



# Profile of the rail transport sector in the Netherlands

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This report is available in electronic format only.

## **Executive summary**

Over the past years, the Dutch rail market has been extensively liberalised and thus opened to competition in long and short distance passenger transport as well as freight transport. This process will continue in the coming years as further open tender procedures are planned or ongoing. The former monopolist, Nederlandse Spoor (NS), has separated infrastructure operation and maintenance from transport services and has created 10 independent subsidiaries. NS was transformed into a joint stock company, the shares are owned by the state.

As a result of restructuring and privatisation, employment in the railway sector decreased sharply. Restructuring included the outsourcing of some services like the railway police and ICT services. In addition, the aim of achieving profitability through higher levels of productivity and efficiency has led to reductions of the workforce.

The process has been conducted through negotiations with the relevant trade unions. However, this was not always possible without industrial conflict and strike action. In 2000, some 33,000 working days were lost due to strike action in NS; in 2001, 45,000 days were lost. Nonetheless, the division for passenger transport, NS-Reizigers, is today a self sustaining company which no longer receives financial support from the state.

Working conditions in the sector are regulated through collective agreements at sectoral level or by agreements on the company level. The latest agreement signed for Nederlandse Spoorwegen (NS) (April 2005) includes an employment guarantee until 2010. Pay structures, training, health and safety as well as pension provisions are under continuous discussion between the social partners.

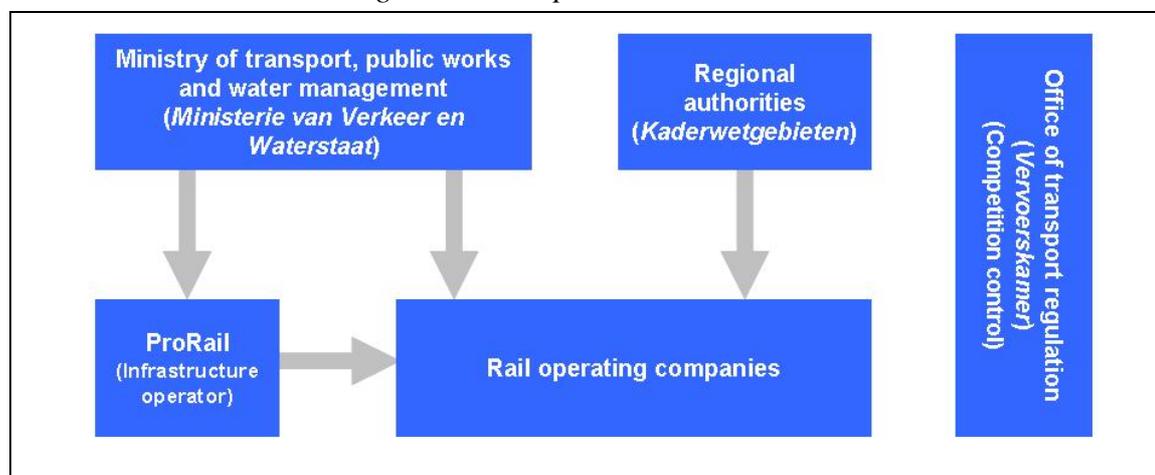
It is obvious that with an increasingly open market, railway operators aim for a more flexible employment structure and individualised, performance related pay structure within their companies.

The annex outlines the methodological approach developed to calculate employment levels in the Dutch railway sector. This is a key indicator of the impact of the EU legislative framework governing the sector.

## Structure of the railway market

### Main public institutions

Figure 1: Main public institutions



Source: SCI Verkehr GmbH, 2005

#### *Ministry of transport, public works and water management*

The ministry of transport, public works and water management (*Ministerie van Verkeer en Waterstaat*) is in charge of transport policies, covering road, rail, air and sea transport. The ministry's main task is to guarantee an open access for all railway undertakings and a reliable rail network. The ministry is the shareholder of ProRail, an operator responsible for the rail infrastructure, and of Nederlandse Spoorwegen (NS).

#### *ProRail*

In 1995, the incumbent NS was split into three divisions with distinct business areas:

- *Railinfrabeheer* (maintenance and construction);
- *Railned* (railroad capacity and traffic safety);
- *Railverkeersleiding* (monitoring daily traffic, providing travel information).

Up to 2002, these three divisions remained part of the NS Holding and stayed under the responsibility of the ministry of transport, public works and water management. In 2002, the Dutch parliament agreed a new Railway Act that aimed at separating the railway operating and infrastructure departments. As a result, all three divisions became independent organisations, and since January 2003, all three organisations – *Railinfrabeheer*, *Railned* and *Railverkeersleiding* – are united under ProRail.

ProRail is responsible for capacity, reliability and safety on Dutch railways, focusing on:

- capacity management;
- supply of safe tracks;
- maintenance and control;
- construction;
- travel information.

#### *Office of transport regulation*

The office of transport regulation, the *Vervoerskamer*, is the Dutch competition authority and controlled by the ministry of industry, employment and

communications. Its main task is to monitor and enforce competition in the railway sector in line with the legal obligations, notably the Railway Act (*Spoorwegwet*).

### **Financing of transport services**

In short-distance passenger transport, the ministry of transport finances the procurement of operating company services by the provinces. The federal state funds available are distributed to the regional public authorities. The average contribution to cost coverage from passenger revenues lies at around 40%.

Freight and long distance passenger transport are not subsidised by public budgets.

### **Award of public services**

The award of services is regulated by concession legislation (*Concessiewet Personenvervoer per Trein*). Transport concessions must be preceded by an invitation to tender. The main network and high-speed routes are awarded through the state, with the ministry of transport being in charge. Regional routes are tendered for by the provincial public authorities. The maximum contract duration for passenger transport is about six years whereas a contract for high-speed routes can last up to 15 years. In short-distance passenger transport, the average duration of transport contracts is about 10 years.

### **Implementation of EU legislation**

#### *First Railway Package – Infrastructure Package Directives*

- National legal provisions: Directive 2001/12/EC; Directive 2001/13/EC; Directive 2001/14/EC
- Status: processed

#### *Second Railway Package*

- National legal provisions: Directive 2004/49/EC; Article 8 (2) of Directive 2004/49; Directive 2004/50/EC; Article 2 of Directive 2004/50/EC; Directive 2004/51/
- Status: Not yet communicated to the European Commission

#### *Interoperability Directives*

- National legal provisions: Directive 2001/16/EC; Council Directive 96/48/EC
- Status: processed

#### *Older adopted Railway Directives*

- National legal provisions: Council Directive 91/440/EEC; Council Directive 95/18/EC; Council Directive 95/19/EC
- Status: processed

## Market volume and development

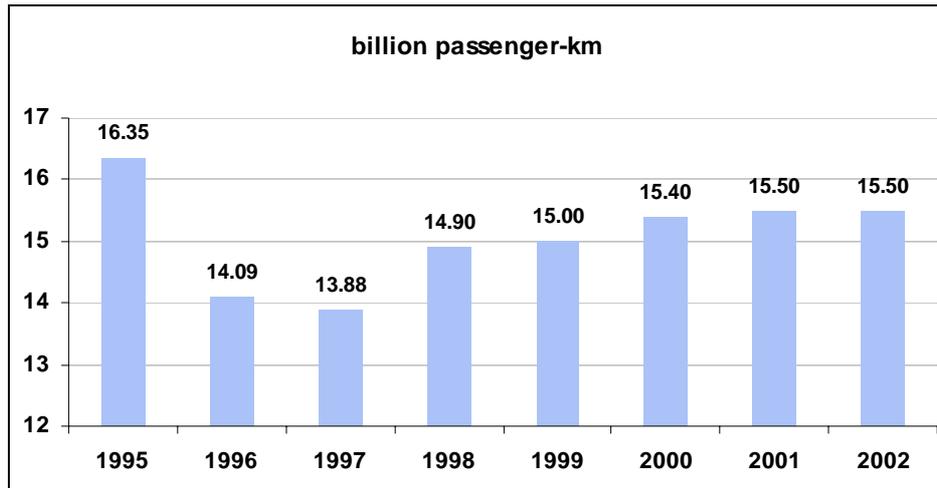
### Track length

- approximately 2,800 km
- 73% electrified

### Passenger transport

Transport performance (in billions of passenger-kilometres):

Figure 2: Transport performance of passenger transport in passenger-km



Source: Eurostat, June 2005

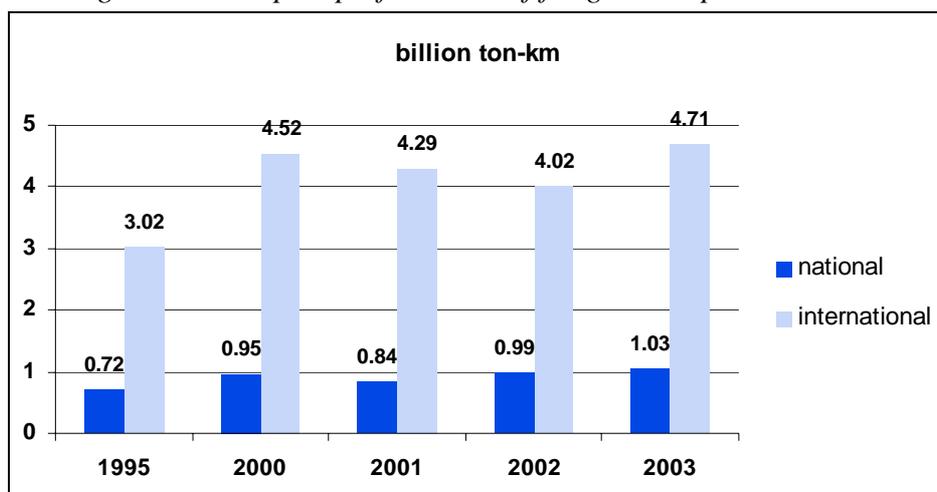
Number of companies (long distance): Two.

Number of companies (short distance): Seven.

### Freight transport

Transport performance (in billions of ton-kilometres):

Figure 3: Transport performance of freight transport in ton-km



Sources: Eurostat, March 2005; June 2005; SCI Verkehr GmbH, 2005

Number of companies: Five.

## Players in the railway market

### Passenger transport

Two companies are active in long distance transport:

- Nederlandse Spoorwegen (NS-International) – main product ICE international
- Thalys Nederland BV – high speed trains to Brussels and Paris

Seven railway operators are active in short distance transport:

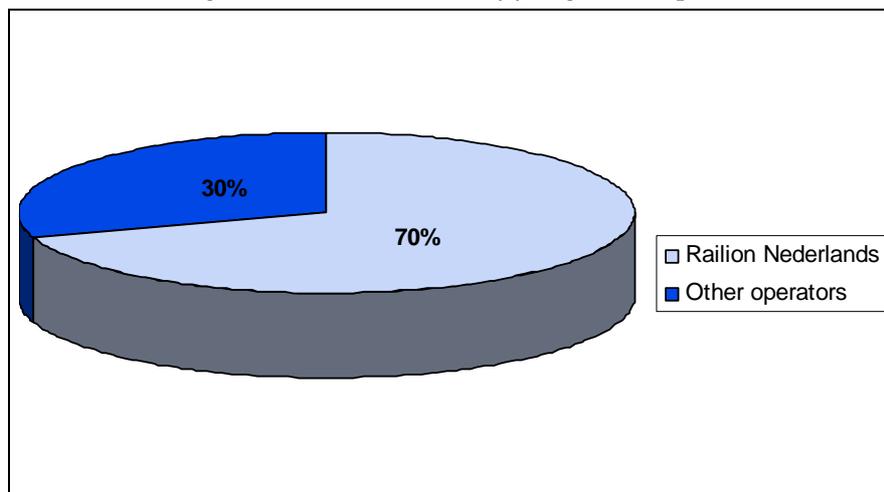
- Nederlandse Spoorwegen (NS-Reizigers)
- Syntus
- NoordNed Personenvervoer
- Thalys Nederland BV
- DB Regionalbahn Westfalen GmbH
- Arriva
- Connexion

### Freight transport

Five main players are active in the freight market:

- Railion Nederland N.V.
- ACTS Nederland BV
- Dillen & LeJeune
- European Rail Shuttle
- Rail4Chem
- Nederlandse Spoorwegen

Figure 4: Market share of freight transport



Source: SCI Verkehr GmbH, 2005

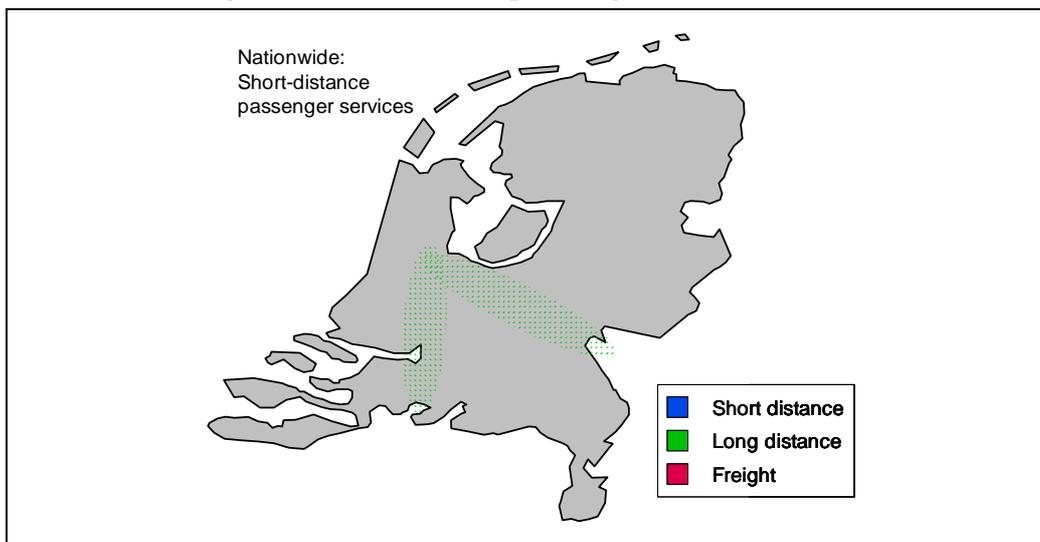
### Company profile of main players

#### *Nederlandse Spoorwegen (NS)*

Nederlandse Spoorwegen (NS) is the main operator of short and long distance railway transport in the Netherlands.

**Market area:**

*Figure 5: Nederlandse Spoorwegen – market areas*



Source: SCI Verkehr GmbH, 2005

**Shareholder structure:**

Single share holder - state

**Group headquarters:**

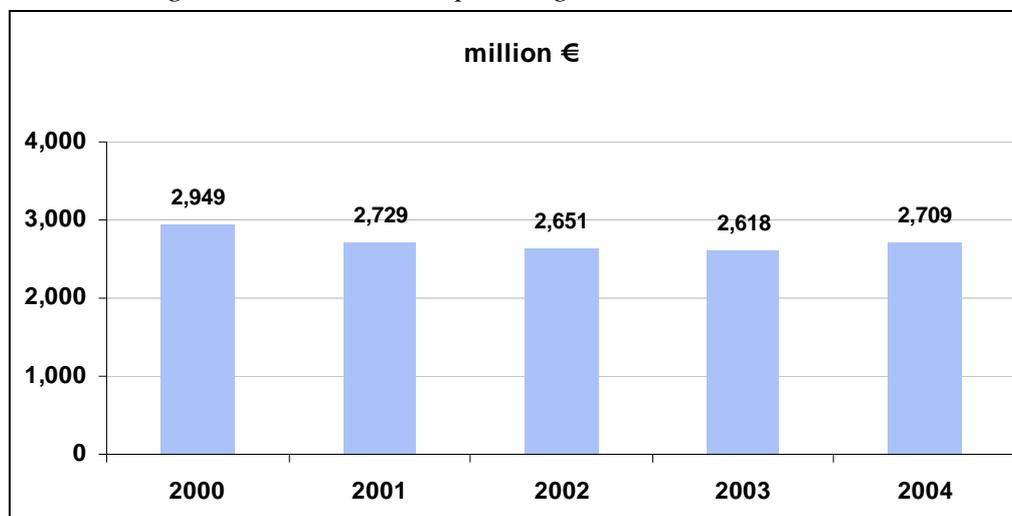
Utrecht, Netherlands

**Associated companies and cooperation partners:**

- NS-Reizigers
- NS international
- NedRailways
- NedTrain
- NS Financial Services
- Thalys Nederland
- NS Stations
- NS Vastgoed

**Turnover:**

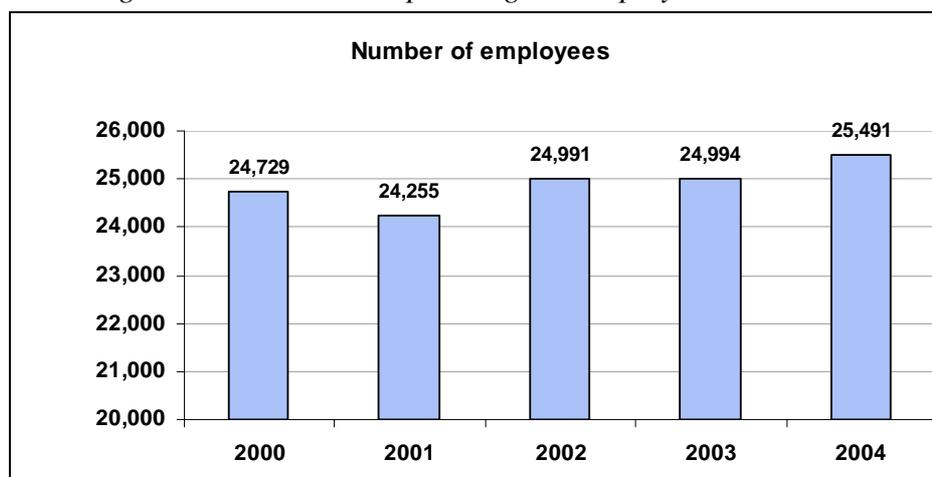
*Figure 6: Nederlandse Spoorwegen – turnover 2000–2004*



Source: Nederlandse Spoorwegen, 2004

**Number of employees:**

*Figure 7: Nederlandse Spoorwegen – employees 2000-2004*



Source: Nederlandse Spoorwegen, 2004

**Group development:**

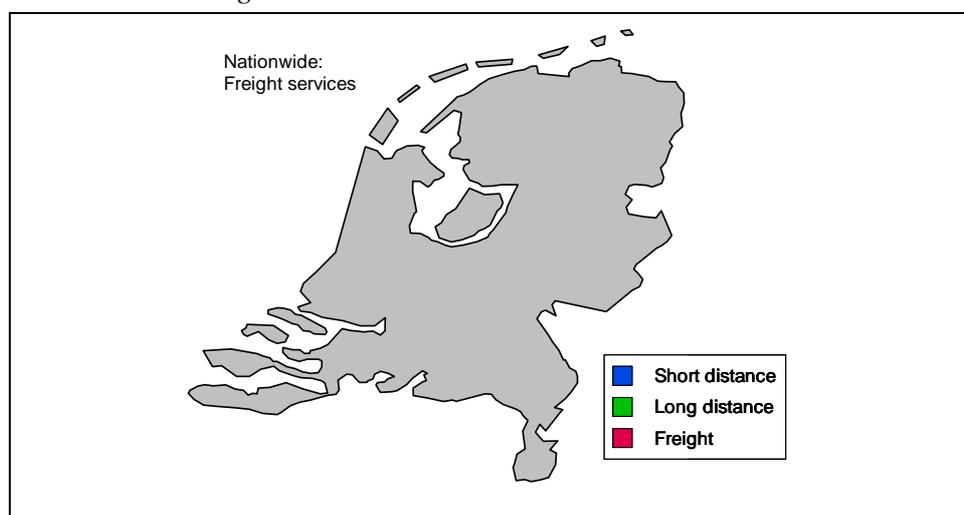
NS-Reizigers is the operator of the core network under contract to the transport ministry, while the Zutphen-Apeldoorn route is under contract to the Gelderland province. The operator is also active in the international market with a strategy of expansion. In the United Kingdom (UK), the company was able to win the tender for the Northern Rail franchise in 2004. In Poland, NS has been exploring the market potential, and is preparing its entrance to that market. After the company's inability to break into the German market, it has decided against further engagement in Germany.

*Railion Nederland N.V.*

Railion is the largest rail-transport company, specialising in freight transport, in the Netherlands. Railion operates a large number of links with the Dutch seaports in Amsterdam, Rotterdam, Vlissingen, Moerdijk, Terneuzen and Delfzijl (Rail Cargo Information Netherlands, 2005; European Commission, 2005; Railion Nederlands, 2005).

**Market area:**

*Figure 8: Railion Nederland – market areas*



Source: SCI Verkehr GmbH, 2005

**Shareholder structure:**

Railion Deutschland AG is majority shareholder with a 98% holding.

**Group headquarters:**

Utrecht, Netherlands

**Associated companies and cooperation partners:**

Group of Railion Germany, Railion Denmark, Railion Italy; numerous cooperation partners

**Turnover:**

€158 million in 2004

**Number of employees:**

In 2004, Railion counted approximately 1,150 employees in the Netherlands while the entire Railion group employs some 26,000 people.

**Group development:**

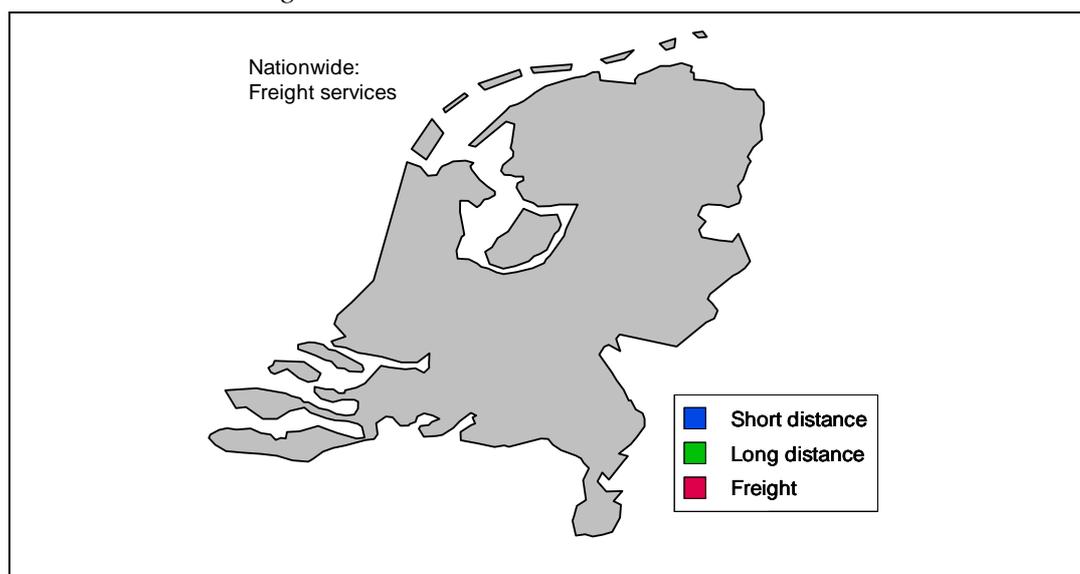
Railion Netherlands was founded in 1999 after the acquisition of NS Cargo. Since December 2002, Railion has a license for the Dutch market.

*ACTS Nederland BV*

ACTS offers freight transport services across the Netherlands, in particular a container shuttle transport between Rotterdam and Leeuwarden, Veendam and Coevorden, and, since 2004, transport from Roosendaal to Beskow in Germany (Rail Cargo Information Netherlands, 2005; European Commission, Rail Transport and Interoperability, 2005).

**Market area:**

*Figure 9: ACTS Nederland BV – market areas*



Source: SCI Verkehr GmbH, 2005

**Shareholder structure:**

Independent rail carrier incorporated in 1989

**Group headquarters:**

Utrecht, the Netherlands

**Associated companies and cooperation partners:**

No information available.

**Turnover:**

No information available.

**Number of employees:**

No information available.

**Group development:**

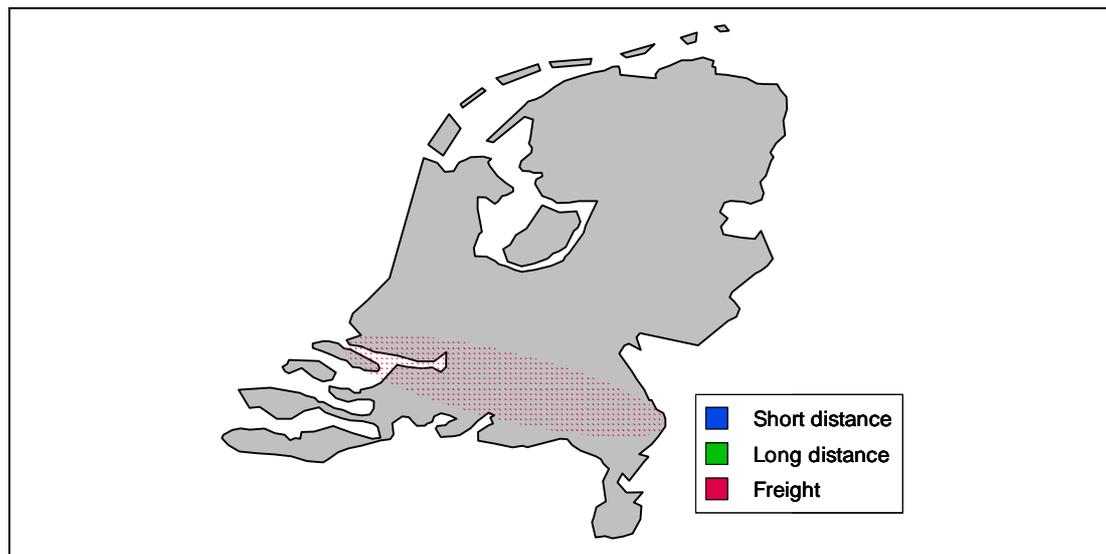
ACTS has a railway transport licence since March 2004.

*European Rail Shuttle B.V. (ERS)*

European Rail Shuttle B.V. (ERS) provides freight transport in the southern part of the Netherlands.

**Market area:**

*Figure 10: European Rail Shuttle B.V. (ERS) – market areas*



Source: SCI Verkehr GmbH, 2005

**Shareholder structure:**

- Maersk Sealand
- P&O Nedloyd

**Group headquarters:**

Rotterdam, the Netherlands

**Associated companies and cooperation partners:**

- BoxXpress.de

**Turnover:**

No information available.

**Number of employees:**

No information available.

**Group development:**

European Rail Shuttle B.V. (ERS) was established in 1994 by its founders Royal Nedlloyd, Sealand Service and P&O Containers, Maersk.

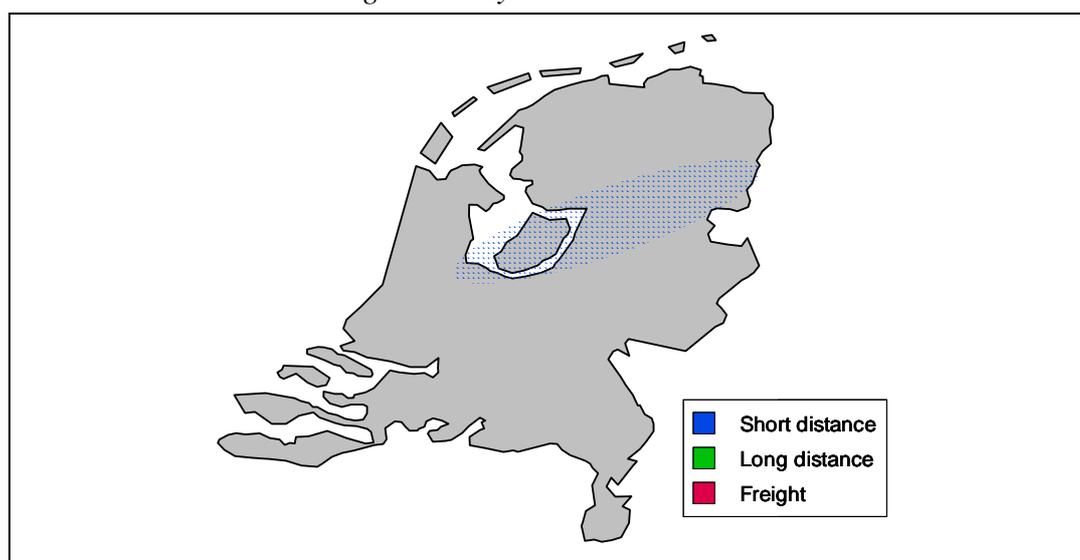
The company began operations with a shuttle train service between Rotterdam and GERMERSHEIM and with a shuttle service between Rotterdam and Melzo (Italy). Today, ERS operates an extensive rail shuttle network in continental Europe. Since September 2002, it has a concession for railway freight transport.

*Syntus*

Syntus is a short distance passenger transport operator.

**Market area:**

*Figure 11: Syntus – market areas*



Source: SCI Verkehr GmbH, 2005

**Shareholder structure:**

Joint venture between the following rail operators: NS-Reizigers (33.3%); Connexion (33.3%); Cariane Multimodal International (33.3%) which belongs to the Keolis group.

**Group headquarters:**

Doetinchem, the Netherlands

**Associated companies and cooperation partners:**

No information available.

**Turnover:**

No information available.

**Number of employees:**

No information available.

**Group development:**

Syntus was established in 1999. In September 2003, it took over the railway passenger transport between Zutphen-Hengelo-Oldenzaal and, in April 2005, the railway route between Tiel and Arnhem.

## **Changes and trends in working conditions**

### **Analysis of industrial relations**

#### *Typology of actors*

The large Dutch labour union-alliances CNV and FNV are the most important ones in the railway market. In addition, there is the relatively small labour union VVMC, which is active in the railway sector only. The national rate of unionisation amounts to 30%. Only one employer organisation exists in the transport sector in the Netherlands.

#### **Federatie Nederlandse Vakbeweging (FNV)**

FNV is by far the largest and strongest trade union confederation in the Netherlands. With 14 affiliated trade unions, FNV represents over 1.2 million members, or about 60% of all trade union members in the Netherlands. The FNV union was established by an alliance between the Industriebond (industrial sector), Dienstenbond (shop assistants, clerical workers), Vervoersbond (transport workers) and the Voedingsbond (agricultural and food workers).

‘FNV Bondgenoten’ is the railway sector union in the FNV, with a membership of workers who are active in passenger and freight transport.

#### **Christelijk Nationaal Vakverbond (CNV)**

The National Federation of Christian Trade Unions in the Netherlands is a general Christian trade union federation with a membership of over 360,000 people. CNV accounts for about 18% of all Dutch trade union members. The organisation is independent of governmental or political groups. Eleven trade unions are affiliated to the CNV working in the various sectors (such as the transport and the public sector). The CNV unions guard and advocate employees’ rights in matters related to collective labour agreements, social security, and pensions.

#### **Federatieve Spoorweg Vakvereniging (FSV)**

The ‘Federatieve Spoorweg Vakvereniging (FSV)’ is an independent railway workers’ union. Although small, it has significant power – shown e.g. in the industrial conflicts of 2000 and 2001 in the Netherlands.

#### **Vakbond voor rijdend personeel (VVMC)**

VVMC is an independent union for on-board staff. The federation brings together the interests of more than 4,000 members. The organisation was founded about 30 years ago and was set up as a representative association for dissatisfied engineers of the Dutch railways. VVMC targets engineers, conductors and is open to all transport companies’ on-board staff.

Historical disagreement between the unions has prevented them from having a united front at the bargaining table. Conductors and engine drivers mainly lead the varying viewpoints.

### **Koninklijk Nederlands Vervoer (KNV)**

KNV is the only employer organisation for the transport sector in the Netherlands. The association represents companies in bus, taxi, public and freight transport. In the railway sector, the organisation represents a number of freight companies in particular. KNV supports collective and individual interests of the members, and is connected with national and international interest groups, such as the employer organisation VNO-NCW and the UITP.

### *Collective bargaining*

#### **Industry/frame wage contracts and agreements**

In the Netherlands, collective agreements, the so-called *Collectieve Arbeidsovereenkomsten* (CAO), are either concluded at industry or company level. Besides these negotiations at industry or company level, wage levels are generally coordinated by the umbrella organisations representing the employers and trade unions. More than 200 collective agreements are registered at the Dutch ministry for labour, covering about 5.5 million employees. In addition, there are more than 800 agreements at company level, applying to 1.2 million employees (WSI, 2002).

Overall, collective agreements cover about 70% of the total workforce. Less than 15% of all employees are covered by company agreements. A significant proportion of the workforce is not covered by any collective arrangement (Ministerie van SZW/WSI, 2002).

*Table 1: Overview of sector and company agreements*

	<b>Sector agreements</b>		<b>Company agreements</b>		<b>Total</b>	
	<b>Agreements</b>	<b>Employees</b>	<b>Agreements</b>	<b>Employees</b>	<b>Agreements</b>	<b>Employees</b>
Agro-sector	13	135,500	-	-	13	135,500
Industry	59	988,500	381	193,500	440	1,182,000
Building	11	526,500	8	5,000	19	531,500
Trade, hotel and restaurants	55	1,379,000	68	75,000	123	1,454,000
Transport and communication	17	251,500	139	301,000	156	552,500
Company related services	20	756,000	124	251,000	144	100,700
Other services	56	1,519,500	116	457,000	172	1,976,000
<b>Total</b>	<b>231</b>	<b>5,555,500</b>	<b>836</b>	<b>1,282,500</b>	<b>1,067</b>	<b>6,838,000</b>

Source: Ministerie van SZW, 2004

### Company-specific contracts and agreements

Railway specific wage agreements are concluded in the following companies and sub-sectors:

Table 2: Wage agreements in railway companies

Name	Duration	
	from	to
NS-Reizigers	1-10-2002	1-1-2005
Nedtrain	1-4-2003	1-1-2005
Freight transport companies (KNV)	1-4-2003	1-4-2004
Public transport	1-1-2003	1-1-2005

Source: Ministerie van SZW, 2004

The collective agreement of NS-Reizigers plays a dominant role; parties agreed on an *à la carte* agreement. However, more recently, there has been a movement back to one company-wide collective agreement. On 21 April 2005, this new agreement was agreed upon to replace the six business unit agreements in place, and will be valid until 1 April 2007. Central to the unions is the agreement on work security up to 2010 covering all direct employees, including Nedtrain. A pay rise of 3% was concluded for 2006, plus a bonus of €300 for 2005. Employees on sick leave will receive 100% and 90% of their salary, respectively, in the first and second year. This is above the average agreed at national level.

#### *Industrial conflicts*

Since 2000, conflict and strikes have become frequent again at NS. According to the official statistical data of the Central Bureau for Statistics (*Centraal Bureau voor de Statistiek*, CBS), 33,000 labour days were lost in the transport and communication sector in 2000, with 41,000 employees on strike. In 2001, 45,000 days were lost and 29,000 employees were involved (information on more recent years is not available). The issue most contested in the NS reorganisation plan is the new duty roster, which assigns drivers and conductors to fixed routes. The roster, implemented in June 2001, led to a series of strikes. The roster was eventually withdrawn, and, in June 2002, management and unions agreed on a new roster. Other controversial issues during 2001 and 2002 were the insufficient increase in passenger numbers and lack of punctuality of NS. In the context of privatisation arrangements with the ministry in charge, both subjects were tackled and progress was made, but not completely fulfilled. In 2001, the privatisation process came to a complete standstill when the ministry passed legislation increasing the government's power to ensure that NS achieves its public objectives. In 2002, the supervisory board and part of the management team, including the chief executive at NS, resigned. The apparent reason was the failure to achieve the agreed punctuality target, but underlying factors included persistent poor relations with railway staff.

#### *View of partners on EU regulations and social dialogue*

The EU Directive, which instructed the privatisation of a part of the railways, set a difficult process in motion. The reorganisation of one large and interdependent company into two divisions and a further 10 business units is a complex process, in which problems in overlap and coordination are inherent. The conflicts, on the one hand with the minister and the Lower House, and on the other within NS, with its employees, show the underlying tensions between market mechanisms and public goals. This is compounded by the uncertainties accompanying a process in which a public, monopolistic organisation has to become a market player in competition with others. In this situation, the unions are cautious with respect to the process of

privatisation, while at the same time, the employer representative emphasises the importance of continuity in government policies. Notwithstanding the tensions accompanying the process of privatisation, the division of infrastructure and services at NS has been accomplished, and the company no longer receives financial support from the government and is thus self supporting. It even generated profit in 2003, which was paid to the government. Competition on the railways is now a reality, although currently limited to 31 loss-making stretches of track. If the government's 2005 evaluation of NS is positive, NS will receive for the next 10 years the concession for the main railway network for both local and express trains.

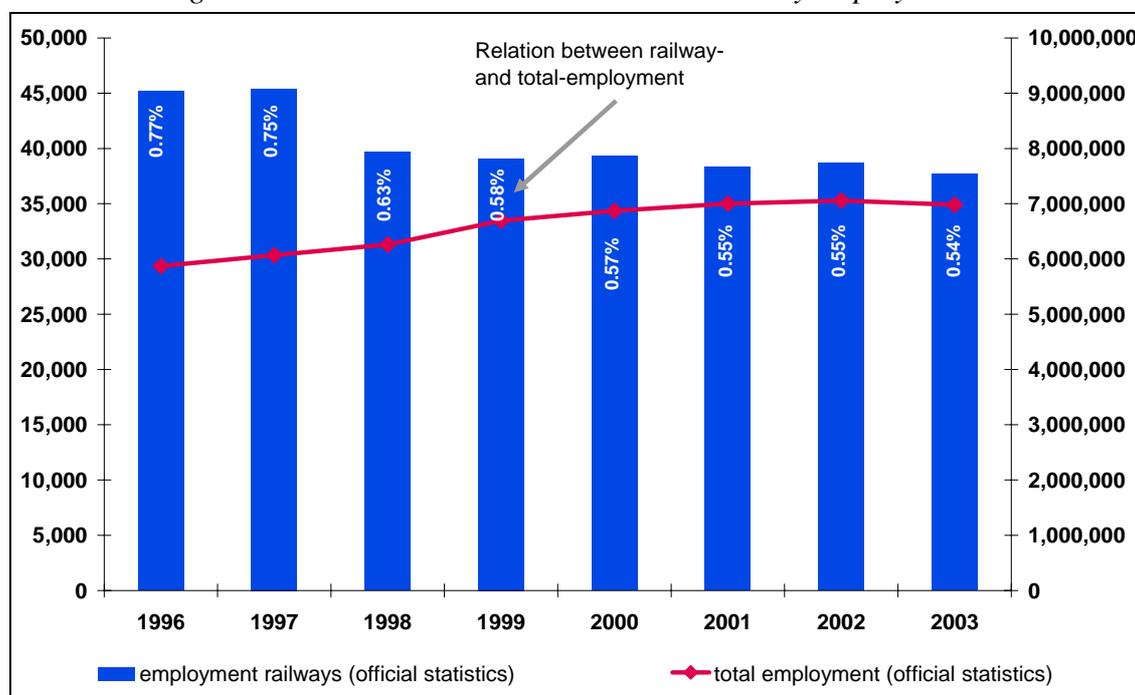
The Dutch social partners are in agreement with the arrangements made on working hours and rest periods of mobile workers assigned to interoperable cross-border services, as was laid down in the agreement between the Community of European Railways (CER) and the European Transport Workers' Federation (ETF) referred to above.

### Analysis of labour market

#### *Relation between national total employment and railway employment*

The national employment increased between 1996 (5.9 million) and 2003 (6.9 million) by one million employees. Within the railway sector (official statistics), meanwhile, employment has fallen from 45,200 in 1996 to 37,700 in 2003. The proportion of railway employment within the total national employment amounts to between 0.77% and 0.54%.

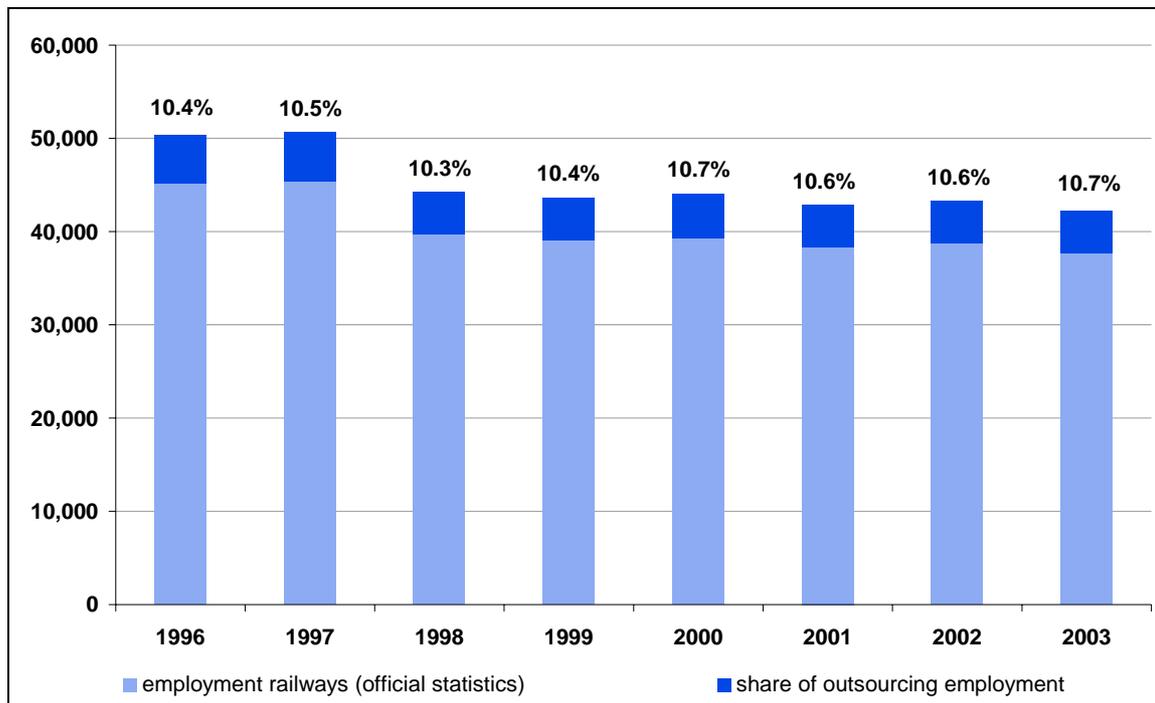
Figure 12: Relation between national and railway employment



Source: Statistics Netherlands, 1996–2004 (calculations by SCI Verkehr GmbH)

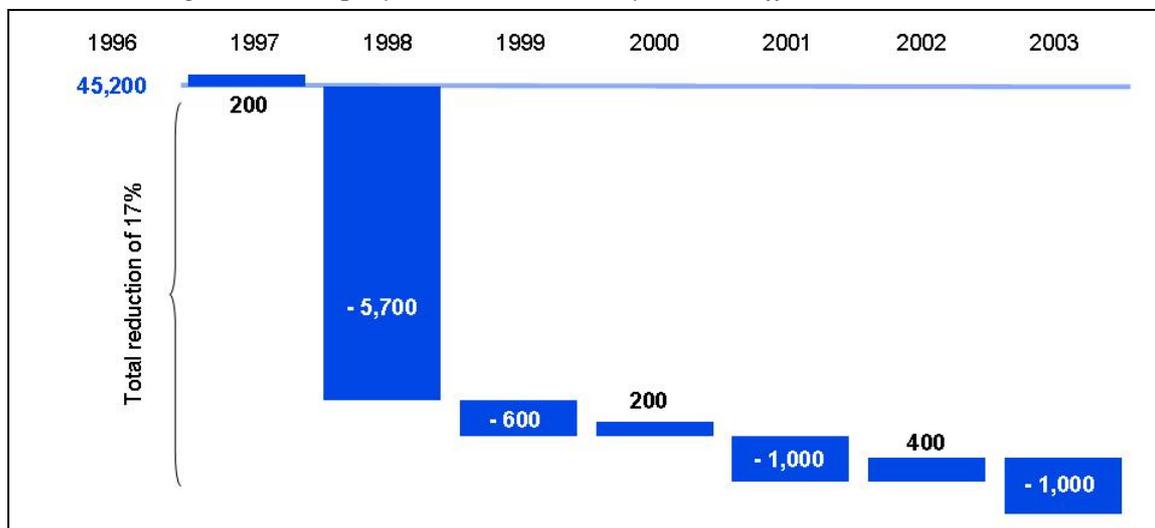
Relation of railway core employment, outsourced employment and reduction of employment

Figure 13: Core employment and outsourcing in the railway sector



Source: Statistics Netherlands, 1996-2004 (calculations SCI Verkehr GmbH)

Figure 14: Employment in the railway sector (official statistics)



Source: Statistics Netherlands, 1996–2004 (calculations by SCI Verkehr GmbH)

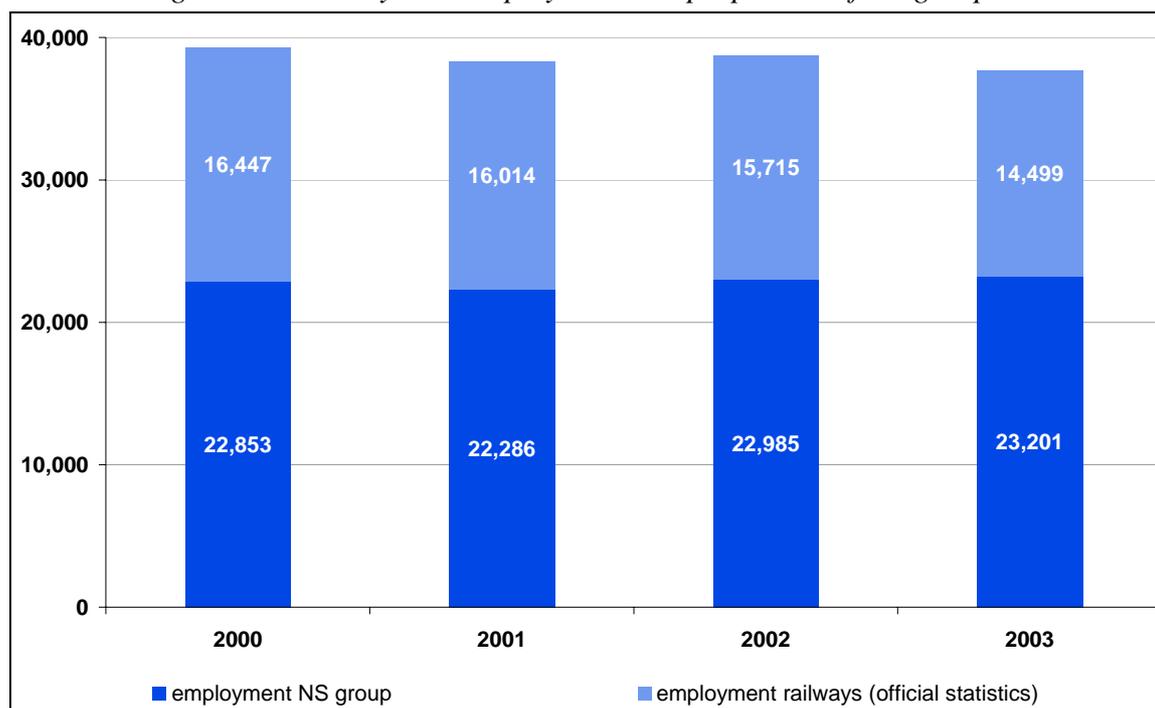
In the privatisation process, some activities were outsourced, such as the railway police (600 employees), part of security (150 employees), information and communication technologies (ICT) (600 employees) and the railway builders. These activities are defined as not belonging to the sector’s core activity, which, since 2000, is considered to be the transport of passengers. In 2000, freight transport was also outsourced to Deutsche Bahn, which employs in Realion 1,800 former NS employees.

*Relation of railway core employment and main players*

The number of full-time jobs at NS increased from 24,403 at the end of 2003 to 24,794 at the end of 2004, as a result of the newly acquired Northern Rail transport concession in Great Britain.

In the Netherlands, there is a downward trend due to staff in non-core activities leaving NS. The need for personnel will decline even further in the coming period as a result of the tendering of lines and through reduced overhaul and maintenance of trains as part of new efficiency measures (NS, 2004).

Figure 15: Railway core employment and proportion of NS group



Source: NS, 2004; Statistics Netherlands, 2000–2004

*Employment structure and composition of the workforce*

**Total new appointments**

No information available.

**Quota of part-time and shift workers**

No information available.

**Distribution of male and female employees**

No information available.

**Employment per age**

No information available.

**Provenance**

No information available.

**Educational level and qualifications**

No information available.

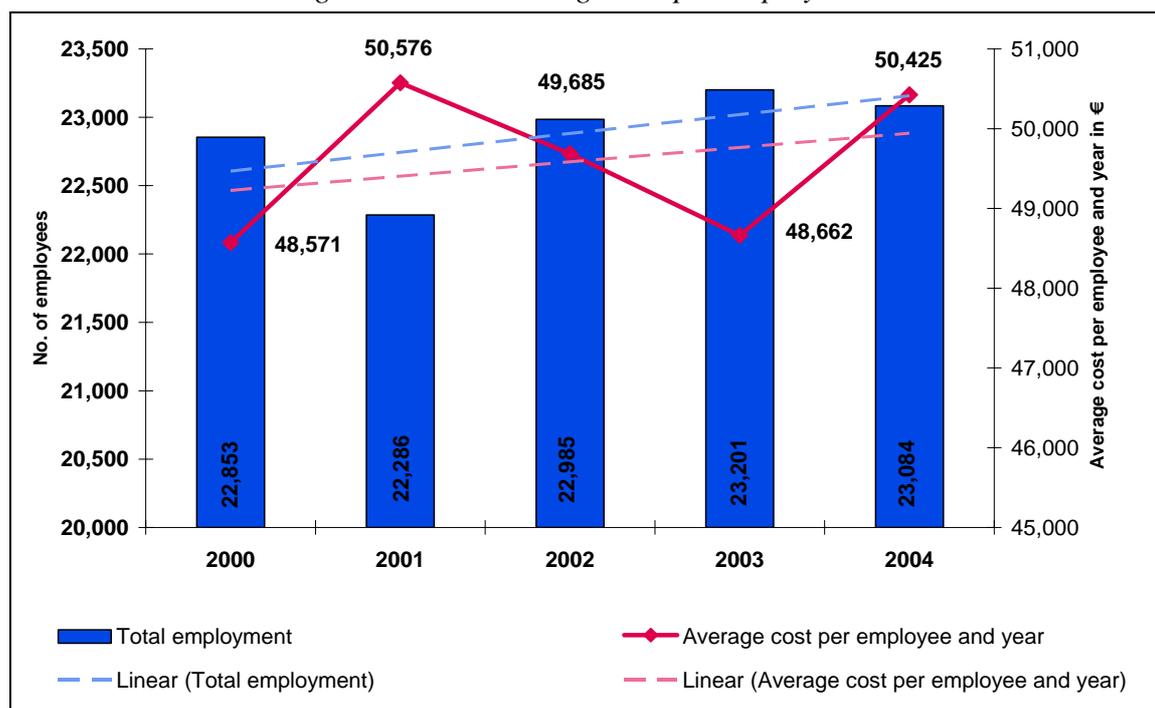
**Field of activity**

No information available.

**Monthly income**

Referring to the published information, it is possible to calculate the average costs per employee and year within NS.

Figure 16: NS – average cost per employee



Source: NS, 2000–2004 (calculations by SCI Verkeer GmbH)

Table 3: Annual wage increase

Year	2002	2003	2004	
Agreement time frame	04/2002-10/2002	10/2002-1/2005	10/2002-1/2005	
NS-Reizigers	5.35%	2.34%	2.99%	Annual wage increase
Nedtrain	–	3.01%	2.64%	
Freight transport (KNV)	1.81%	1.88%	2.16%	
Public transport	3.78%	3.72%	2.28%	

Source: Ministerie van SZW, 2002–2004

**Analysis of working conditions**

*Training and learning opportunities*

No information available.

*Working time*

Train drivers must be 21 years old. Furthermore, they are required to have basic proficiencies, educational background and language abilities – sufficient knowledge of Dutch to understand instructions and service communications and to be able to write short communications.

In the Netherlands, there are two kinds of train drivers:

- Drivers with full competence, who can drive passenger trains on the network at the prescribed speed;
- Drivers with limited competence, who can not drive faster than 40 km/hour and who are not allowed to drive passenger trains. They can drive only in a serving radius of 25 km beyond the starting point of the train.

Drivers are also assigned to one or more traction modes (electric, diesel, steam, maintenance vehicle).

Other on-board staff, responsible for train and passenger safety, has to show that they have basic proficiencies, educational background and language abilities. They must be older than 18 years.

The following table outlines relevant criteria to evaluate the employee’s ability to carry out the work.

*Table 4: Ability criteria for employees*

	<b>Train drivers</b>	<b>Other on-board staff</b>
Comprehension	high level	mid level
Independence	high level	high level
Sense of responsibility	high level	mid level
Aptitude for solitary work	high level	mid level
Aptitude for irregular work	high level	mid level
Emotional stability	high level	high level
Concentration capacity	high level	mid level
Selective attention	high level	mid level
Faculty of reaction	high level	mid level
Deferred memory	high level	mid level
Capacity of judgement	high level	mid level

Source: Atkins, 2002

*Safety at work*

No information available.

*Health systems*

In 2004, the sickness absenteeism rate at NS fell slightly from 7.5% to 7.3%. In 2005, NS decided to focus more attention on the frequency of reporting sick and the sickness absenteeism rate for certain groups of employees.

NS switched to a new industrial healthcare service in 2004. ‘Arbo Unie’ emerged from the tender procedure as the best provider, and the switch from ‘Achmea Urbo’ was made at the end of 2003. The new company doctors are focusing their attention on the causes of sickness absenteeism and the possibilities of countering it.

In June 2004, a new protocol for support and after-care following serious incidents came into force at NS. In addition to support from the immediate manager, continuous attention is now also available from the industrial healthcare service to help staff cope with psychological traumas (NS, 2004).

#### *Social protection*

No information available.

### **References<sup>1</sup>**

Eurostat, *Transport* (online), 2005, available at: [http://epp.eurostat.cec.eu.int/portal/page?\\_pageid=0,1136228,0\\_45572942&\\_dad=portal&\\_schema=PORTAL](http://epp.eurostat.cec.eu.int/portal/page?_pageid=0,1136228,0_45572942&_dad=portal&_schema=PORTAL)

Federatie Nederlandse Vakbeweging (FNV), 2005, available at: <http://www.fnv.nl/>

FNV Bondgenoten, 2005, available at: <http://www.bondgenoten.fnv.nl/>

Görg, H., 'Does outsourcing increase profitability?', in *The Economic and Social Review*, Vol. 35, No. 3, 2004, pp. 267-288.

Koninklijk Nederlands Vervoer (KNV), 2005, available at: <http://www.knv.nl/>

Ministerie van SZW, *Voorjaarsrapportage CAO-afspraken 2004*, 2004, available at: [http://docs.szw.nl/pdf/35/2004/35\\_2004\\_3\\_5724.pdf](http://docs.szw.nl/pdf/35/2004/35_2004_3_5724.pdf)

Nederlandse Spoorwegen (NS), *Annual report 2004*, 2004.

Rail Cargo Information Netherlands, *Rail service providers* (online), 2005, available at: <http://www.railcargo.nl/index.cfm/>

Railion Netherlands, *Facts and figures*, 2005, available at: <http://www.railion.nl/gbpage.asp?id=1540>

SCI Verkehr GmbH, *European railway freight transport markets*, Cologne, 2005.

SCI Verkehr GmbH, 'Database railway technology', Cologne, 2005.

### **Annex: Note on methodology**

The level of employment in the railway sector is a very important indicator of the consequences of the EU legislative framework governing the railway sector. However, restructuring in this sector has resulted in employment in railway activities being outsourced to sectors other than the statistical definition of the railway sector (NACE Code 60.10). Thus, the employment impact is not measured simply by examining employment levels in what is formally defined as the railway sector – an estimate of the number of jobs that have been created in other sectors must first be obtained.

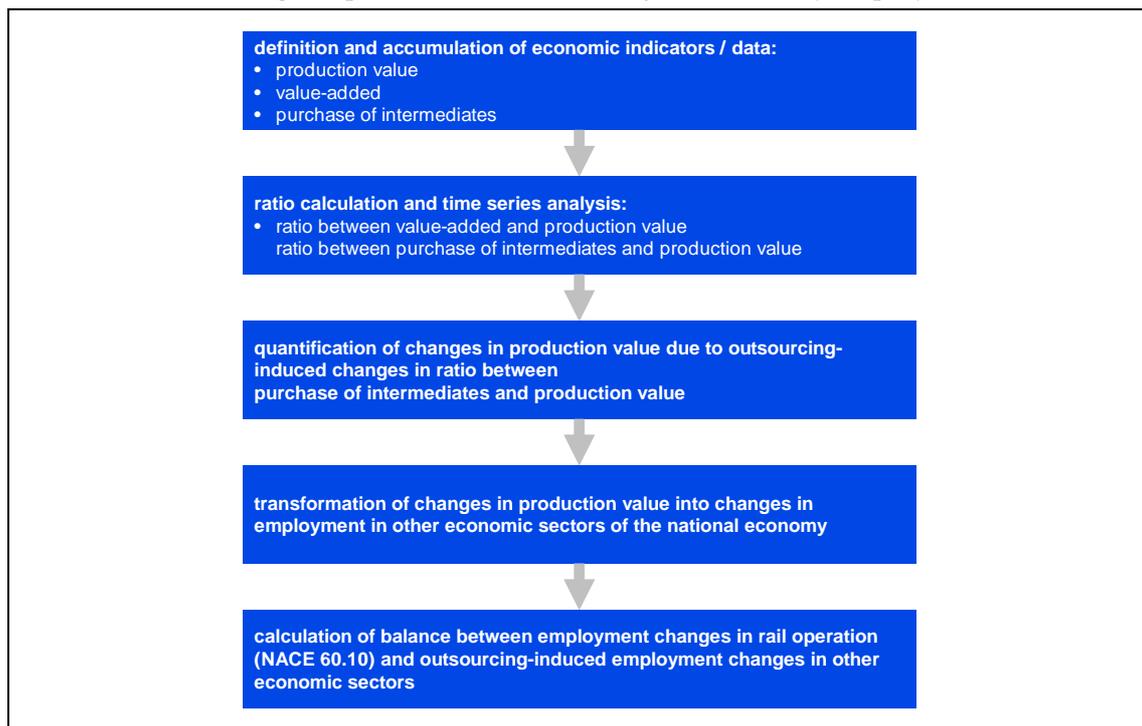
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<sup>1</sup> All links accessed on 17 November 2005.

The impact of restructuring on employment in other sectors is estimated by utilising the production data in the national accounts, where the value of production in railways may be expressed as the sum of value added (performed in-house) and the purchase of intermediates (purchased elsewhere). Changes in the ratio of value added and intermediate purchases over time provide a money value indicator of outsourcing trends (Görg, 2004, pp. 267-288).

This is calculated for each country in the study using input–output tables. In order to calculate the change in employment that corresponds to shifts in the value ratio, average work coefficients are used.

*Methodological process – calculation of total railway employment*



Source: SCI Verkehr GmbH

The results of the estimations are summarised using a survey of the relevant indicators. A balance of the employment will be shown, accounting for the reduced number of workplaces in the rail operation sector and the employment changes in other sectors.

The methodological approach developed aims at combining a scientific-substantiated state of knowledge and simplicity of statistical solution. The methodology is based on disaggregated data (national accounts), the compilation of which demands thorough research for each of the countries selected, since data is not always readily available at EU level.