

Data extracted in May 2018. Planned article update: May 2019.

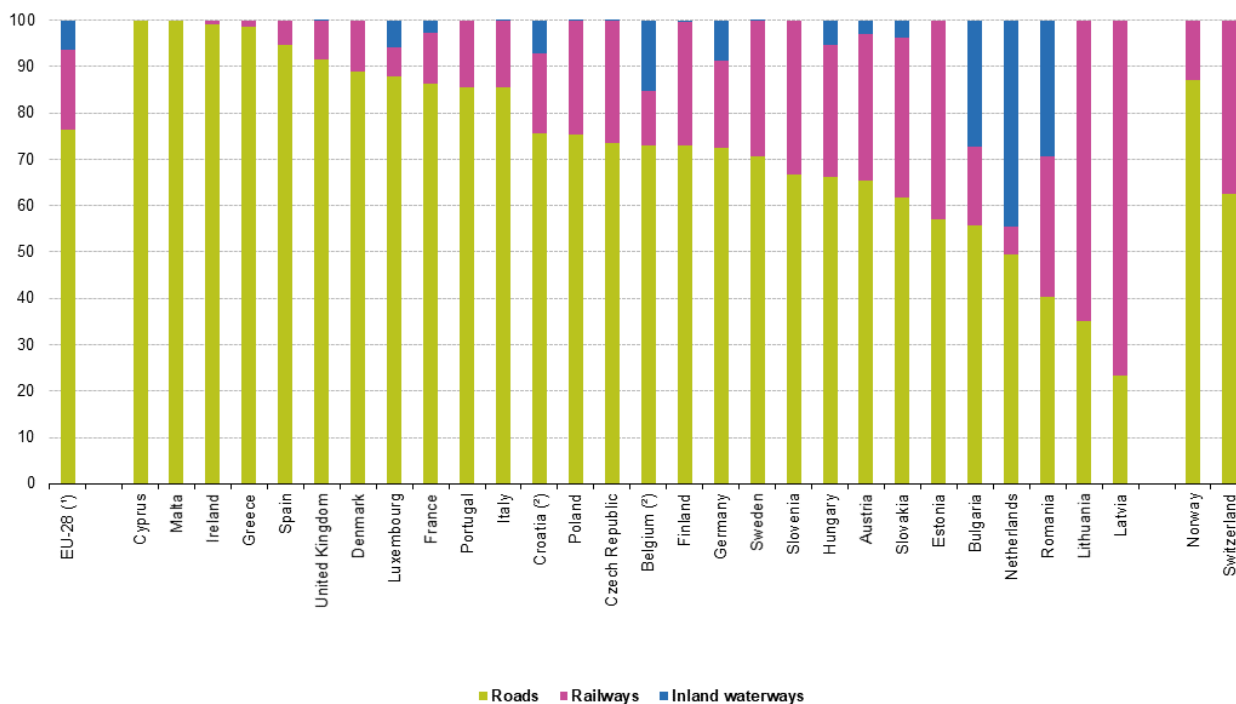
This article presents information on freight transport in the [European Union \(EU\)](#) , covering the [transport modes road](#) , [rail](#) , air, maritime and [inland waterways](#) . The ability to move goods safely, quickly and cost-efficiently to markets is important for international trade, national distributive trades and economic development. The rapid increase in global trade and the deepening integration of an [enlarged EU](#) , alongside a range of economic practices (including the concentration of production in fewer sites to reap economies of scale, delocalisation, and just-in-time deliveries), may (at least to some degree) explain the relatively fast growth of freight transport across the EU.

By contrast, strains on the transport infrastructure (congestion and delays), coupled with constraints regarding technical standards, interoperability and governance issues may slow down developments within the EU's freight transport sector.

Modal split

Total inland freight transport in the [EU-28](#) was estimated to be just over 2 400 billion [tonne-kilometres \(tkm\)](#) in 2016; around three quarters of this total was transported by road (see Figure 1). The road freight data used for this analysis have been adjusted to allow comparison with rail and inland waterways transport in terms of transport actually performed on the territory of each Member State. By contrast, the road freight data shown in Table 1 are based on where vehicles are registered, rather than where the transport takes place. More detailed information on the adjustments made to road freight data used for Figure 1 are available in a separate article, focused exclusively on the [modal split of freight transport](#) .

Modal split of inland freight transport, 2016
(% of total inland tonne-kilometres)



Note: excluding pipelines. Cyprus and Malta: railways not applicable.

(*) Includes rail transport estimates for Belgium and Croatia and does not include road freight transport for Malta (which is negligible).

(†) Estimates.

Source: Eurostat (online data code: tran_hv_fmrod)



Figure 1: Modal split of inland freight transport, 2016(% of total inland tonne-kilometres)Source: Eurostat (tran_hv_fmrod)

The share of EU-28 inland freight transported by road (76.4 %) was more than four times as high as the share transported by rail (17.4 %) in 2016. The remainder (6.2 %) of the freight transported in the EU-28 was carried on inland waterways.

All inland freight transport in Cyprus and Malta was carried out by road, as they have no railways or inland waterways infrastructure. Elsewhere, road transport accounted for more than 90 % of inland freight transport in Ireland, Greece, Spain and the United Kingdom in 2016. By contrast, road transport accounted for less than a quarter of the inland freight transported in Latvia (23.4 %), with the remainder (76.6 %) transported by rail. Rail played an important role for the inland freight transported also in the other two [Baltic Member States](#) in 2016, with shares of almost two thirds (65.0 %) in Lithuania and 42.9 % in Estonia. However, the share of inland waterways was substantially higher in the Netherlands (44.6 %), and high shares were recorded also in Romania (29.4 %), Bulgaria (27.2 %) and Belgium (15.3 %).

It should be noted that this analysis refers only to inland freight transport; considerable amounts of freight may be transported by maritime freight services and, for some product groups, by air transport or by pipelines.

Inland freight transport, 2016

	Road (*)	Rail	Inland waterways	Road (*)	Rail	Inland waterways
	(million tonne-kilometres)			(tonne-kilometres per inhabitant)		
EU-28	1 852 336	403 585	147 319	3 626	790	288
Belgium	30 865	:c	10 331	2 724	:c	912
Bulgaria	35 409	3 434	5 477	4 968	482	768
Czech Republic	50 315	15 619	36	4 762	1 478	3
Denmark	16 094	2 575	–	2 810	450	–
Germany	315 774	116 164	54 347	3 835	1 411	660
Estonia	6 716	2 340	–	5 104	1 778	–
Ireland	11 616	101	–	2 443	21	–
Greece	24 560	254	–	2 279	24	–
Spain	216 997	12 324	–	4 668	265	–
France	155 843	32 569	8 307	2 331	487	124
Croatia	11 337	:c	836	2 717	:c	200
Italy	112 637	22 712	67	1 858	375	1
Cyprus	703	–	–	826	–	–
Latvia	14 227	15 873	–	7 260	8 100	–
Lithuania	30 974	13 790	0	10 799	4 808	–
Luxembourg	9 324	201	190	16 020	345	326
Hungary	40 002	10 528	1 975	4 076	1 073	201
Malta	:	–	–	:	–	–
Netherlands	67 964	6 641	49 398	3 991	390	2 899
Austria	26 138	20 856	1 962	2 992	2 387	225
Poland	290 749	50 650	108	7 657	1 334	3
Portugal	34 877	2 774	–	3 378	269	–
Romania	48 176	13 535	13 153	2 445	687	668
Slovenia	18 707	4 360	–	9 059	2 111	–
Slovakia	36 139	8 370	903	6 654	1 541	166
Finland	26 846	9 456	103	4 885	1 721	19
Sweden	42 673	21 406	16	4 300	2 157	–
United Kingdom	176 678	17 053	108	2 693	260	2
Liechtenstein (*)	317	14	–	8 405	371	–
Norway	20 932	3 312	–	3 999	633	–
Switzerland	12 134	12 447	–	1 449	1 487	–
Montenegro (*)	:	112	–	:	180	–
Former Yugoslav Republic of Macedonia	:	222	–	:	107	–
Turkey	:	11 424	–	:	144	–

Note: (:) not available. (c) confidential.

(*) Road transport is based on movements all over the world of vehicles registered in the reporting country.

(*) Road: 2013 data.

(*) Rail: 2015 data.

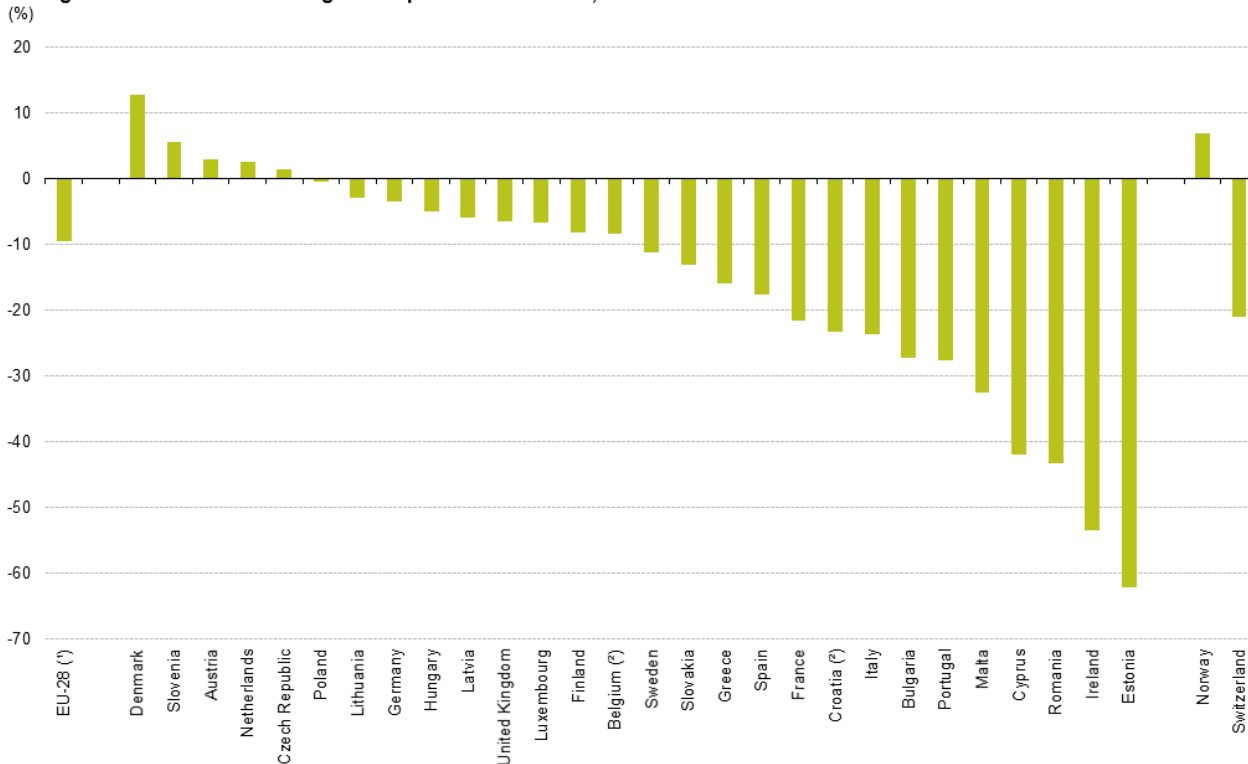
Source: Eurostat (online data codes: road_go_ta_tott, rail_go_typeall, iww_go_atygo and demo_gind)

Table 1: Inland freight transport, 2016 Source: Eurostat (road_go_ta_tott), (rail_go_typeall), (iww_go_atygo) and (demo_gind)

Relative growth of freight transport and the economy

Over the period 2006–2016, inland freight transport in the EU-28 grew at a slower pace than the [gross domestic product \(GDP\)](#) at constant prices. Figure 2 shows that the ratio of these two values was 9.6 % lower in 2016 than in 2006.

Change in the index of inland freight transport relative to GDP, 2006–2016



Note: excluding pipelines.

(*) Includes rail transport estimates for Belgium and Croatia and does not include road freight transport for Malta (which is negligible).

(†) Estimates.

Source: Eurostat (online data code: tran_hv_frtra)



Figure 2: Change in the index of inland freight transport relative to GDP, 2006–2016(%)Source: Eurostat (tran_hv_frtra)

Comparing with the situation in 2006, Denmark and Slovenia recorded the greatest increases in inland freight transport relative to GDP, with their indices 15 % and 6 % higher in 2016 than 10 years earlier, respectively. By contrast, the ratio of inland freight transport to GDP fell most in Estonia (-62 %), Ireland (-53 %), Romania (-43 %) and Cyprus (-42 %).

Road freight

It should be noted that these road freight statistics are based on worldwide movements of vehicles registered in the reporting country ('nationality principle'). Among the EU Member States, road freight transport relative to population size was highest in Luxembourg, where, on average, 16 020 tonne-kilometres (tkm) of freight were transported by road for each inhabitant in 2016. This was 48 % higher than the next highest level of road freight transport per inhabitant, recorded in Lithuania (10 799 tkm).

National and international road transport of goods, 2016
 (% based on million tonne-kilometres of laden transport)



Note: Malta not available.
 Source: Eurostat (online data code: road_go_ta_tot)



Figure 3: National and international road transport of goods, 2016(% based on million tonne-kilometres of laden transport)Source: Eurostat (road_go_ta_tot)

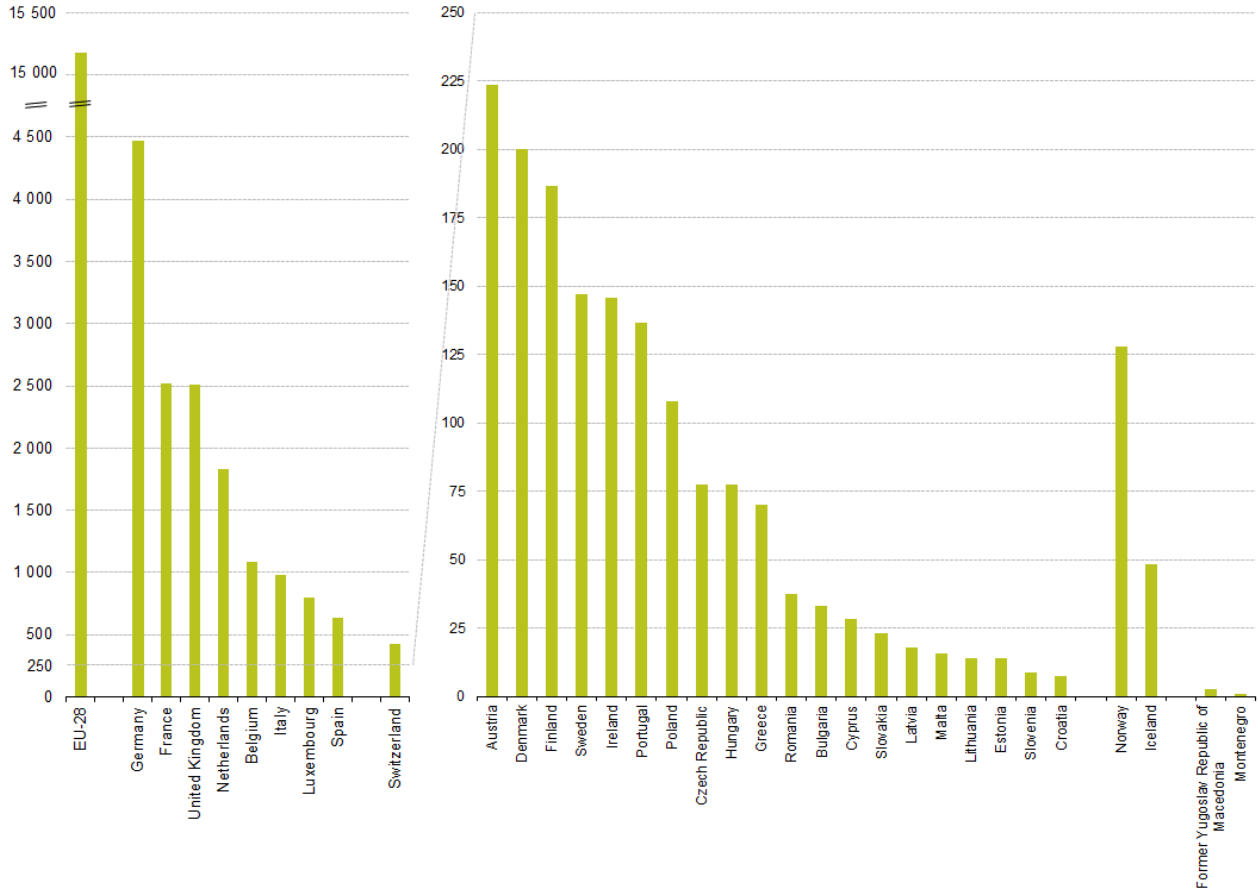
The split between national and international road freight varied considerably across the Member States (see Figure 3). In 2016, the highest proportions of national road freight transport were recorded in Cyprus (97.3 %) and the United Kingdom (96.4 %), while shares in France, Sweden and Finland were also above 90 %. By contrast, thirteen of the Member States reported that the majority of the goods transported by vehicles registered in their Member State had taken place on foreign road networks. The share of international road freight transport in total road freight was particularly high in Lithuania (90.4 %), Slovenia (88.6 %), Luxembourg (87.2 %), Slovakia (84.2 %), and Latvia (80.3 %).

Air freight

About 15.2 million tonnes of air freight was carried through airports within the EU-28 in 2016. Airports in Germany dealt with 4.5 million tonnes of air freight, considerably more than in any other EU Member State (see Figure 4); France and the United Kingdom had the second and third highest amounts of air freight, both at 2.5 million tonnes. Some of the smaller Member States are relatively specialised in air freight, notably all of the [Benelux](#) countries, and in particular, Luxembourg, which ranked as the seventh largest air freight transporter among the Member States.

Air freight transport, 2016

(thousand tonnes)



Note: different scales are used in the two parts of the figure.
Source: Eurostat (online data code: avia_gooc)

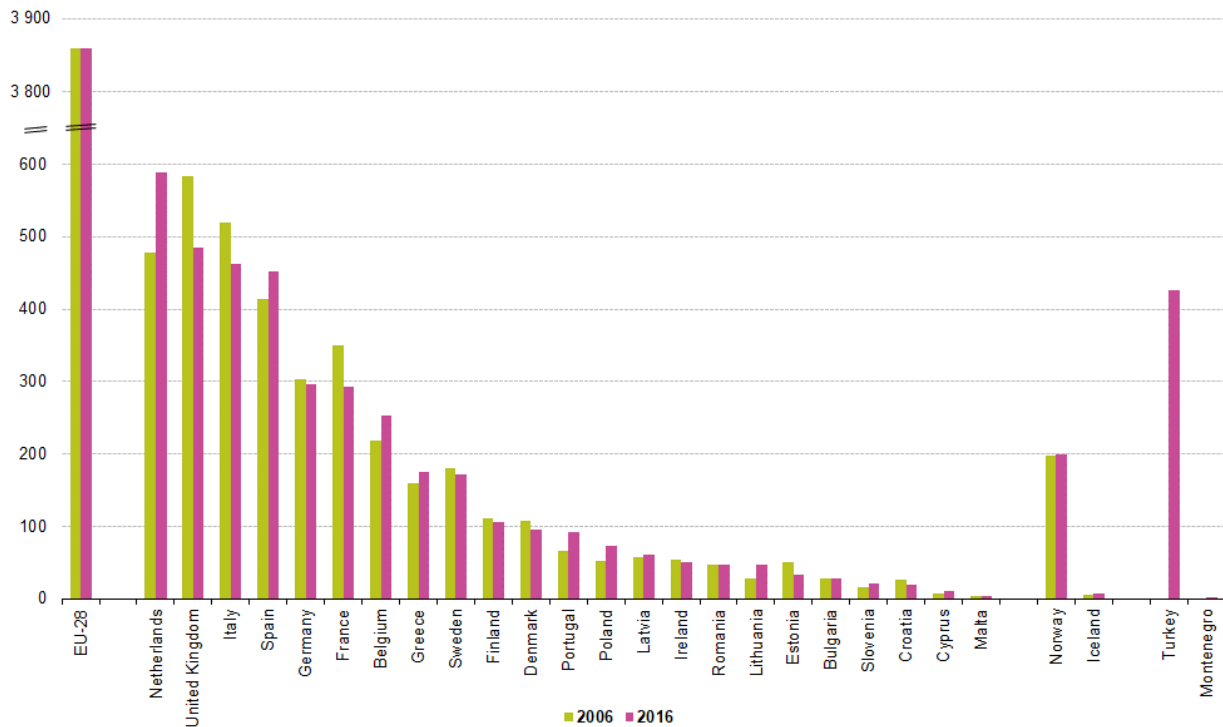


Figure 4: Air freight transport, 2016(thousand tonnes)Source: Eurostat (avia_gooc)

Maritime freight

Maritime ports in the EU-28 handled 3.9 billion tonnes of seaborne goods in 2016. This was almost exactly the same volume as ten years before, with only a marginal increase of 0.01 % when compared directly with 2006. However, this masks large variations within the period; the volume of seaborne goods handled in 2016 represented an increase of 11.4 % compared with 2009 (when a low point was reached during the global financial and economic crisis). Sea ports in the Netherlands handled close to 600 million tonnes of goods in 2016, while in the United Kingdom the level was close to 500 million tonnes. In Italy and Spain, the volume of freight handled in their ports was also in excess of 450 million tonnes (see Figure 5). These four EU Member States collectively handled more than half (51.4 %) of the EU-28’s seaborne freight.

Gross weight of seaborne goods handled in ports, 2006 and 2016
(million tonnes)



Note: the Czech Republic, Luxembourg, Hungary, Austria, Slovakia, Liechtenstein and Switzerland: not applicable. 2006 data not available for Turkey and Montenegro
Source: Eurostat (online data code: mar_go_aa)



Figure 5: Gross weight of seaborne goods handled in ports, 2006 and 2016(million tonnes)Source: Eurostat (mar_go_aa)

Source data for tables and graphs

- [Freight transport statistics: tables and figures](#)

Data sources

The development of freight transport statistics is based upon a raft of framework legislation and implementing legislation, generally organised according to the mode of transport under consideration. Statistics on inland freight transport are available with an annual frequency and [time series](#) generally begin in the early 1990s.

The majority of inland freight transport statistics are based on movements in each reporting country, regardless of the nationality of the vehicle or vessel involved (the 'territoriality principle'). For this reason, the measure of tonne-kilometres (tkm), i.e. one tonne of goods travelling a distance of one kilometre, is generally considered a more reliable measure, as the use of tonnes entails a higher risk of double-counting, particularly for international transport. The methodology used across the EU Member States is not completely harmonised: for example, road freight statistics are generally based on all movements (in the registration country or abroad) of vehicles registered in the reporting country (the 'nationality principle').

The [modal split](#) of inland freight transport is based on transportation by road, rail and inland waterways, and therefore excludes air, maritime and pipeline transport. It measures the share of each transport mode in total inland freight transport and is expressed in tonne-kilometres. Note that the data on the modal split presented in this article uses road freight data that have been adjusted to be based on the territoriality principle rather than the nationality principle.

The level of inland freight transport (measured in tonne-kilometres) may also be expressed in relation to GDP; within this article the indicator is presented based on GDP in constant prices for the reference year 2006. This

indicator provides information on the relationship between the demand for freight transport and the size of the economy and allows the development of freight transport demand to be monitored relative to economic developments.

Goods loaded are those goods placed on a road vehicle, a railway vehicle or a merchant ship for dispatch by road, rail or sea. The weight of goods transported by rail and inland waterways is the **gross-gross weight**. This includes the total weight of the goods, packaging, and the **tare weight** of the container, swap-body and pallets containing goods; in the case of rail freight transport, it also includes road goods vehicles that are carried by rail. By contrast, the weight measured for maritime and road freight transport is the **gross weight** (in other words, excluding the tare weight of the container).

Road freight Road freight transport statistics are collected under the framework provided by [Regulation 1172/98](#) on statistical returns in respect of the carriage of goods by road, substantially amended several times, and recast as [Regulation 70/2012](#). The data are based on sample surveys carried out in the reporting countries and record the transport of goods by road, as undertaken by vehicles registered in each of the EU Member States. It is important to note that almost all of the Member States apply a cut-off point for carrying capacity under which vehicles are not surveyed; this should not be greater than 3.5 tonnes carrying capacity, or 6 tonnes in terms of gross vehicle weight; some of the Member States also apply a limit on the age of the vehicles surveyed.

Rail freight Rail freight data are collected under the framework provided by [Regulation 2016/2032](#) on rail transport statistics. The data are collected for a quarterly frequency (usually limited to larger enterprises) and for an annual frequency (covering enterprises of all sizes). Statistics for rail freight are not available for Malta and Cyprus (or Iceland) as they do not have a railway infrastructure. Rail statistics are also collected every five years in relation to a regional analysis ([NUTS](#) level 2).

Aside from the mandatory collection of data based on legal acts, [Eurostat](#) also collects rail transport statistics through a voluntary data collection exercise. The questionnaire used for this exercise provides information in relation to railway transport infrastructure, equipment, enterprises, traffic and train movements.

Maritime freight The legal framework for the collection of statistics on maritime freight transport is [Directive 2009/42/EC](#) on statistical returns in respect of the carriage of goods and passengers by sea (Recast). Maritime transport data are available for most EU Member States from 2001 onwards, although some countries have provided data back to 1997. Statistics on maritime freight are not transmitted to Eurostat by the Czech Republic, Luxembourg, Hungary, Austria and Slovakia as they have no maritime ports; for the same reason maritime data are not available for Liechtenstein or Switzerland.

Inland waterways freight The legal framework for the collection of statistics on inland waterways freight transport is [Regulation \(EU\) 2018/974](#) of the European Parliament and of the Council of 4 July 2018. This Regulation is a codification of [Regulation 1365/2006](#) on statistics of goods transport by inland waterways and includes all its amendments since 2006. Data on inland waterways are only required for those EU Member States with an annual quantity of goods transported that exceeds one million tonnes. On a voluntary basis, countries can provide only a reduced dataset. Currently, eighteen Member States provide data on mandatory or voluntary basis: Belgium (BE), Bulgaria (BG), Czech Republic (CZ), Germany (DE), France (FR), Croatia (HR), Italy (IT), Lithuania (LT), Luxembourg (LU), Hungary (HU), the Netherlands (NL), Austria (AT), Poland (PL), Romania (RO), Slovakia (SK), Finland (FI), Sweden (SE) and the United Kingdom (UK). Data collection is based on an exhaustive survey of all inland waterway enterprises for all goods that are loaded or unloaded. In the case of transit, some countries make use of sampling methods in order to estimate the volume of goods transported.

Air freight The legal framework for air transport statistics is provided by [Regulation 437/2003](#) on statistical returns in respect of the carriage of passengers, freight and mail by air. Statistics on air freight are collected for freight and mail loaded and unloaded in relation to commercial air flights. The information covers national and international freight transport.

Air transport statistics are collected at the airport level by the EU Member States, Norway, Iceland, Switzerland and the [candidate countries](#) . Annual data are available for most of the Member States for the period from 2003 onwards, while some countries have provided data back to 1993. Air freight statistics are also collected for a monthly and a quarterly frequency and with a regional analysis (NUTS level 2).

Treatment of double counting in air freight statistics: the national aggregates and total intra-EU-28 aggregates exclude any double counting. They include all the reported departures plus a part of the reported arrivals; the reported arrivals that are included are those for which the corresponding departures of the partner airport are missing.

Context

As part of its review of transport policy through to 2010, the [European Commission](#) made a number of suggestions for new policy developments, which were subsequently expanded upon in the form of a series of Communications, including:

- [the EU's freight transport agenda: boosting the efficiency, integration and sustainability of freight transport in Europe](#) (COM(2007) 606 final);
- [a freight transport logistics action plan](#) (COM(2007) 607 final);
- [a move towards a rail network giving priority to freight](#) (COM(2007) 608 final);
- [a European ports policy](#) (COM(2007) 616 final);
- [a 'greening transport' package](#) (COM(2008) 433 final);
- [a set of strategic goals and recommendations for the EU's maritime transport policy until 2018](#) (COM(2009) 8 final);
- [a European maritime transport space without barriers](#) (COM(2009) 10 final).

This was followed in mid-2009 by a Communication titled ' [A sustainable future for transport: towards an integrated, technology-led and user friendly system](#) ' (COM(2009) 279 final) and in March 2011 by a White paper titled ' [Roadmap to a single European transport area — towards a competitive and resource efficient transport system](#) ' (COM(2011) 144 final). This comprehensive strategy contains a roadmap of 40 specific initiatives to build a competitive transport system over a 10 year period that aims to increase mobility, remove major barriers in key areas and fuel growth and employment.

More details concerning the European Commission's proposals for transport policy initiatives are provided in an [introductory article on transport in the EU](#) .

Other articles

- [Passenger transport statistics](#)
- [Freight transport statistics - modal split](#)
- [Air transport statistics](#)
- [Freight transport statistics - modal split](#)
- [Freight transported in containers - statistics on unitisation](#)

- [Inland waterway transport statistics](#)
- [Inland waterways - statistics on container transport](#)
- [Inland waterways freight transport - quarterly and annual data](#)
- [Maritime transport of goods - quarterly data](#)
- [Maritime transport statistics - short sea shipping of goods](#)
- [Railway freight transport statistics](#)
- [Road freight transport statistics](#)
- [Road freight transport by journey characteristics](#)
- [Road freight transport by type of goods](#)
- [Road freight transport by vehicle characteristics](#)
- [Road freight transport statistics - cabotage](#)

Publications

- [Energy, transport and environment indicators, 2017 edition](#)
- [Illustrated Glossary for Transport Statistics — 4th edition , 2010](#)

Main tables

- [Transport](#) , see:

Regional transport statistics (t_tran_r)

Maritime transport of freight, by NUTS 2 regions (tgs00076)

Air transport of freight, by NUTS 2 regions (tgs00078)

Transport, volume and modal split (t_tran_hv)

Volume of freight transport relative to GDP (tsdtr230)

Modal split of freight transport (tsdtr220)

Railway transport (t_rail)

Goods transport by rail (ttr00006)

Road transport (t_road)

Goods transport by road (ttr00005)

Inland waterways transport (t_iww)

Goods transport by inland waterways (ttr00007)

Maritime transport (t_mar)

Sea transport of goods (ttr00009)

Air transport (t_avia)

Air transport of goods (ttr00011)

Database

- [Transport](#) , see:

Multimodal split (tran)

Transport, volume and modal split (tran_hv)

Railway transport (rail)

Road transport (road)

Inland waterways transport (iww)

Oil pipeline transport (pipe)

Maritime transport (mar)

Air transport (avia)

Dedicated section

- [Transport](#)

Methodology

Reference manuals

- [Reference manual on rail transport statistics](#) , version 10 — November 2017
- [Reference manual on air transport statistics](#) , version 14 — September 2017
- [Reference manual on inland waterways transport statistics](#) , version 8.0 — June 2016
- [Reference manual on maritime transport statistics](#) , version 4.0 — November 2017
- [Road freight transport methodology](#) — 2016 edition
- [Methodologies used in surveys of road freight transport in Member States, EFTA and Candidate Countries](#) — 2014 edition

ESMS metadata files

- [Inland waterways transport](#) (ESMS metadata file — iww_esms)
- [Maritime transport](#) (ESMS metadata file — mar_esms)
- [Modal split of freight transport](#) (ESMS metadata file — tran_hv_fmod_esms)
- [Common Questionnaire for Inland Transport Statistics](#) (ESMS metadata file — rail_if_esms)
- [Road freight transport](#) (ESMS metadata file — road_go_esms)

Legislation

- [Regulation 70/2012](#) of 18 January 2012 on statistical returns in respect of the carriage of goods by road (recast)

External links

- [European Commission Directorate General for Mobility and Transport](#)
- [Freight transport logistics in Europe](#)
- [International Transport Forum — ITF \(formerly the European Conference of Ministers of Transport \(ECMT\)\)](#)
- [United Nations Economic Commission for Europe \(UNECE\) — Transport statistics](#)

View this article online at http://ec.europa.eu/eurostat/statistics-explained/index.php/Freight_transport_statistics