# Statistics in focus

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# Air transport at the top 10 EU airports in 2003

Table 1: Top 10 EU airports in total air passenger transport: comparison 2002-2003 and share in EU transport

| Rank | Airports | Number of passengers in 2003 (1000) | Number of passengers in 2002 (1000) | Growth 2002-2003 | Share in total EU-25 transport in 2003 |
|---|---|---|---|---|---|
| 1 | LONDON/HEATHROW | 63 208 | 63 042 | 0,3% | 6,7% |
| 2 | FRANKFURT/MAIN | 48 023 | 48 079 | -0,1% | 5,1% |
| 3 | PARIS/CHARLES-DE-GAULLE | 48 008 | 48 258 | -0,5% | 5,1% |
| 4 | AMSTERDAM/SCHIPHOL | 39 807 | 40 588 | -1,9% | 4,2% |
| 5 | MADRID/BARAJAS | 35 370 | 33 696 | 5,0% | 3,7% |
| 6 | LONDON/GATWICK | 29 893 | 29 510 | 1,3% | 3,2% |
| 7 | ROMA/FIUMICINO | 25 473 | 24 205 | 5,2% | 2,7% |
| 8 | MÜNCHEN | 23 953 | 22 878 | 4,7% | 2,5% |
| 9 | BARCELONA | 22 492 | 21 164 | 6,3% | 2,4% |
| 10 | PARIS/ORLY | 22 449 | 23 144 | -3,0% | 2,4% |
| | Total Top 10 | 358 677 | 354 563 | 1,2% | 38,0% |

## Highlights

In 2003, the United Kingdom, France, Germany and Spain each had two airports in the EU top 10 airports for passengers. The other two airports were in the Netherlands and Italy. The top 10 EU airports recorded over 358 million passengers, representing 38% of total passenger volume reported by all EU-25 airports.

In 2001 and at the beginning of 2002, the volume of air passenger transport to and from these top 10 airports was depressed by the events of 11 September 2001. For the majority, recovery began in the second half of 2002. For others extra-EU passenger transport was further affected during the first half of 2003 by the outbreak of SARS (Severe Acute Respiratory Syndrome) in the Far East and the war in Iraq. This resulted in a small fall in the total passenger numbers using Paris-Orly, Amsterdam-Schiphol and Paris-Charles de Gaulle.

The USA was the main partner country for London/Heathrow and Paris/Charles de Gaulle with 17% and 11% of the total traffic of each airport respectively. Spain was the main partner country for London/Gatwick with 23% of traffic, while for Amsterdam/Schiphol it was the UK with 18% of traffic. For the other 6 airports, domestic traffic within the country was the dominant component. At least half of total passenger traffic was national at Paris-Orly, Roma/Fiumicino, Madrid/Barajas and Barcelona.

For freight and mail transport, the top 10 airports were somewhat different, with a wider spread of countries. They were found in Germany (2), the Netherlands, the UK (2), France, Belgium, Luxembourg, Italy and Spain. The top 10 EU freight and mail airports recorded a volume of more than 8 million tonnes, representing 71% of the total freight and mail reported by all EU-25 airports.

# Top 10 EU airports in total air passenger transport in 2003

**Graph 1: Development of the top 10 EU airports between 1993 and 2003 (1 000 passengers)**
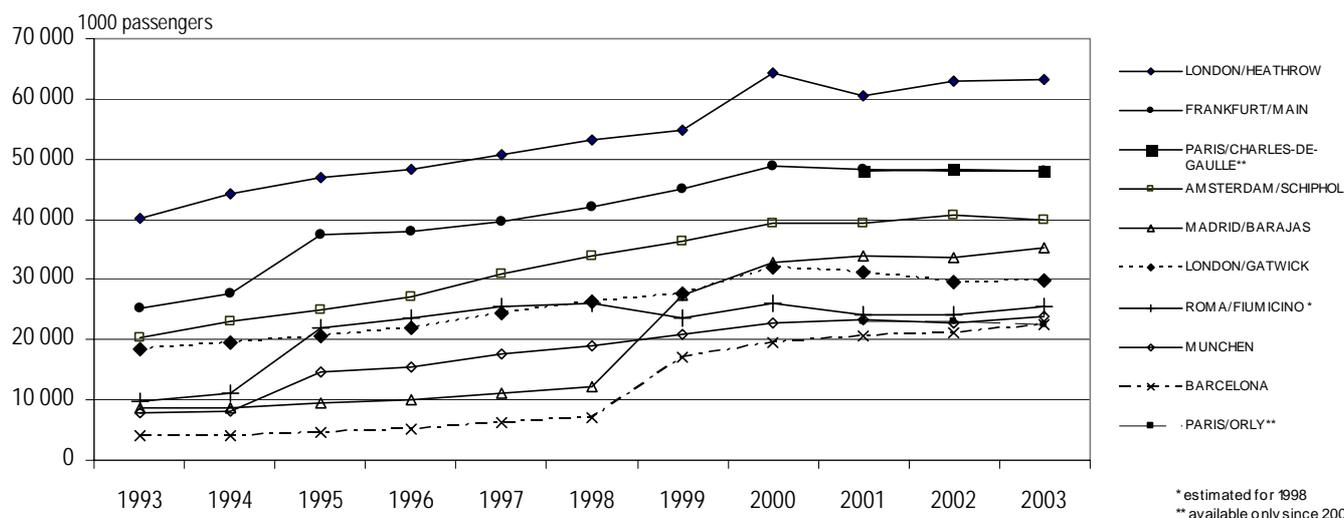


Between 1993 and 2000, all the top 10 EU airports registered a continuing increase in passenger numbers with the exception of Roma/Fiumicino where there was a decrease between 1998 and 1999 due to the opening of the new international hub at Milano/Malpensa. However, 2000 saw a rebound in traffic at Roma/Fiumicino due to the Jubilee of the Catholic Church.

In 2001 and at the beginning of 2002, the volume of air passenger transport to and from the top 10 EU airports was depressed by the events of 11 September 2001. For the majority of the top 10 EU airports, recovery began in the second half of 2002.

However, for some of them the volume of extra-EU passenger transport has been affected during the first half of 2003 (until July 2003), because of the outbreak of SARS in the Far East and the war in Iraq. These events combined with the specific situation of the national air transport market, resulted in the decline of total volume of passengers transported to/from Paris/Orly, Amsterdam/Schiphol and Paris/Charles de Gaulle by 3.0%, 1.9% and 0.5% respectively.

Table 2 shows the share of the top 10 EU airports in their respective country. In France, Germany and the United Kingdom, the 2 airports belonging to the top 10 represented 57%, 51% and 47% respectively of the total passenger transport reported by these countries.

When considering the countries having two airports among the top 10 (DE, FR, ES and the UK), the airport appearing first in the ranking has a share of more than 50% in international extra-EU-25 transport for the concerned country. This shows that such airports are used by the corresponding national flag carriers as their main hubs for extra-EU traffic.

Given the size of the country and number of airports, the share of Amsterdam/Schiphol in the total transport of the Netherlands is understandable. Amsterdam-Schiphol airport figured in 2 of the top 10 international intra-EU-25 routes in 2003. The route Amsterdam/Schiphol – London/Heathrow was first with 2.1 million passengers and that with Barcelona carried 1.1 million.

**Table 2: Share of the top 10 EU airports in air passenger transport of their respective countries – 2003**

| Top 10 airports | Country | Share of the airport in the total country | | | |
|---|---|---|---|---|---|
| | | National transport | International intra EU-25 transport | International extra EU-25 transport | Total transport |
| LONDON/HEATHROW | UNITED KINGDOM | 15% | 24% | 65% | 32% |
| FRANKFURT/MAIN | GERMANY | 18% | 30% | 55% | 34% |
| PARIS/CHARLES-DE-GAULLE | FRANCE | 10% | 55% | 70% | 39% |
| AMSTERDAM/SCHIPHOL | NETHERLANDS | 42% | 96% | 98% | 96% |
| MADRID/BARAJAS | SPAIN | 28% | 14% | 62% | 23% |
| LONDON/GATWICK | UNITED KINGDOM | 9% | 16% | 19% | 15% |
| ROMA/FIUMICINO | ITALY | 27% | 23% | 36% | 27% |
| MUNCHEN | GERMANY | 20% | 17% | 13% | 17% |
| BARCELONA | SPAIN | 18% | 13% | 15% | 15% |
| PARIS/ORLY | FRANCE | 29% | 8% | 13% | 18% |

**Map 1: Total air passenger transport at the top 10 EU airports – share by destination in 2003**
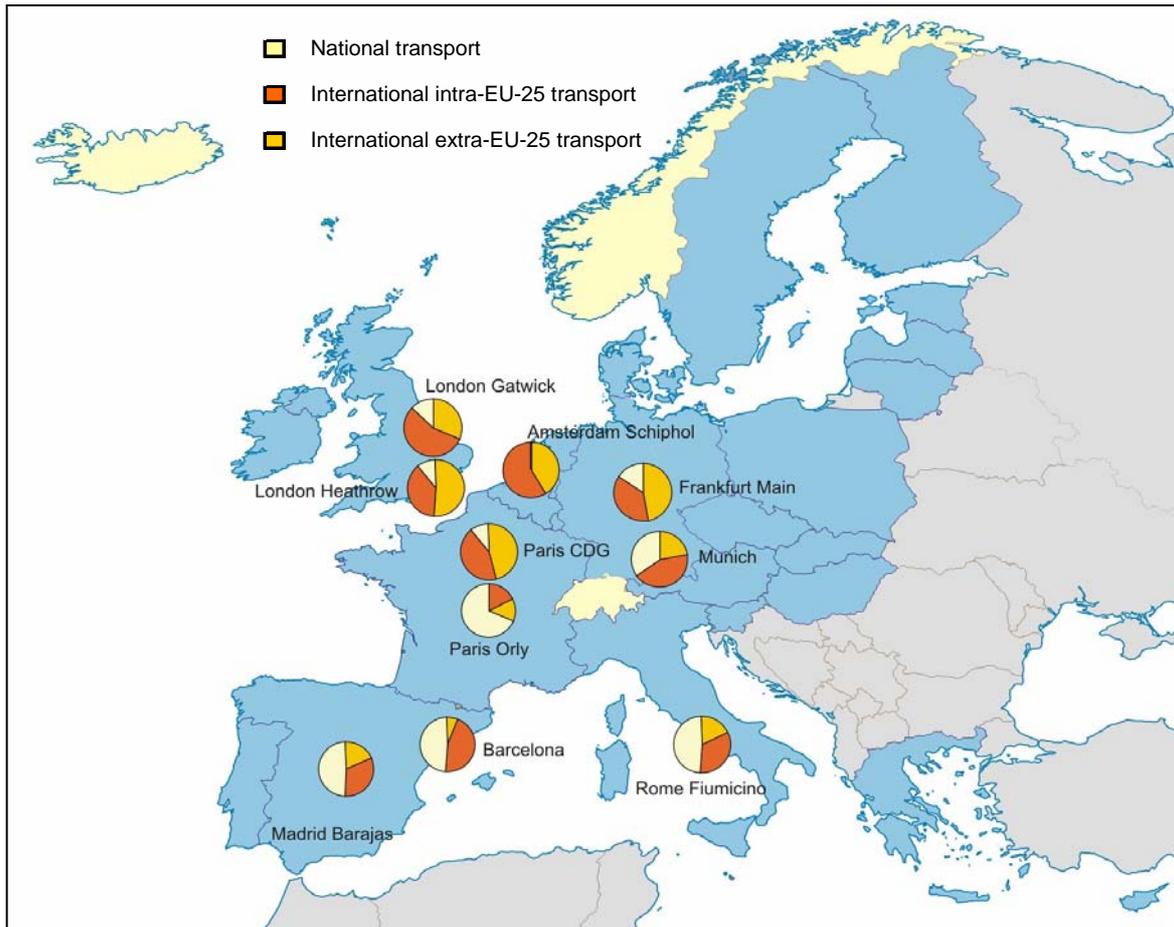


Madrid/Barajas and Barcelona accounted together for 38% of the total air transport registered in Spain and 46% of the Spanish national air transport. As Map 1 indicates about half of the traffic of each of these airports was national. The route Madrid/Barajas-Barcelona, with more than 4 million passengers in 2003, was the top airport-to-airport route reported in the EU-25. In terms of national routes in the EU-25 with the highest number of passengers, Spain had 3 of the top 10 routes.

The situation was similar in Italy. The major national route was between Roma/Fiumicino and Milano/Linate with 2.4 million passengers in 2003; the second highest national route in the EU-25 and the second highest intra-EU-25 route. Half of the traffic of Roma/Fiumicino was national and less than a third international intra-EU-25 transport. This airport had a share of 23% in the Italian international intra-EU-25 transport, slightly higher than Milano/Malpensa which also plays an important role in terms of international intra-EU-25 transport.

In France there is a separation in the role of Paris airports: Charles de Gaulle airport is focused on international traffic while Orly airport is concentrated on national transport.

The international intra-EU-25 routes from Paris/Charles de Gaulle recording over a million passengers in 2003 were with London/Heathrow (2 million), Roma/Fiumicino

(1.2 million) and Madrid/Barajas (1 million). The major national routes for France were to/from Paris/Orly where two-thirds of the traffic was national. There were 3 routes in the top 10 national: Toulouse/Blagnac (2.2 million), Nice/Cote D'Azur (1.9 million) and Marseille/Marignane (1.5 million).

London airports dominated the list of the top 10 international intra-EU-25 routes with Heathrow having 5 and Gatwick one. In addition to the previously mentioned routes linking Heathrow with Amsterdam/Schiphol and Paris/Charles de Gaulle, there were 2 million passengers on the route with Dublin. The other top 10 routes from London were Heathrow–Frankfurt/Main (1.5 million), Heathrow - Madrid/Barajas (1.1 million) and London/Gatwick–Malaga (1.1 million).

Regarding Frankfurt/Main and Munich, the share of international intra-EU-25 transport was relatively similar for both airports, 37% and 43% respectively. However, differences can be observed when comparing the other destinations for these two airports. While international extra-EU-25 transport prevailed for Frankfurt/Main (with a share of 47% of the total transport), the opposite was true for Munich, for which national transport had a share of 35%, while international extra-EU-25 transport represented 22% of the total transport registered by this airport.

**Graph 2: Top 10 EU airports in total passenger transport in 2003: Main partner country and main partner airport (1 000 passengers)**



Legend: ☐ Transport to/from main partner airport ■ Transport to/from main partner country ☐ Total transport
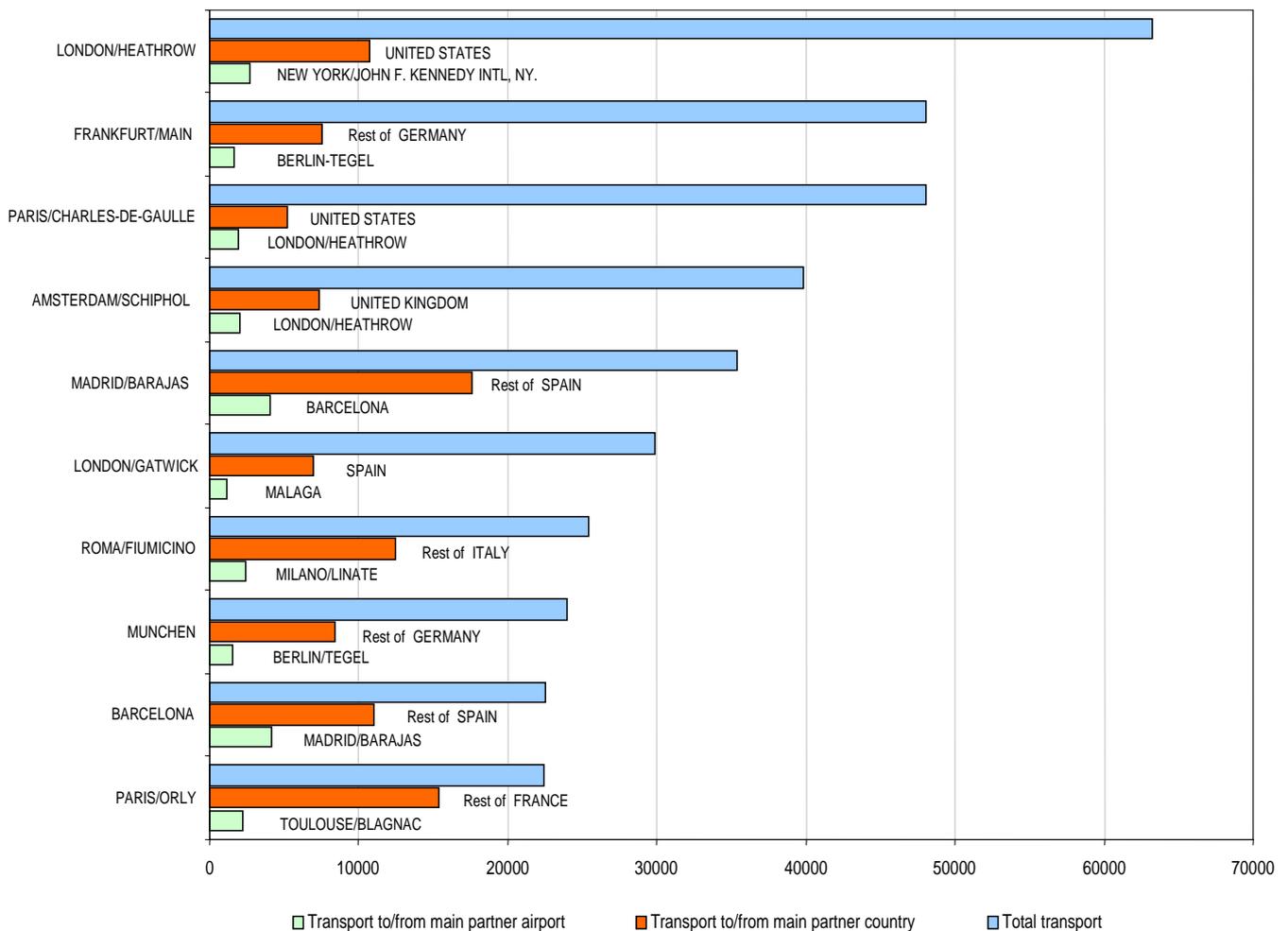
The main partner country for London/Heathrow was the USA with over 10 million passengers using this airport to travel to/from the USA. Passengers on these routes made up one sixth of the total passengers using Heathrow in 2003. New York/John F Kennedy was the main partner airport with 2.7 million passengers – a quarter of the total using a Heathrow to the USA route. This route had the highest number of passengers on international extra-EU-25 routes in 2003.

The USA with 5.2 million passengers was also the main partner country for Paris/Charles de Gaulle followed by the rest of France with 5.1 million. However, the main partner airport was London/ Heathrow. In contrast, the rest of France with 15.4 million passengers was the main partner country for Paris/Orly with Toulouse/Blagnac the main partner airport.

For Frankfurt/Main and Munchen, the rest of Germany formed the main partner country. Both airports had important national links with Berlin/Tegel which figured in the top 10 national EU-25 routes. The route Berlin/Tegel - Frankfurt/Main carried 1.6 million passengers and Berlin-Tegel – Munchen 1.5 million.

The rest of the country was also the main partner for the top airports in Spain. The route between Madrid/Barajas and Barcelona has already been noted as the top airport-to-airport route in 2003, but their domestic connections with Palma de Mallorca, Malaga and the Canary Islands recorded also significant passenger figures.

With the long association of Spain as a holiday location for UK citizens, it is not surprising that it is the main partner country for London/Gatwick. Seven million passengers, many on charter flights, used Gatwick airport to travel to/from Spain. Malaga was the main partner airport closely followed by Palma de Mallorca.

The 7.3 million passengers using Amsterdam/Schiphol to travel to/from the UK make the UK the main partner country for this airport. For some of these passengers, the reason for travelling to/from Amsterdam would be to take flights from Amsterdam/Schiphol to extra EU-25 countries. London/Heathrow was the main partner airport in 2003.

**Table 3: International extra-EU air passenger transport to/from the top 10 EU airports in 2003: number of passengers (in 1 000), share of each world region and main partner country**

| | Total extra-EU-25 transport | Europe except EU-25 | Africa | America | Asia & Australasia | Extra-EU-25 main partner country | Total transport to/from main extra-EU-25 partner country |
|---|---|---|---|---|---|---|---|
| LONDON/HEATHROW | 32 004 | 12% | 11% | **43%** | 34% | USA | 10 684 |
| FRANKFURT/MAIN | 22 493 | 22% | 8% | **38%** | 31% | USA | 5 822 |
| PARIS/CHARLES-DE-GAULLE | 21 897 | 16% | 22% | **38%** | 24% | USA | 5 201 |
| AMSTERDAM/SCHIPHOL | 16 631 | 27% | 11% | **39%** | 23% | USA | 4 049 |
| MADRID/BARAJAS | 6 794 | 12% | 9% | **76%** | 4% | USA | 1 094 |
| LONDON/GATWICK | 9 355 | 20% | 8% | **64%** | 8% | USA | 4 054 |
| ROMA/FIUMICINO | 4 667 | 23% | 19% | **30%** | 27% | USA | 965 |
| MUNCHEN | 5 338 | **49%** | 12% | 25% | 15% | TURKEY | 1 134 |
| BARCELONA | 1 641 | **63%** | 14% | 13% | 10% | SWITZERLAND | 605 |
| PARIS/ORLY | 3 996 | 13% | **65%** | 12% | 10% | ALGERIA | 806 |

In view of the size of the country, its population and its economy, it is not surprising that the USA is the main extra-EU-25 partner country for the top 7 EU airports in 2003 as shown in Table 3. Routes between these 7 airports and the USA carried just under 32 million passengers (78.2% of total EU-USA traffic) of whom one third (10.7 million) used London/Heathrow. Of the top 10 international extra-EU-25 routes, London/Heathrow appears in 8 of them and of these, 4 routes are to airports in the USA and one to Canada: routes with New York/John F Kennedy, Chicago/O'Hare, Los Angeles/Intl., Toronto/Intl. and Washington/Dulles. Other top 10 extra-EU-25 routes for Heathrow were with Hong Kong, Singapore/Changi and Johannesburg.

The main partner airport in the USA for Paris/Charles de Gaulle was also New York/John F Kennedy with 1.3 million passengers. However, other top 10 airports had a different main USA gateway: Frankfurt/Main with Chicago/O'Hare (0.8 million), Amsterdam/Schiphol with Detroit/Metropolitan (0.7 million) and London Gatwick with Orlando/Intl. (0.8 million).

The main extra-EU-25 partner country of the second top airport of Germany, France and Spain was not the USA. Particularly significant was the connection between Germany and Turkey: in addition to the 1.1 million passengers shown in Table 3 for Munchen airport 1.5 million passengers travelled between Frankfurt/Main and the Turkish airports.

## The top 10 EU airports in total freight and mail air transport in 2003

**Table 4: Top 10 EU airports in freight and mail air transport in 2003 (in 1 000 tonnes)**

| Rank | Airports | Volume of freight in 2003 (1000 t) | Volume of freight in 2002 (1000 t) | Growth 2002- 2003 | Share in total EU-25 transport in 2003 |
|---|---|---|---|---|---|
| 1 | FRANKFURT/MAIN | 1 643 | 1 628 | 0,9% | 14,5% |
| 2 | AMSTERDAM/SCHIPHOL | 1 353 | 1 240 | 9,2% | 11,9% |
| 3 | LONDON/HEATHROW | 1 300 | 1 235 | 5,3% | 11,4% |
| 4 | PARIS/CHARLES-DE-GAULLE | 1 194 | 1 218 | -2,0% | 10,5% |
| 5 | BRUXELLES/NATIONAL | 607 | 499 | 21,4% | 5,3% |
| 6 | LUXEMBOURG | 603 | 550 | 9,5% | 5,3% |
| 7 | KÖLN/BONN | 530 | 508 | 4,4% | 4,7% |
| 8 | MILANO/MALPENSA | 318 | : | : | 2,8% |
| 9 | MADRID/BARAJAS | 296 | 293 | 1,1% | 2,6% |
| 10 | EAST MIDLANDS (UK) | 238 | 219 | 8,6% | 2,1% |
| | Total Top 10 | 8 082 | 7 708 * | 4,9% * | 71,1% |

\* Estimated

In 2003, the main EU airport in terms of freight transport was Frankfurt/Main, with more than 1.6 million tonnes, followed by Amsterdam/Schiphol and London/Heathrow (with almost 1.4 and 1.3 million tonnes respectively). The volume of freight and mail handled by the top 10 airports reached more than 8 million tonnes in 2003 with an estimated growth from the previous year of 4.9%. However, the top four airports represented almost half (48.3%) of the total EU-25 freight and mail transported by air.

Although Brussels airport exhibited a high growth between 2002 and 2003, the importance of this evolution must be considered with care because the figures reported for 2002 seem to be underestimated. The significant growth in freight transport registered in 2003 at Amsterdam/Schiphol was due to a sharp rise in transport using full-freighters. Due to the drop in passenger transport in 2003, passenger flights were cancelled and the freight capacity declined. To handle the freight to be transported, some carriers increased the frequencies of the full-freighter service, generating a rise in cargo transport.

Comparing the top 10 list of airports for passengers and for freight, it can be seen that the top 4 airports are the same but with different ranking. The other airport appearing on both lists is Madrid/Barajas. However, four relatively smaller airports in terms of passenger transport appear in the top 10 airport list for freight transport: Bruxelles/National, Luxembourg, Köln/Bonn and East Midlands (UK). These airports have developed as cargo distribution hubs profiting from smaller passenger transport congestion and very good connections to main road networks. In addition, Bruxelles/National, Köln/Bonn and East Midlands profit from the presence of cargo express companies generating a rise in cargo transport.

**Map 2: Total freight and mail air transport at the top 10 EU airports – share by destination in 2003**
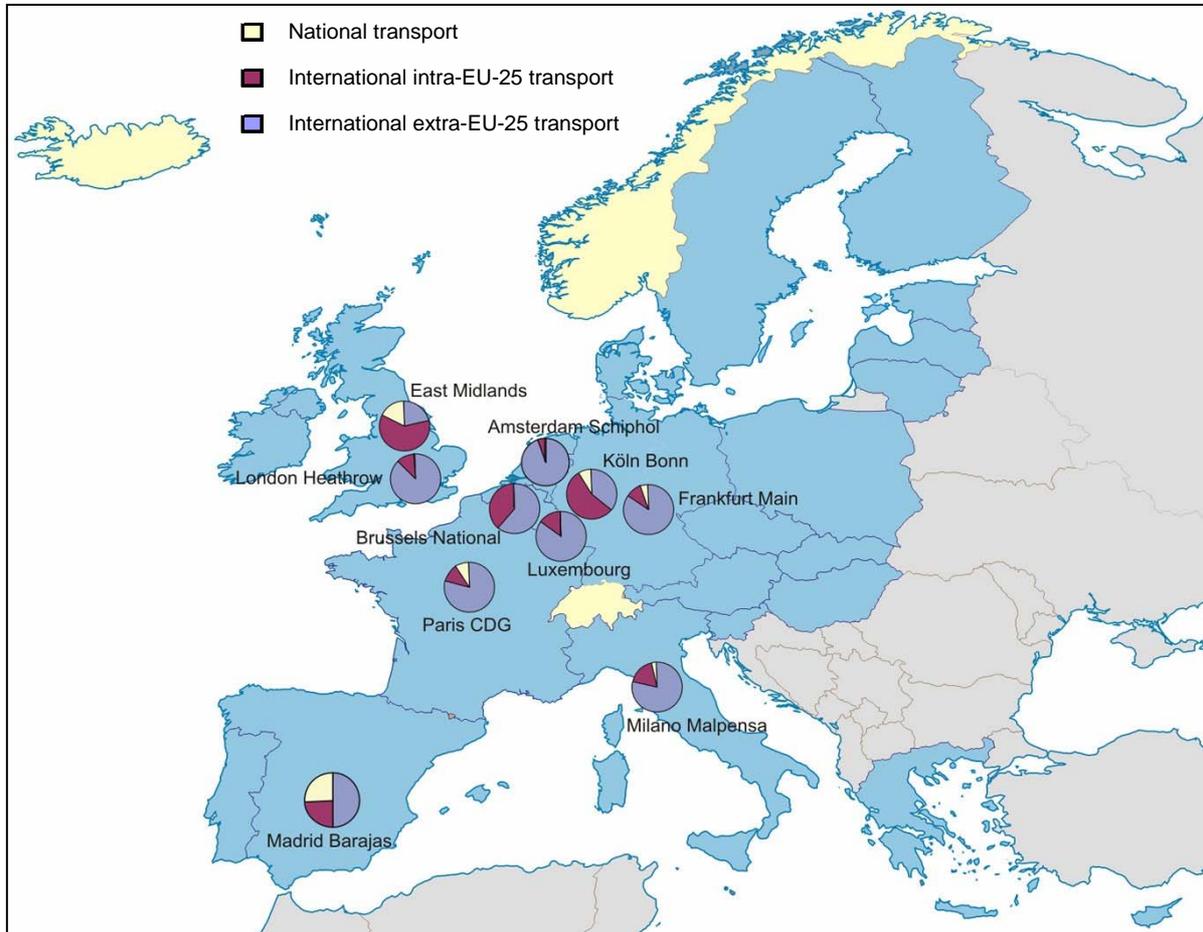


Map 2 presents the shares of national, international intra-EU-25 and international extra-EU-25 in terms of freight transport at the 10 main EU-25 airports. While the share of national transport was small (with the exception of Madrid/Barajas), those of international intra-EU and international extra-EU were very different between the airports considered.

For six out of the 10 airports (Amsterdam/Schiphol, Frankfurt/Main, London/Heathrow, Luxembourg, Milano/Malpensa and Paris/Charles de Gaulle), international extra-EU freight transport was dominant; its share being equal to, or in excess of, 78%. The tonnage of international extra-EU freight transport was over one million tonnes for Amsterdam, Frankfurt/Main and London/Heathrow, just under one million for Paris/Charles de Gaulle, half a million for Luxembourg and a quarter of a million for Milano/Malpensa.

Madrid/Barajas registered the highest share of national transport within the 10 most important airports in terms of freight transport. Its central position in Spain makes it by far the most important airport of the country when considering domestic freight transport. However, the tonnage registered as national transport at Madrid/Barajas (75 thousand tonnes) was similar to that at Frankfurt/Main and less than the 106 thousand tonnes for national transport at Paris/Charles de Gaulle. London Heathrow was the top EU-25 airport in terms of freight transport to/from America -almost 508 thousand tonnes- while Amsterdam was the top airport for freight transport to/from Africa (144 thousand tonnes). Frankfurt/Main was however dominant in terms of freight transport to/from Asia and Australasia as well as to/from the rest of Europe, with 771 and 38 thousand tonnes respectively.

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# ➤ *ESSENTIAL INFORMATION – METHODOLOGICAL NOTES*

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**Data sources**

All figures presented in this publication have been extracted from the Eurostat aviation database, which contains international air transport data from 1993. The database is available online from the Eurostat web page.

Data for the Member States who joined the EU on 1 May 2004 are increasingly becoming available but have not yet reached the stage allowing a full integration alongside the older Member States.

**Main Definitions**

The definitions used on air transport statistics are included in the Commission Regulation (EC) 1358/2003 implementing Regulation (EC) 437/2003 of the European Parliament and of the Council on statistical returns in respect of the carriage of passengers, freight and mail by air. The main definitions used are the following:

Flight stage (FS). The operation of an aircraft from take-off to its next landing. This is linked to the definition of passengers on board.

On Flight Origin and Destination (OFOD). Traffic on a commercial air service identified by a unique flight number subdivided by airport pairs in accordance with the point of embarkation and point of disembarkation on that flight. This is linked to the definition of passengers carried.

Passengers on board. All passengers on board of the aircraft upon landing at the reporting airport or at taking-off from the reporting airport. This includes direct transit passengers.

Passengers carried. All passengers on a particular flight counted once only and not repeatedly on each individual stage of that flight. This excludes direct transit passengers.

Direct transit passengers. Passengers who, after a short stop, continue their journey on the same aircraft on a flight having the same flight number as the flight on which they arrive.

The difference between On Flight Origin/Destination and Flight Stage data can be illustrated by the following example: a flight is operated on a route New York-London-Paris. The passenger traffic consists of 185 passengers travelling from New York to London, 135 from New York to Paris and 75 from London to Paris. Then:

- In terms of OFOD data, the figures recorded are 185 passengers New York-London, 135 passengers New York-Paris and 75 passengers London-Paris. New York would record the figures for New York-London and New York-Paris; London would record New York-London and London-Paris; and Paris would record New York-Paris and London-Paris.

- In terms of FS data, there are two flight stages and the figures recorded are; New York-London 320=(185+135) passengers; London-Paris 210=(135+75) passengers.

**Table 1, Table 2 and Table 4**

The figures for total transport by country or at EU-25 level on which percentages are based include double counting for both national and international intra-EU-25 passenger and freight transport. Those figures are actually the sum of the data reported by each declaring airport in the EU-25 for national and international intra-EU-25 transport respectively. If double counting was excluded, the share of national and international intra-EU-25 passenger and freight transport would be over-estimated.

**Graph 1**

From 1993 until 2000, only data for total Paris airports were provided by France.

In 1998 data provided by Italy for Roma/Fiumicino airport were not complete and needed to be estimated.

**Graph 2**

Paris/Charles de Gaulle airport only provides data to/from London Airport system (regrouping London/Heathrow, London/Gatwick, London/Stansted, London/Luton and London-city airports). The figure for the route Paris/Charles de Gaulle-London/Heathrow has been estimated using the United Kingdom declarations.

**Table 4**

Italy did not provide freight and mail data in 2002. The aggregate for top 10 for that year has been estimated using the data reported by Milano/Malpensa in 2003.

**World regions**

The component countries comprising the five world regions (EU, Europe-except EU, America, Asia & Australasia, Africa) as defined for Table 3 relating to extra-EU air transport can be obtained upon request. The world regions of Asia and Australasia (including South Sea Islands and Antarctica) have been grouped together in the interest of clarity.

The 'world regions' as defined in this publication correspond to the geonomenclature used by Eurostat (OJ L313, 28.11.2003, Commission Regulation (EC) 2081/2003 on the nomenclature of countries and territories for the external trade statistics of the Community and statistics of trade between Member States).

**International Extra-EU passenger transport**

The international extra-EU figures contain the 'unknown' destinations.

# *Further information:*

**Databases:** <u>EUROSTAT Website/Home page/Data</u>

📁 **Transport**
- 📁 Main indicators - Transport
- 📁 Railway transport
- 📁 Road transport
- 📁 Inland waterways transport
- 📁 Oil pipeline transport
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  - 📁 **Transport measurement - passengers**
  - 📁 **Transport measurement - freight and mail**
- 📁 Various/other transport data

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