Réseau's entry into the tax consolidation group: €10,132 million;

— tax losses since 1 January 2015 attributable to the taxable profits of the tax consolidation group: €619 million.

SNCF Réseau recognised a tax gain of €86 million, which breaks down as follows:

— competitiveness and employment tax credit for €84 million;

— research tax credit for €2 million;

— sponsorship credit and apprenticeship tax credit for €0.4 million.

7 RELATED PARTY DISCLOSURES

SNCF Réseau, as an industrial and commercial public institution wholly owned by the French State (via the French Government Shareholding Agency), is related to all companies and entities controlled by the French State.

The Law of 4 August reformed the French rail system by creating a Public Rail Group comprising three EPICs which together form the SNCF Group. SNCF Réseau belongs to the Public Rail Group in which the SNCF Réseau Group represents a sub-consolidation unit. The Public Rail Group's consolidated financial statements are available at the SNCF headquarters (registered under 808 332 670) at the following address: 2 place aux Étoiles – CS 70001 – 93633 La Plaine Saint-Denis cedex.

Therefore the main related parties with which SNCF Réseau interacts are the other EPICs belonging to the Public Rail Group, SNCF Mobilités and SNCF as well as the French State as sole shareholder. Transactions between SNCF Réseau Group and other State companies (EDF, La Poste, etc.) are all performed on an arm's length basis. No Group companies other than the parent company carry out material transactions with these related parties.

7.1 RELATIONS WITH THE RAIL GROUP

Relations with SNCF Mobilités

SNCF Mobilités is currently one of SNCF Réseau's main customers in terms of French rail network infrastructure fees.

Furthermore, until the rail reform, SNCF carried out delegated rail infrastructure management services on behalf of SNCF Réseau. From 1 July 2015, the delegated management fees paid to SNCF Mobilités (formerly SNCF) was replaced by internal operating and investment expenses.

Balance sheet headings

	31/12/2016	31/12/2015
Production of fixed assets delegated to SNCF	-	1,057
Operating receivables	759	1,002
Operating payables*	726	540

* Balance sheet headings excluding borrowings presented separately in balance sheet liabilities.

Income and expenses

	31/12/2016	31/12/2015
Infrastructure fees	3,502	3,631
Expenses	-513	-1,917

Relations with SNCF

Under the rail reform law, the new SNCF is responsible for the strategic control of the Public Rail Group as well as the shared functions carried out for all the Group EPICs, with regard to the Group's coordination, support and shared service centre departments. These shared functions include:

- administrative management of human resources, payroll and social security protection;
- management of the Group's information systems;
- management of the Group's real estate and property;
- organisation of the Group's general purchases.

Balance sheet headings

	31/12/2016	31/12/2015
Receivables	35	99
Payables	63	74

Income and expenses

	31/12/2016	31/12/2015
Income	66	38
Expenses	-489	-408

7.2 RELATIONS WITH THE FRENCH STATE

Pursuant to the legislation applicable to companies whose sole shareholder is the French State, SNCF Réseau is subject to the economic and financial supervision of the French State, the French Court of Auditors, the French Parliament, as well as the verifications of the French General Inspectorate of Finance.

SNCF Réseau invoices the French State for the access fees related to TER regional passenger trains and Trains d'Équilibre de Territoire (TET).

The French State also pays out operating and investment grants to SNCF Réseau.

The government aid granted to SNCF Réseau by the French State and local authorities is presented in the following table:

Balance sheet headings

	31/12/2016	31/12/2015
Grants receivable (assets)	559	819

Income and expenses

	31/12/2016	31/12/2015
Access fees	1 831	1 831
Freight compensation	78	31

8 OFF-BALANCE SHEET COMMITMENTS

8.1 COMMITMENTS GIVEN AND RECEIVED INVOLVING FINANCIAL INSTRUMENTS

SNCF Réseau is exposed to market risk in connection with the management of its debt. Based on an analysis of its general risk exposure, mainly regarding foreign exchange and interest rate fluctuations, it uses a variety of financial instruments within the limits set by the Board of Directors to hedge against interest rate and currency risks and limit its financing costs.

— Long-term debt management

Allocation between fixed-rate, floating-rate and inflation-indexed debt: SNCF Réseau manages a structural fixed-rate/floating-rate/inflation-indexed rate position in euros to reduce borrowing costs, using interest rate swaps and swaptions, within the limits set by the Board of Directors.

— Management of signature and counterparty risks

SNCF Réseau is exposed to counterparty risk in connection with its cash investments and the subscription of derivatives from its financial partners, insofar as the debtor refuses to honour all or part of its commitment or does not have the means to respect it.

To manage and limit this risk, investment instruments and derivatives are only entered into with financial institutions corresponding to the credit rating and equity criteria validated by the SNCF Réseau Board of Directors.

A limited commitment amount by institution is determined according to these criteria.

Compliance with the authorised threshold by counterparty is monitored on a daily basis.

To hedge counterparty risk, SNCF Réseau performs margin calls with its financial counterparties whose rating is lower than the threshold defined by the Board of Directors. Collateral (in cash only) is called up in the amount of the market value of the financial instrument portfolios for each counterparty whom SNCF Réseau is at risk.

Notional amount of derivative instruments

The contracts or notional amounts presented below do not constitute the amounts payable or receivable and consequently do not represent the risk to which SNCF Réseau is exposed through its use of derivatives.

I - FINANCIAL INSTRUMENT FUTURES MARKET	31/12/2016	MtM	31/12/2015	MtM
Over-the-counter hedging transactions:				
EUR interest-rate swaps:				
Micro-hedge				
< 1 year	381 EUR	3 EUR	1,459 EUR	1 EUR
1-5 years	472 EUR	-58 EUR	516 EUR	-34 EUR
> 5 years	3,524 EUR	-481 EUR	3,395 EUR	-441 EUR
Macro-hedge				
< 1 year	- EUR	- EUR	- EUR	- EUR
1-5 years	- EUR	- EUR	- EUR	- EUR
> 5 years	- EUR	- EUR	- EUR	- EUR
Trading transactions				
< 1 year	- EUR	- EUR	- EUR	- EUR
1-5 years	- EUR	- EUR	- EUR	- EUR
> 5 years	50 EUR	-4 EUR	50 EUR	-3 EUR

II - FOREIGN CURRENCY TRANSACTIONS		31/12/2016	MtM	31/12/2015	MtM
Over-the-counter hedging transactions:					
EUR forward contracts:					
	< 1 year	- AUD	- EUR	100 AUD	4 EUR
		- CAD	- EUR	- CAD	- EUR
		- CHF	- EUR	- CHF	- EUR
		- GBP	- EUR	- GBP	- EUR
		- HKD	- EUR	- HKD	- EUR
		- JPY	- EUR	- JPY	- EUR
		1,562 USD	75 EUR	1,195 USD	30 EUR
	1-5 years	-	-	-	-
	> 5 years	-	-	-	-
EUR currency swaps:					
	< 1 year	- AUD	- EUR	- AUD	- EUR
		- CAD	- EUR	- CAD	- EUR
		- CHF	- EUR	162 CHF	48 EUR
		- GBP	- EUR	44 GBP	-14 EUR
		- HKD	- EUR	300 HKD	5 EUR
		- JPY	- EUR	- JPY	- EUR
		- NOK	- EUR	- NOK	- EUR
		100 USD	20 EUR	150 USD	12 EUR
	1-5 years	- AUD	- EUR	- AUD	- EUR
		- CAD	- EUR	- CAD	- EUR
		1,090 CHF	400 EUR	790 CHF	292 EUR
		800 GBP	-190 EUR	- GBP	- EUR
		- HKD	- EUR	- HKD	- EUR
		25,000 JPY	8 EUR	15,000 JPY	-5 EUR
		- NOK	- EUR	- NOK	- EUR
		1,000 USD	46 EUR	100 USD	20 EUR
	> 5 years	- AUD	- EUR	- AUD	- EUR
		277 CAD	59 EUR	277 CAD	47 EUR
		855 CHF	359 EUR	1,155 CHF	486 EUR
		2,795 GBP	-1,047 EUR	3,638 GBP	-373 EUR
		- HKD	- EUR	- HKD	- EUR
		20,000 JPY	27 EUR	30,000 JPY	16 EUR
		500 NOK	-1 EUR	500 NOK	-5 EUR
		120 USD	13 EUR	120 USD	19 EUR

III - OTHER OFF-BALANCE SHEET COMMITMENTS	31/12/2016	31/12/2015
Financing commitments received:		
Syndicated loan	1,250 EUR	1,250 EUR

SNCF Réseau also has a five-year €1,250 billion syndicated credit facility, which expires on 19 July 2017. A procedure to renew the syndicated loan is ongoing. This credit facility was not drawn down in 2016.

8.2 OTHER COMMITMENTS GIVEN AND RECEIVED

— Guarantees received from external third parties

Financial guarantees received from third parties amounted to €161 million and break down as follows:

- guarantees received from suppliers (€135 million);
- guarantees received from customers (€26 million).

— Purchase commitments

Purchase commitments mainly involve fixed asset purchase commitments in the amount of €66 million as at 31 December 2016.

— Financial guarantees given to third parties

Under new railway line construction projects, certain work may be outsourced to certain suppliers who themselves subcontract to other companies. Financial guarantees given amounted to €7 million as at 31 December 2016.

This mainly concerns a guarantee of €4 million given in connection with the Southern Europe Atlantic (SEA) high-speed line construction project. SNCF Infra was required to grant financial guarantees to the contract beneficiary VOSSLO for the production of track equipment, which itself subcontracted certain production tasks to SNCF Infra. The two entities contractually agreed to set up first-demand bank guarantees.

Other guarantees given amounted to €3 million, of which €2 million for the SNCF corporate foundation.

— Finance and operating leases

Lease commitments totalled €177 million as at 31 December 2016 and break down as follows:

- transport equipment operating lease: €37 million;
- rail equipment operating lease: €139 million;
- real estate operating lease: €1 million.

— Sales undertakings

Sales undertakings received and given amounted to €17 million as at 31 December 2016.

— Commitments received on property operating leases

The indexation adopted as at 31 December 2016 for future concession payments was 0.47%.

As at 31 December 2016, total commitments received under operating leases was estimated at €8 million.

— Property leases given

The indexation adopted as at 31 December 2016 for future lease payments was 47%.

As at 31 December 2016, total commitments given under operating leases was estimated at €206 million.

— Financial guarantees received from third parties

SNCF Réseau has a first-demand guarantee from a banking institution in the event of a breach of contract by SYNERAIL. This guarantee was granted gradually according to the progress of the network deployment phases. As at 31 December 2016, SNCF Réseau benefited from a guarantee amounting to €20 million.

SNCF Réseau receives financial guarantees from third parties, in particular a first-demand guarantee from a banking institution in the amount of €3 million with regard to the annual fees owed for the use of branch line terminal installations by its main debtor, SAS Ciments Calcia.

SNCF Réseau receives a financial guarantee from Eiffage Rail Express in the amount of €187 million.

SNCF Réseau receives a financial guarantee from Oc'Via in the amount of €122 million.

— Track reservation

The *Document de Référence du Réseau* for 2017, which can be consulted at the SNCF Réseau website, provides for a new reciprocal compensation mechanism should track allocations or reservations be cancelled or significantly modified by either party.

The applicable penalties will now range between €0.5/tr/Km and €8/tr/Km according to variable terms between the cancellation or modification date and the track reservation date. They are more significant for SNCF Réseau than for the rail companies.

The amounts to be reported in off-balance sheet commitments must reflect the objective reality of the transactions that could impact the company's accounts in the future.

In this case, in the absence of a history and sufficient perspective to reliably measure the impacts arising from this new mechanism, no amount has been reported in off-balance sheet commitments given or received with respect to these penalties in the accounts for the year ended 31 December 2016.

— PPP and concession agreements

Off-balance sheet commitments as at 31 December 2016 primarily include commitments undertaken with public-private partnerships relating to the high-speed lines: commitments given correspond to investments still to be recognised; commitments received correspond to grants still to be recognised over the course of the projects.

The present value as at 31 December 2016 of amounts still to be paid under PPP and concession amounted to €551 million and breaks down as follows:

- €193 million for CNM;
- €295 million for BPL;
- €63 million for SEA.

The present value as at 31 December 2016 of grants still to be collected under PPP agreements amounted to €424 million and breaks down as follows:

- €189 million for CNM;
- €206 million for BPL;
- €29 million for SEA.

- SNCF Réseau as guarantor

The guarantee issued by SNCF Réseau for the Caisse des Dépôts et Consignations (CDC) and effective in July 2011 amounted to €757 million.

This guarantee has borne interest since July 2011.

- Contract early termination clauses

The concession agreement includes several early termination clauses under which SNCF Réseau pays compensation to the concession holder and replaces the latter in the performance of the contract.

- Forfeiture clause

Under the agreement, the concession grantor may claim forfeiture should the concession holder breach the agreement terms, in which case SNCF Réseau should pay the concession grantor a minimum compensation corresponding to approximately 85% of the financing borne by the concession holder.

- Cancellation clause for force majeure or unforeseeable events

SNCF Réseau should pay the concession holder a fixed compensation under the terms and principles set out in the jurisprudence of the State Council.

In the event of such early termination, the financing agreement stipulates that the French State will reimburse SNCF Réseau for the amount of the compensation due to the concession holder, less the value of future revenues that will be realised by SNCF Réseau from the infrastructure whose management reassumes it.

- Cancellation clause to protect the public interest

This mechanism can be implemented from the 12th year following commercial operations, in which case SNCF Réseau pays the concession holder compensation, a portion of which every six months.

The financing agreement stipulates that the public entity at the source of the decision triggering the clause shall pay the compensation.

9 MANAGEMENT COMPENSATION

SNCF Réseau's key management personnel are members of the SNCF Réseau Group Executive Committee. Their cumulative taxable compensation indicated below corresponds to short-term benefits.

Average number of managers during the year: 10.

Total compensation in thousands of euros: €2,498 as at 31 December 2016, compared to €2,435 as at 31 December 2015.

06—
STATUTORY
AUDITORS'
REPORT
ON THE
CONSOLIDATED
FINANCIAL
STATEMENTS

PricewaterhouseCoopers Audit
63, rue de Villiers
92208 Neuilly-sur-Seine Cedex

ERNST & YOUNG Audit
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Statutory Auditors' report on the consolidated financial statements

For the year ended 31 December 2016

This is a free translation into English of the Statutory Auditors' report issued in French and is provided solely for the convenience of English speaking readers. The Statutory Auditors' report includes information specifically required by French law in such reports, whether modified or not. This information is presented below the opinion on the consolidated financial statements and includes an explanatory paragraph discussing the Auditors' assessments of certain significant accounting and auditing matters. These assessments were considered for the purpose of issuing an audit opinion on the consolidated financial statements taken as a whole and not to provide separate assurance on individual account captions or on information taken outside of the consolidated financial statements.

This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.

SNCF Réseau
15/17, rue Philippe Rameau
93633 La Plaine-Saint-Denis Cedex
France

In compliance with the assignment entrusted to us by the French Minister for the Economy, Industry and Digital Affairs on 27 April 2015, we hereby report to you, for the year ended 31 December 2016, on:

- the audit of the accompanying consolidated financial statements of the company SNCF Réseau;
- the justification of our assessments;
- the specific verification required by law.

These consolidated financial statements have been approved by the Board of Directors. Our role is to express an opinion on these consolidated financial statements based on our audit.

SNCF RESEAU

Statutory Auditors' report on the consolidated financial statements

For the year ended 31 December 2016 - Page 2

I. Opinion on the consolidated financial statements

We conducted our audit in accordance with professional standards applicable in France, with the exception of the item described in the following paragraphs. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. An audit involves performing procedures, using sampling techniques or other methods of selection, to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made, as well as the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

As stated in Note 4.4 to the consolidated financial statements concerning impairment tests at the level of the infrastructure cash-generating unit, at 31 December 2015, SNCF Réseau carried out an impairment test which led to the recognition of an impairment loss of €9.6 billion. As stated in Note 2.2.2 to the financial statements, following the approval of a performance contract by the Board of Directors on 20 December 2016 (Note 2.1.1.2 to the financial statements), SNCF Réseau identified indications of impairment of these assets and, at the end of the year, carried out i) an impairment test on its property, plant and equipment and intangible assets, ii) a separate valuation of its deferred tax assets in line with regulatory requirements, both of which were based on assumptions adapted to the special characteristics of SNCF Réseau.

For the railway network currently in service, 2030 was chosen as the year in which the Company foresees that the network will be considered to be stabilized at expected performance levels. The cash flow projections, based on the 10-year financial trajectory of the performance contract between the Company and the French State incorporate (i) cash receipts (infrastructure fees, access charges and investment subsidies) which improve substantially over time and are mainly generated from commitments received from the French State, and (ii) expenses (installation work and maintenance) and capital investment in renovations and renewals in connection with the Company's significant productivity goals.

These assessments support (i) the net carrying amount of property, plant and equipment and intangible assets less the impairment loss of €9.6 billion recognized the previous year, and (ii) €3.8 billion in deferred tax assets. They reflect the balance of the negotiations on a performance contract between the Company and the French State based on the assumption that (i) the State will effectively implement all means and commitments necessary to support the recoverable amounts calculated using the approach detailed above, and (ii) the Company is capable of achieving its productivity goals. The terminal value, which represents 99% of value in use, is based on a renovated, operational railway network that cannot be correlated to any corresponding historical precedent.

There are therefore major risks and uncertainties involved in the assumptions used to measure property, plant and equipment, intangible assets and deferred tax assets which could significantly increase the amount of the impairment loss.

SNCF RESEAU

Statutory Auditors' report on the consolidated financial statements

For the year ended 31 December 2016 - Page 3

As a result, we are unable to assess their pertinence and are therefore unable to give an opinion on the net value of the assets concerned, which respectively amounted to €31.5 billion after depreciation and impairment in the consolidated financial statements at 31 December 2016 for plant, property and equipment and intangible assets, and to €3.8 billion for deferred tax assets.

Subject to this qualification, in our opinion, the consolidated financial statements give a true and fair view of the assets and liabilities, financial position and results of the company's operations in accordance with the International Financial Reporting Standards adopted by the European Union.

II. Justification of our assessments

In accordance with the provisions of Article L. 823-9 of the French Commercial Code (*Code de commerce*), relating to the justification of our assessments, we bring to your attention the following matters, in addition to those which resulted in the qualification set out above:

- Notes 4.6 and 5.2.2.5 to the consolidated financial statements describe the nature of the operating risks faced by SNCF Réseau Group and the provisions set aside to cover these risks. We examined the procedures used by the Group to identify, measure and account for such risks and provisions. We assessed the reasonableness of these provisions, on the basis of currently available information, and verified that any uncertainties identified during the implementation of these procedures were appropriately disclosed in the notes to the consolidated financial statements.

These assessments were made as part of our audit of the consolidated financial statements taken as a whole, and therefore contributed to the opinion we formed which is expressed in the first part of this report.

III. Specific verification

As required by law and in accordance with professional standards applicable in France, we have also verified the information presented in the Group's management report.

With the exception of the possible impact of the matters set out in the first part of this report, we have no matters to report as to its fair presentation and its consistency with the consolidated financial statements.

Neuilly-sur-Seine and Paris-La Défense, 24 February 2017

The Statutory Auditors

SNCF RESEAU

Statutory Auditors' report on the consolidated financial statements

For the year ended 31 December 2016 - Page 4

PricewaterhouseCoopers Audit

ERNST & YOUNG Audit

Philippe Vincent

Christine Vitrac

Denis Thibon

07 — STATUTORY AUDITORS' REPORT ON THE STATUTORY FINANCIAL STATEMENTS

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France

Statutory Auditors' report on the financial statements

For the year ended 31 December 2016

This is a free translation into English of the Statutory Auditors' report issued in French and is provided solely for the convenience of English speaking readers. The Statutory Auditors' report includes information specifically required by French law in such reports, whether modified or not. This information is presented below the opinion on the parent company financial statements and includes an explanatory paragraph discussing the Auditors' assessments of certain significant accounting and auditing matters. These assessments were considered for the purpose of issuing an audit opinion on the parent company financial statements taken as a whole and not to provide separate assurance on individual account captions or on information taken outside of the parent company financial statements.

This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.

SNCF Réseau
15/17, rue Philippe Rameau
93633 La Plaine-Saint-Denis Cedex
France

In compliance with the assignment entrusted to us by the French Minister for the Economy, Industry and Digital Affairs on 27 April 2015, we hereby report to you, for the year ended 31 December 2016, on:

- the audit of the accompanying financial statements of the company SNCF Réseau;
- the justification of our assessments;
- the specific verifications and information required by law.

These financial statements have been approved by the Board of Directors. Our role is to express an opinion on these financial statements based on our audit.

SNCF RESEAU

Statutory Auditors' report on the financial statements

For the year ended December 31, 2016 - Page 2

I. Opinion on the financial statements

We conducted our audit in accordance with professional standards applicable in France, with the exception of the item described in the following paragraphs. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit involves performing procedures, using sampling techniques or other methods of selection, to obtain audit evidence about the amounts and disclosures in the financial statements. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made, as well as the overall presentation of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

As stated in Note 5.2.3 to the financial statements concerning impairment tests at the level of the infrastructure cash-generating unit, at 31 December 2015, SNCF Réseau carried out an impairment test which led to the recognition of an impairment loss of €9.6 billion. As stated in Note 2.2.2 to the financial statements, following the approval of a performance contract by the Board of Directors on 20 December 2016 (Note 2.1.1.2 to the financial statements), the Company identified indications of impairment of these assets and, at the end of the year, carried out an impairment test on its property, plant and equipment and intangible assets based on assumptions adapted to the special characteristics of SNCF Réseau.

For the railway network currently in service, 2030 was chosen as the year in which the Company foresees that the network will be considered to be stabilized at expected performance levels. The cash flow projections, based on the 10-year financial trajectory of the performance contract between the Company and the French State incorporate (i) cash receipts (infrastructure fees, access charges and investment subsidies) which improve substantially over time and are mainly generated from commitments received from the French State, and (ii) expenses (installation work and maintenance) and capital investment in renovations and renewals in connection with the Company's significant productivity goals.

These assessments support the net carrying amount of property, plant and equipment and intangible assets less the impairment loss of €9.6 billion recognized the previous year. They reflect the balance of the negotiations on a performance contract signed between the Company and the French State based on the assumption that (i) the State will effectively implement all means and commitments necessary to support the recoverable amounts calculated using the approach detailed above, and (ii) the Company is capable of achieving its productivity goals. The terminal value, which represents 99% of value in use, is based on a renovated, operational railway network that cannot be correlated to any corresponding historical precedent.

There are therefore major risks and uncertainties involved in the assumptions used to measure property, plant and equipment and intangible assets which could significantly increase the amount of the impairment loss.

As a result, we are unable to assess their pertinence and are therefore unable to give an opinion on the net value of the assets concerned, which amounted to €31.5 billion after depreciation at 31 December 2016.

SNCF RESEAU

Statutory Auditors' report on the financial statements

For the year ended December 31, 2016 - Page 3

Subject to this qualification, in our opinion, the financial statements give a true and fair view of the assets and liabilities, financial position and operations of SNCF Réseau for the year then ended in accordance with French accounting principles.

II. Justification of our assessments

In accordance with the provisions of Article L. 823-9 of the French Commercial Code (*Code de commerce*), relating to the justification of our assessments, we bring to your attention the following matters, in addition to those which resulted in the qualification set out above:

- Notes 5.12 and 5.13 to the financial statement describe the nature of the operating risks faced by SNCF Réseau Group and the provisions set aside to cover these risks. We examined the procedures used by the Group to identify, measure and account for such risks and provisions. We assessed the reasonableness of these provisions, on the basis of currently available information, and verified that any uncertainties identified during the implementation of these procedures were appropriately disclosed in the notes to the financial statements.

These assessments were made as part of our audit of the financial statements, taken as a whole, and therefore contributed to the opinion we formed which is expressed in the first part of this report.

III. Specific verifications and information

In accordance with professional standards applicable in France, we have also performed the specific verifications required by French law.

With the exception of any possible impact resulting from the matters set out in the first part of this report, we have no matters to report as to the fair presentation and consistency with the financial statements of the information given in the management report and in the documents addressed to the members of the Board of Directors with respect to the financial position and the financial statements.

Neuilly-sur-Seine and Paris-La Défense, 24 February 2017

The Statutory Auditors

SNCF RESEAU
Statutory Auditors' report on the financial statements
For the year ended December 31, 2016 - Page 4

PricewaterhouseCoopers Audit

ERNST & YOUNG Audit

Philippe Vincent

Christine Vitrac

Denis Thibon

O8—
REPORT OF ONE
OF THE STATUTORY
AUDITORS ON
THE SOCIAL,
ENVIRONMENTAL
AND SOCIETAL
INFORMATION

Report of one of the Statutory Auditors on the social, environmental and societal information presented in the EPIC SNCF Réseau 2016 management report

Year ended 31 December 2016

SNCF RÉSEAU (FORMERLY RÉSEAU FERRÉ DE FRANCE)

15/17, rue Jean-Philippe Rameau
93633 La Plaine Saint-Denis Cedex
France

This is a free translation into English of the statutory auditors' report issued in French and is provided solely for the convenience of English-speaking users. This report should be read in conjunction and construed in accordance with French law and professional auditing standards applicable in France.

In our capacity as statutory auditor of EPIC SNCF Réseau and as requested by SNCF Réseau, we hereby present our report on the consolidated social, environmental and societal information for the year ended 31 December 2016 that SNCF Réseau has chosen to present in its management report (hereinafter the "CSR Information"), pursuant to Article L. 225-102-1 of the French Commercial Code (Code de commerce).

Responsibility of the Company

It is the responsibility of the Board of Directors of SNCF Réseau to prepare a management report which includes the CSR information referred to in Article R.225-105-1 of the French Commercial Code, in accordance with the procedure for reporting social, environmental, and societal data used by SNCF Réseau (hereinafter the "Framework"), of which a summary is included in the management report in Section 4.6 "Extra-financial reporting methodology" and available on request from the Environment and Sustainable Development Department of SNCF Réseau.

Independence and quality control

Our independence is defined by regulatory requirements, the Code of Ethics (*Code de déontologie*) of our profession, as well as the provisions in Article L.822-11 of the French Commercial Code. In addition, we have implemented a quality control system, including documented policies and procedures to ensure compliance with ethical rules, professional practice standards and applicable laws and regulations.

Responsibility of the Statutory Auditors

It is our role, based on our work, to attest whether the required CSR information is present in the management report or, in the case of omission, that an explanation has been provided, in accordance with the third paragraph of Article R.225-105 of the French Commercial Code. We are not responsible for verifying the relevance and fairness of the CSR information.

Our verification work was undertaken by a team of four people between December 2016 and February 2017 over a total duration of around one week. To assist us in our work, we called upon our CSR experts.

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Nature and scope of our work

We conducted the work described below in accordance with the professional practice standards applicable in France and the Order of 13 May 2013 determining the conditions under which the independent third-party organization conducts its engagement:

- On the basis of interviews with the individuals in charge of the relevant departments, we obtained an understanding of the Company's sustainability strategy regarding human resources and environmental impacts of its activities and its social commitments and, where applicable, any actions or programmes arising from them.
- We compared the CSR information presented in the management report with the list provided in Article R. 225-105-1 of the French Commercial Code.
- For any (when appropriate: consolidated) information that is not disclosed, we verified that explanations were provided in accordance with article R.225-105, paragraph 3 of the French Commercial Code.

Conclusion

Based on the work performed and given the limitations mentioned above, we attest that the required CSR information has been disclosed in the management report.

Neuilly-sur-Seine, 24 February 2017

One of the Statutory Auditors
PricewaterhouseCoopers Audit

PHILIPPE VINCENT
PARTNER

SYLVAIN LAMBERT
SUSTAINABLE DEVELOPMENT DEPARTMENT PARTNER

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