



EUROCONTROL
Glossary for Flight
Statistics & Forecasts

Glossary for Flight Statistics & Forecasts

Executive Summary

BACKGROUND:

1. The Air Traffic Statistics and Forecast (STATFOR) service was established by the EUROCONTROL Agency and has been active since 1967. The objective of the STATFOR service is to provide statistics and forecasts on air traffic in Europe and to monitor and analyse the evolution of the Air Transport Industry. One of the aims is to ensure a clear, complete, and consistent view on air traffic statistics and forecasts (“STATFOR Service Charter”).
2. The STATFOR User Group consists of internal and external stakeholders of STATFOR. Participants are direct users and/or contributors to the STATFOR Forecasts including EUROCONTROL Agency (performance planning and analysis), ECAC Member and other invited States, Air Navigation Service Providers, ICAO, European Commission, Airspace User Organisations, Industry including Airframe Manufacturers, Airport Organisations, Military Airspace User Organisations, and Research Establishments. The Agency also welcomes the participation of Universities. Efficient sharing of statistical information and maximising the synergy on activities in the field of forecasting are tasks undertaken by the STATFOR User Group (“STATFOR User Group Terms of Reference”).
3. On June 26th, 2003 a meeting of the STATFOR User Group took place in Brussels. One of the decisions was that there was a need to create a uniform glossary of terms on air traffic statistics. At present, it is a common practice in the Industry that terms are ambiguous (one and the same term is used in different contexts). Thus the collaboration among the STATFOR User Group participants is difficult.
4. The Eurostat glossary (“Draft Glossary Version 6 on Air Transport Statistics”) and ICAO glossary (“International Civil Aviation Vocabulary, Doc 7313 - Second Edition”) were used as a starting point for creation of “Glossary for Flight Statistics and Forecasts.” The Eurostat glossary focuses on passenger and freights statistics, hence the need to complement them with terms concerning flight statistics.
5. Throughout this glossary we give definitions for terms falling under the umbrella of the Central Route Charges Office (CRCO) and Central Flow Management Unit (CFMU). We are not aiming at re-defining those terms. We are simply recording our understanding of what they mean.
6. “Glossary for Flight Statistics and Forecasts” has been reviewed by the EUROCONTROL community of forecasters and statisticians as well as STATFOR User Group. This is the first full issue and comments are invited to statfor.info@eurocontrol.int.

OBJECTIVE:

To create a uniform glossary of terms on air transport statistics and forecasting.

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GLOSSARY

1. TRANSPORT MEASUREMENTS

1.1 DISTANCE, TIME

1.1.1 Airport-to-airport distance ^{ICAO/Eurostat}

For statistical purposes, airport-to-airport distance means the airport-to-airport great circle distance in kilometres.

The measurement is based on airport co-ordinates.

1.1.2 Aircraft kilometres performed ^{ICAO+}

Aircraft kilometres equal the sum of the products obtained by multiplying the number of **flight stages** by the **airport-to-airport distance** for each stage.

1.1.3 Planned distance

Distance on the route network the aircraft is planned to follow according to the last filed flight plan before the aircraft departure. This is the sum of the great circle distances between the waypoints.

1.1.4 Actual distance

Distance on the route the aircraft actually flies.

*In practice the great circle distances between the waypoints on the **route network** the aircraft follows might be used as an approximation of an actual distance.*

1.1.5 Charging distance ^{EUROCONTROL/CRCO}

Great circle distance between the point of entry (or airport of departure) and exit of the country airspace (or airport of destination) under the Route per State Overflown (RSO) principle, less 20 km for each take-off and landing on the territory of a member State.

1.1.6 Block-to-block time ^{ICAO/Eurostat+}

The total time measured from the aircraft's initial move from its departure point until its final stop at its arrival point.

*Block-to-block time = **flight path time** + **taxi time***

1.1.7 Flight path time

The total time measured from the beginning of take off roll till runway turn off.

1.1.8 Taxi time

The sum of times measured:

- from the aircraft initial move till beginning of take off roll,
- from runway turn off till the aircraft final stop at its arrival point.

1.2 MOVEMENTS, FLOWS, FLIGHTS, TRAFFIC

1.2.1 Movement

The association of a **flight stage** with an airspace volume or two-dimensional area. Each such association is bounded in time by 2 flight stage events: begin/entry and end/exit. In relation to an airspace volume, movement can be interrupted. In relation to two-dimensional area, movement cannot be interrupted.

*Movements are divided to **Internals, Arrivals, Departures** and **Overflights**.*

1.2.2 Arrival

Arrival is a **movement**, which starts with the entry into the airspace volume or two-dimensional area. It ends with arrival at an aerodrome belonging to the airspace volume or two-dimensional area considered.

1.2.3 Departure

Departure is a **movement**, which starts on aerodrome belonging to the airspace volume or two-dimensional area considered. It ends with exit from the airspace volume or two-dimensional area considered.

1.2.4 Internal

Internal is a **movement**, which starts with departure aerodrome and ends with arrival aerodrome both belonging to the airspace volume or two-dimensional area considered.

1.2.5 Overflight

Overflight is a **movement**, which starts with entry and ends with exit of the airspace volume considered.

Examples of movements:

*Let's assume France's airspace is the airspace volume considered. Every **movement**, which passes over France, falls into one and only one of the four categories: **departures, arrivals, overflights**, and **internals**. If the **movement** started and ended in France then it is called **internal**. If a **movement** started in France but it ended abroad then it is a **departure**. On the other hand, if a **flight stage** started in a foreign country and the **movement** entered to the French airspace volume and ended in a French airport then it is called an **arrival**. Finally a **movement** which passes over France but never lands there is called an **overflight**.*

*As the airspace volume considered changes, the same **flight stage** would be counted differently in terms of **movements**. Let's think about a **flight stage** from Germany to France. From the perspective of the **CFMU Area** this **flight stage** will be counted as an **internal movement**. From the perspective of German airspace volume, this **flight stage** will be counted as **departure movement**, and from the perspective of French airspace volume it will be counted as an **arrival movement**.*

*A **flight stage** can be an **internal movement** for airspace volume but also an **overflight** for another airspace volume. Guernsey to London is an **internal UK movement** which overflies France.*

*An airspace volume with no **airports** (e.g. Maastricht UAC airspace) can have only **overflights**.*

*An **airport** cannot have **overflights**.*

One gate-to-gate **domestic flight stage** will be recorded as one **internal** movement in country statistics, but will show up as two airport movements (one for each of the airports).

A **circular flight stage** will be counted as one **internal movement** with regards to the airspace volume it departs from, even if it leaves it and returns. A **circular flight stage** will be counted as two **movements** with regards to an **airport** or **ODZ**: one **arrival movement** and one **departure movement**.

A **flight stage** which enters, exits and then re-enters an airspace volume is counted as only one **movement**.

1.2.6 Daily total

Number of **movements** associated with an airspace volume or two-dimensional area, which enter the airspace or two-dimensional area on a given day.

1.2.7 Traffic flow

- The collection of all **flight stages** which start in an origin region and end in a destination (mono-directional) or
- the collection of all **flight stages** which start/end in an origin region and end/start in a destination region (bi-directional)

1.2.8 The traffic flow density

The number of **flight stages** in a given **traffic flow** which start in a given period.

1.2.9 Short-haul

Traffic flow, for which every **airport-to-airport distance** is less than or equal to 1500 km.

1.2.10 Medium-haul

Traffic flow, for which every **airport-to-airport distance** is more than 1500 km and less than or equal to 4000 km.

1.2.11 Long-haul

Traffic flow, for which every **airport-to-airport distance** is more than to 4000 km.

1.2.12 Transatlantic flow

Traffic flow, which either starts or ends in **transatlantic ODZ**. It is subdivided into **eastbound transatlantic flow** and **westbound transatlantic flow**.

1.2.13 Eastbound transatlantic flow

Traffic flow, which starts in **transatlantic ODZ** and ends in **non-atlantic ODZ**.

1.2.14 Westbound transatlantic flow

Traffic flow, which starts in **non-atlantic ODZ** and ends in **transatlantic ODZ**.

1.2.15 Flight stage ^{ICAO/Eurostat}

The operation of an **aircraft** from take-off to its next landing.

1.2.16 International flight stage (air transport operator) ^{ICAO}

A **flight stage** with one or both terminals in the territory of a State, other than the State in which the air transport operator has its main place of business.

Technical stops do not affect the classification of flight stages.

1.2.17 Domestic flight stage (air transport operator) ^{ICAO}

A **flight stage** not classifiable as **international**. Domestic flight stages include all **flight stages** flown between points within the domestic boundaries of a State by an air carrier whose principal place of business is in that State.

Currently STATFOR uses the term “internal” to avoid need for ‘main place of business’ data.

1.2.18 Circular Flight Stage

A **flight stage** for which both departure and arrival airports are the same.

1.2.19 Instrument Flight Rules Flight Stage (IFR Flight Stage)

A **flight stage** for which at least a part is flown using **instrument flight rules**.

IFR Flight Stage can be either Complete IFR Flight Stage or Mixed I/VFR Flight Stage.

1.2.20 Visual Flight Rules Flight Stage (VFR Flight Stage)

A **flight stage** which is flown using only **visual flight rules**.

1.2.21 Complete Instrument Flight Rules Flight Stage (Complete IFR Flight Stage)

A **flight stage** which is flown using **instrument flight rules** only.

1.2.22 Mixed Instrument/Visual Flight Rules Flight Stage (Mixed I/VFR Flight Stage)

A **flight stage** which is flown using **IFR** during a part of it and **VFR** during another part.

1.2.23 Flight ^{ICAO}

The operation of an aircraft on a **flight stage** or number of flight stages with the same **flight number**.

1.2.24 Military flight

A **flight**, which is defined ‘military’ by its operator.

*Whether a flight is a military or not depends on its purpose and not the **aircraft** type.*

Example:

*When civil **aircraft** is used for a military purpose, the **flight** will be classified as military.*

1.2.25 General aviation operations – commercial ^{ICAO+}

All commercial civil aviation operations other than **scheduled air services** and non-scheduled air transport operations for remuneration or hire. The main categories of commercial general aviation are as follows.

- **Air taxi**
- Photographic
- Sightseeing trips
- Advertising
- Agricultural/crop spraying
- Medical/air ambulance trips
- Other commercial

1.2.26 General aviation operations – non-commercial ^{Eurostat}

All non-commercial civil aviation operations other than **scheduled air services** and non-scheduled air transport operations for remuneration or hire. The main categories of non-commercial general aviation are as follows.

- **State Flight**
- Instructional flying
- Private flying
- Business flying
- Parachute and glider launch flights
- **Technical stops**
- **Test flights**
- **Positioning flights**
- Other non-commercial

1.2.27 Operational Air Traffic (OAT) ^{EUROCONTROL/EATM}

Encompasses all flights which do not comply with the provisions for **GAT** and for which rules and procedures have been specified by appropriate national authorities.

1.2.28 General Air Traffic (GAT) ^{EUROCONTROL/EATM}

Encompasses all flight conducted in accordance with the rules and procedures of ICAO.

1.2.29 Technical stops ^{ICAO+}

Landing for technical purposes which does not involve taking or discharging passengers, cargo or mail.

*Technical stop should not result in any **flight stage** being classified differently than would have been the case had the technical stop not been made.*

1.2.30 State Flight ^{ICAO/Eurostat+}

Any **flight** declared as a "**state flight**" by State authorities.

Any flight performed by **aircraft** for military, customs, police or other law enforcement services of a State.

1.2.31 Positioning flight ^{ICAO/Eurostat}

A non-revenue **flight** carried out to position an **aircraft** for a scheduled or non-scheduled flight or service.

1.2.32 Test flight ^{ICAO/Eurostat}

A non-revenue **flight** carried out for the purpose of testing the aircraft prior to placing it in operational service

1.2.33 Commercial air flight ^{ICAO/Eurostat+}

An air transport **flight** performed for the transport of **passengers** and/or **freight** and **mail**, for remuneration or for hire.

1.2.34 Commercial air service ^{ICAO/Eurostat}

An air transport **flight** or series of flights for the public transport of **passengers** and/or **freight** and **mail**, for remuneration or for hire.

*The air service may be either **scheduled** or **non-scheduled**.*

1.2.35 Scheduled air service ^{ICAO/Eurostat}

A **commercial air service** operated according to a published timetable, or with such a regular frequency that it constitutes an easily recognisable systematic series of **flights**.

*Includes extra **flight stages** occasioned by overflow traffic from scheduled flights.*

1.2.36 Non-scheduled air service ^{ACI/Eurostat}

A **commercial air service** other than **scheduled air service**.

1.2.37 Air taxi flights ^{Eurostat}

Non-scheduled commercial air transport flights by an **aircraft** with a maximum take-off weight of 5.7 tonnes or less.

The limits set in this definition reflect the requirements of the air carrier licensing regulation.

1.2.38 Low-cost flights

All flights by **low-cost carriers**.

Thus a heavily discounted flight by Lufthansa will not classify as low-cost flight. STATFOR uses the definition given in STATFOR Document 80.

1.2.39 Traffic (airports) ^{ICAO}

Airport traffic is one or both of the following: a) **aircraft movements**, b) **passengers, freight** and **mail**, departing or arriving at airports.

1.3 DIVISION OF AIRSPACE VOLUME

1.3.1 Airport pair

Two airports between which at least one **flight stage** is recorded in the past.

1.3.2 City pair ^{ICAO}

Two cities between which travel is authorised by a passenger ticket or part of a ticket or between which **freight** and **mail** shipments are made in accordance with a shipment document or a part of it (air waybill or mail delivery bill).

1.3.3 Origin Destination Zone (ODZ)

ODZ consists of an **airport** or a group of airports. Every airport falls into one and only one ODZs.

Examples of traditional ODZs:

ODZ name	Airports (ICAO locators)
France: North-East	LFEB, LFJL, LFST
Paris Orly	LFPO

1.3.4 Transatlantic Origin Destination Zone (Transatlantic ODZ)

A set of **airports** with 4-letter ICAO code which starts with letters: B***, C***, K***, M***, S***, T***, PA***, PO***, PF***, PP***.

This includes Iceland (BI), Greenland (BG*), but not Faroes Islands (EKVG).*

1.3.5 Non-Atlantic Origin Destination Zone (Non-Atlantic ODZ)

A set of **airports** which do not belong to **transatlantic ODZ**.

1.3.6 Origin Destination Zone pair (ODZ pair)

Pair of **ODZs**.

1.3.7 Area Control Centre (ACC) ^{ICAO/Eurostat}

Area Control Centre is a unit established to provide air traffic control service to controlled flights in control areas under its jurisdiction. ACC consists of **sectors**.

AUA might be controlled by an **ACC**.

1.3.8 Air Traffic Control Unit Airspace (AUA)

Airspace under provision of air traffic control service.

1.3.9 Sector

A small volume of airspace typically under the control of one or two controllers and allocated one radio frequency.

1.3.10 Sector group

A group of sectors convenient for flow and staff management.

1.3.11 Functional block of airspace The European Commission, Energy and Transport DG

Large block of airspace in future governed by one air traffic service provider or by several in close co-operation to improve efficiency and reduce costs by rationalizing provision.

1.3.12 Flight Information Region (FIR) ICAO

An airspace of defined dimensions within which flight information service and alerting service are provided.

1.3.13 Upper Flight Information Region (UIR)

Upper Flight Information Region is a **Flight Information Region**, which covers **upper airspace** only.

1.3.14 Traffic Zone

Traffic zone consists of a **Flight Information Region** or a group of Flight Information Regions. *This is independent of the country of origin of FIR.*

1.3.15 Upper airspace

Part of airspace above a variable vertical limit.

Example: Upper airspace starts above FL195 for Italy and above FL245 for Ireland.

1.3.16 Lower airspace

Part of airspace below a variable vertical limit.

1.3.17 Central Flow Management Unit Area (CFMU) Area EUROCONTROL/CFMU

Eurocontrol Central Flow Management Unit operational area.

*This refers to an airspace volume which is an aggregation of **FIRs**. Typically only **movements** in **upper airspace** are counted.*

*For the definition of CFMU, please refer to the webpage:
http://www.cfm.eurocontrol.int/mission_statement.html*

1.3.18 Eurocontrol Central Route Charges System Area in Year XX (CRCO Area/XX) EUROCONTROL/CRCO

Set of Eurocontrol member states participating in the multilateral route charging scheme at a given date.

1.3.19 European Air Traffic Management Applicability Area (EATM Applicability Area)

The airspace of the ECAC Member States without Iceland and overseas territories.

This geographical region might change.

1.3.20 European Civil Aviation Conference Area (ECAC Area) ^{ICAO}

European Civil Aviation Conference area is defined by the geographical boundary of that part of the airspace of the ICAO EUR Region, which is under jurisdiction of the ECAC Member States.

1.3.21 International Civil Aviation Organisation Regions (ICAO Regions) ^{ICAO}

The world is divided by ICAO in 8 different regions, each made up of a certain number of **Flight Information Regions**. Some of Flight Information Regions include the **Upper Flight Information Regions** as well. The eight ICAO Regions are:

- (a) Africa –Indian Ocean (AFI)
- (b) Caribbean (CAR)
- (c) Europe (EUR)
- (d) Middle East – Asia (MID/ASIA)
- (e) North America (NAM)
- (f) North Atlantic (NAT)
- (g) Pacific (PAC)
- (h) South America (SAM).

1.3.22 Eurocontrol Statistical Reference Area (ESRA)

A single area, consisting of a number of **FIRs/UIRs**, used as a reference by the Eurocontrol Agency.

The definition of ESRA is given at www.eurocontrol.int/statfor

1.3.23 Traffic Region

STATFOR classification of countries.

The current classification is available in STATFOR documents published at www.eurocontrol.int/statfor

1.4 PASSENGERS, MAIL, CARGO

1.4.1 Transport demand

The number of **passengers** or weight of **freight** or **mail** or **baggage** wanting to be carried, or having been carried.

It can describe actual, satisfied demand or unconstrained demand, depending on the context.

1.4.2 Passenger ^{Eurostat}

Any person, excluding on-duty members of the flight and cabin crews, who makes a journey by air.

Infants in arms are included.

1.4.3 Revenue passenger ^{ICAO/Eurostat}

A commercial **passenger** for whose transportation an air carrier receives commercial remuneration.

This definition includes, for example, (i) passengers travelling under publicly available promotional offers (for example “two-for-one”) or loyalty programmes (for redemption of frequent flier points); (ii) passengers travelling as compensation for denied boarding; (iii) passengers travelling under corporate discounts; (iv) passengers travelling under preferential fares (government, seamen, military, youth student etc.);

This definition excludes, for example, (i) persons travelling free; (ii) persons travelling at a fare or discount available only to employees of air carriers or their agents or only for the business of the carriers; (iii) infants who do not occupy a seat.

1.4.4 Non-revenue passenger ^{ICAO}

Passengers other than **revenue passengers**.

1.4.5 Terminal passengers ^{ACI}

Total of **terminating** and **transfer passengers**.

1.4.6 Terminating passengers ^{ACI}

Passengers starting or ending their trip at the designated **airport**.

*Terminating passengers exclude **direct transit passengers**.*

1.4.7 Direct transit passengers ^{ICAO/Eurostat}

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.

Passengers who change aircraft because of technical problems but continue on a flight with the same flight number are counted as direct transit passengers.

*On some flights with intermediate stops, the flight number changes at an **airport** to designate the change between an inbound and outbound flight. An example is a flight from Barcelona to Hamburg where the flight continues to Frankfurt before returning to Barcelona. Where passengers for an intermediate destination continue their journey on the same aircraft in such circumstances, they should be counted as direct transit passengers.*

1.4.8 Transfer or indirect transit passengers ^{ACI/Eurostat}

Passengers arriving and departing on a different **aircraft** within 24 hours, or on the same aircraft bearing different flight numbers. They are counted TWICE: once upon arrival and once on departure.

*On some **flights** with intermediate stops, the flight number changes at an airport to designate the change between an inbound and outbound flight. An example is a flight from Barcelona to Hamburg where the flight continues to Frankfurt before returning to Barcelona. Where passengers for an intermediate destination continue their journey on the same aircraft in such circumstances, they should not be counted as transfer or indirect transit passengers.*

1.4.9 Disembarked passengers ^{Eurostat}

Terminating passengers arriving at the reporting airport by air and arriving **transfer or indirect transit passengers**.

Direct transit passengers are not included.

1.4.10 Embarked passengers ^{Eurostat}

Terminating passengers leaving the reporting airport by air or departing **transfer or indirect transit passengers**.

Direct transit passengers are not included.

1.4.11 Passengers on board ^{Eurostat}

All **passengers** on board of the **aircraft** upon landing at the reporting airport or at taking off from the reporting airport.

All revenue and non revenue passengers on board an aircraft during a **flight stage**. **Includes direct transit passengers**.

1.4.12 Payload carried ^{ICAO}

The revenue load of **passengers, baggage, freight** and **mail** carried in the **aircraft** as measured in metric tonnes.

1.4.13 Passengers carried ^{ICAO/Eurostat}

All **passengers** on a particular flight (with one flight number) counted once only and not repeatedly on each individual **stage** of that flight.

All revenue and non revenue passengers whose journey begins or terminates at the reporting airport and **transfer passengers** joining or leaving the flight at the reporting airport. **Excludes direct transit passengers**.

1.4.14 Baggage ^{ICAO}

Personal property of **passengers** and crew loaded or carried on board an **aircraft** by agreement with the operator.

1.4.15 Diplomatic bag ^{ICAO}

A mail pouch used by governments to send official letters and dispatches.

1.4.16 Freight ^{ICAO/Eurostat}

Any property carried on an **aircraft** other than **mail**, stores and **baggage**. For statistical purposes, freight includes express freight and parcels and **diplomatic bags** but not passenger baggage. All freight, whether carried on passenger flights or on all-cargo services, should be included. All trucking operations using an air waybill should be excluded.

The weight of any container and packaging should be considered as freight.

1.4.17 Revenue freight ^{IATA}

Revenue freight is defined as all air freight for which any charge is made. The weight of a container should always be considered as revenue freight when travelling on a commercial air waybill. All freight, whether carried on passenger flights or on all-cargo services, should be included. All trucking operations using an air waybill should be excluded.

1.4.18 Freight tonnes carried ^{ICAO/IATA/Eurostat}

The number of tonnes of **freight** carried is obtained by counting each tonne of freight on a particular **flight** (with one flight number) once only. The same principle should be used in calculating mail tonnes carried.

*The weight of a container should always be considered as **revenue freight** when travelling on a commercial air waybill.*

*On some flights, the flight number changes at an **airport** to designate the change between an inbound and outbound flight but with intermediate stops. An example is a flight from Barcelona to Hamburg where the flight continues to Frankfurt before returning to Barcelona. Where freight for an intermediate destination continues its journey on the same aircraft in such circumstances, it should be counted twice because of the change of flight number.*

1.4.19 Mail ^{Eurostat}

Dispatches of correspondence and other objects carried on an aircraft, which have been dispatched by and intended for delivery to postal administrations.

*Express **freight** and express parcel shipments are excluded.*

1.4.20 Revenue mail ^{IATA}

The transportation of mail for which remuneration is received.

1.4.21 Passenger unit ^{Eurostat}

One passenger unit is equivalent to either one **passenger** or 100 kilograms of **freight** and **mail**.

1.4.22 Traffic unit ^{ICAO}

A traffic unit is equivalent to 1000 **passengers** or 100 tonnes of **freight** or **mail**.

*One traffic unit equals 1000 **passenger units**.*

1.4.23 Available tonne kilometres ^{ICAO/Eurostat}

A metric tonne of available payload space flown one kilometre. Tonne-kilometres available equals the sum of the products obtained by multiplying the number of tonnes available for the carriage of revenue load (**passengers, freight** and **mail**) on each **flight stage** by the **airport-to-airport distance**.

1.4.24 Passenger seats available ^{Eurostat}

The total number of passenger seats available for sale on an **aircraft** operating a **flight stage** between a pair of airports.

*On a **flight stage**, the total number of **revenue passengers** should not exceed the total number of passenger seats available for sale.*

*Includes seats which are already sold on a flight stage i.e. including those occupied by **direct transit passengers**.*

Excludes seats not actually available for the carriage of passengers because of maximum gross weight limitations.

1.4.25 Available seat kilometres ^{ICAO}

A seat-kilometre is available when a seat is flown one kilometre. Seat-kilometres available are equal to the sum of the products obtained by multiplying the number of passenger seats available on each **flight stage** by the stage distance.

*Stage distance is interpreted as **airport-to-airport distance**.*

1.4.26 Passenger-kilometres ^{AEA/Eurostat}

The product obtained by multiplying the total number of **revenue passengers** under consideration and the corresponding stage distance (great circle).

1.4.27 Passenger load factor ^{ICAO}

Passenger-kilometres expressed as a percentage of **available seat kilometres**.

1.4.28 Passenger kilometres flown by flight stage ^{2 IATA/Eurostat}

The sum of the products obtained by multiplying the number of **passengers** carried on each **flight stage** by the **airport-to-airport distance**.

1.4.29 Passenger kilometres flown by on-flight origin/ destination airports ^{Eurostat}

The product of multiplying the number of **passengers** flown between two **airports** as initial origin and final destination by the **airport-to-airport distance**.

1.4.30 Passenger tonne-kilometres performed ^{IATA}

The result obtained by multiplying the **passenger kilometres** flown by the weight of each of the **passengers** including both free and excess **baggage**. Each air transport operator can use its own internal passenger weights or the standard 100kgs (baggage included).

1.4.31 Freight tonne-kilometres performed by flight stage ^{Eurostat}

A metric tonne of freight revenue load carried one kilometre. Tonne-kilometres performed is obtained by multiplying the total number of tonnes of **freight** revenue load carried on the **flight stage** by the **airport-to-airport distance**.

*The weight of a container should always be considered as **revenue freight** when travelling on a commercial air waybill.*

1.4.32 Freight tonne-kilometres performed by on-flight origin/ destination airports ^{Eurostat}

A metric tonne of freight revenue load carried one kilometre. Tonne-kilometres performed is obtained by multiplying the total number of tonnes of **freight** revenue load carried between two **airports** as initial origin and final destination by **airport-to-airport distance**.

*The weight of a container should always be considered as **revenue freight** when travelling on a commercial air waybill.*

1.4.33 Mail tonne-kilometres performed by flight stage ^{Eurostat}

A metric tonne of mail revenue load carried one kilometre. Tonne-kilometres performed is obtained by multiplying the total number of tonnes of **mail** revenue load carried on **each flight stage** by **airport-to-airport distance**.

1.4.34 Mail tonne-kilometres performed by on-flight origin/ destination airports ^{Eurostat}

A metric tonne of **mail** revenue load carried one kilometre. Tonne-kilometres performed is obtained by multiplying the total number of tonnes of mail revenue load carried between two **airports** as initial origin and final destination by **airport-to-airport distance**.

1.4.35 Revenue tonne-kilometres performed ^{ICAO/Eurostat}

A metric tonne of revenue load carried one kilometre. Tonne-kilometres performed equals the sum of the products obtained by multiplying the total number of tonnes of each category of revenue load carried on each **flight stage** by **airport-to-airport distance**.

*The weight of a container should always be considered as **revenue freight** when travelling on a commercial air waybill.*

1.4.36 Weight load factor ^{ICAO}

Revenue tonne-kilometres performed expressed as a percentage of **available tonne kilometres**.

1.5 OTHER MEASUREMENTS

1.5.1 Service unit ^{EUROCONTROL/CRCO}

The multiplication of **Aircraft Weight Factor** by **Distance Factor**.

1.5.2 Route charge ^{EUROCONTROL/CRCO}

The charge is the product of three basic elements:

- Aircraft **weight factor**
- **Distance factor**
- **Unit rate of charge**

For international flights, the charge is obtained by adding the amounts calculated for each state.

1.5.3 The weight factor ^{EUROCONTROL/CRCO}

The square root of the result obtained by dividing the maximum take-off weight (in metric tons) of the aircraft by 50.

1.5.4 The distance factor ^{EUROCONTROL/CRCO}

The distance in km (divided by 100) between the aerodrome of departure within, or the point of entry into, the airspace of the State and the aerodrome of arrival, or the point of exit from, that airspace. From the distances to be taken into account, 20 km is deducted for each take-off and landing on the territory of a member State.

1.5.5 The unit rate of charge ^{EUROCONTROL/CRCO}

The tariff for flying 100 km (distance factor of 1.00) with an aircraft of 50 metric tons (weight factor of 1.00) in the State concerned. The unit rates of the Contracting States are normally only revised annually and some are adjusted monthly to take account of changes in exchange rates between the national currency and the €

1.5.6 Airport capacity (movements)

The maximum number of **movements** a given **airport** is able to accommodate per unit of time.

Example:

An airport might have a capacity of 260 000 movements per year.

1.5.7 Gross Domestic Product (GDP)

The total market value of goods and services produced in that region within a given period after deducting the cost of goods utilised in the production.

1.5.8 Real Gross Domestic Product (Real GDP)

GDP calculated at constant prices, that is, after adjustment to remove inflation.

1.5.9 Yield

The ratio of revenues to **passenger-kilometres**. Yield is reported net of taxes and other government fees, including fees for border inspections and airports.

Example:

For simplicity, let's assume there is only one flight, which happened over the given period and in a given region.

<i>Distance, km</i>	<i>10000</i>
<i>Business fare, net of taxes and fees</i>	<i>950</i>
<i>Discount fare, net of taxes and fees</i>	<i>250</i>
<i>Business demand (passengers)</i>	<i>20</i>
<i>Discount demand (passengers)</i>	<i>80</i>

$$\text{Yield} = (20 \times 950 + 80 \times 250) / (10000 \times 20 + 10000 \times 80) = 0.039$$

2. STATISTICAL METHODS

2.1 Driver of a forecast or statistic

A factor which satisfies both conditions below:

- a) if it changes, then the forecast changes or statistic will have changed (either up or down)
- b) it is assumed that the driver causes the change of a **forecast** or **statistic**.

Examples:

*Time is not a driver of **movements**, because it satisfies (a) but not (b).*

***GDP** by the same test, is a driver of number of **movements**.*

2.2 Statistic

A historical measurement. A particular statistic might be published and then later revised.

2.3 Socio-economic factor

Any characteristic of a group of people that is interpreted from either a social or economic perspective.

2.4 Statistical technique or method

A formal and well-defined quantitative process for gathering, exploring or analysing **statistics** or for deriving **forecasts** from statistics.

2.5 Econometric techniques

A set of statistical techniques typically involving input or output data which describe the economy.

Example:

*Using **GDP** change to forecast **air transport demand** change.*

2.6 Forecast

A set of future values for a measurement. A forecast typically involves a range of values at a single time horizon.

2.7 Short-term forecast (STF)

The STATFOR short-term **forecast** extends to a 24-month horizon, month-by-month.

2.8 Medium-term forecast (MTF)

The STATFOR medium-term **forecast** extends to a seven year horizon, year-by-year.

2.9 Long-term forecast (LTF)

The STATFOR long-term **forecast** extends to a 20-year horizon, year-by-year.

2.10 Forecast horizon

Time period between the last actual data used for deriving the **forecast** and the last data forecasted.

2.11 Most-likely scenario

The scenario for which outcomes which are close to this scenario are thought to occur more likely than outcomes close to any other scenario.

2.12 Periodic fluctuation

The amount or pattern of change in the measurement due to factors which repeat with a fixed period. The period can be of any length.

Examples:

Leap year effects

Annual cycle

Weekly cycle

2.13 Seasonal fluctuation

The amount or pattern of change in the measurement due to seasonal factors. A 'seasonal factor' can be anything, that usefully describes a factor with a period of one year, so it can be a season, or a holiday period. Seasonal fluctuations are a subset of **periodic fluctuations**.

2.14 Validation

A process of building confidence that the statistic or forecast is fit for purpose. Validation activities include:

- Hold-out sample forecasting and back-casting to check the forecast.
- Face-validity checks for statistics, e.g. is that value likely?
- Comparison with forecasts from other sources.
- Monitoring of out-turn against forecast.

3. INFRASTRUCTURE

3.1 Airport ^{ICAO}

A defined area of land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of **aircraft** and open for commercial air transport operations.

3.2 Airport code ^{Eurostat}

4-letter ICAO codes as listed in the ICAO Document 7910.

*Other airport coding systems are in use, notably by IATA. Up-to-date correlations between these coding systems would be very helpful. IATA has 3-letter location identifiers, which include the codes for **airports** as used on passenger tickets.*

Not all of these ICAO codes refer to airports.

3.3 International airport ^{ICAO/Eurostat}

Any airport designated by the State in the territory of which it is situated as an **airport** of entry and departure for international air traffic, where the formalities incident to customs, immigration, public health, agricultural quarantine and similar procedures are carried out, whether such facilities are provided on a full time or part time basis.

3.4 Domestic airport ^{Eurostat}

Any airport not designated to handle international traffic

3.5 Airport traffic density ^{ICAO}

Light: where the number of **movements** in the mean busy hour is not greater than 15 per runway or typically less than 20 total airport movements.

Medium: where the number of movements in the mean busy hour is of the order of 16 to 25 per runway or typically between 20 to 35 total airport movements.

Heavy: where the number of movements in the mean busy hour is of the order of 26 or more per runway or typically more than 35 total airport movements.

The number of movements in the mean busy hour is the arithmetic mean over the year of the number of movements in the daily busiest hour.

3.6 Route network

The aggregate of Air Transport System routes (airways), itineraries defined in terminal areas and other airspace structure elements (e.g. holding areas) defined for the use of the Navigable Airspace by Aircraft Operators.

3.7 Instrument Flight Rules (IFR)

IFR flights operate satisfying specific rules on instrument equipment, and complying with provision 3.6 of ICAO Annex 2 to the Convention on International Civil Aviation when in controlled airspace.

3.8 Visual Flight Rules (VFR)

VFR are a set of regulations that a pilot may operate under when weather conditions meet certain minimum requirements. The requirements are designed to provide sufficient visibility so that other aircraft can be seen and avoided. If the minimum meteorological requirements are not met then the flight must be flown under **instrument flight rules**.

4. TRANSPORT EQUIPMENT (VEHICLE)

4.1 Aircraft ^{ICAO}

Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of air against the earth's surface

Dirigibles and surface effect vehicles such as hovercraft are excluded

4.2 Aircraft by wing design ^{ICAO/Eurostat}

- **Fixed wing aircraft**

An aircraft fitted with fixed wings to provide the lift required to sustain flight

- **Rotary wing aircraft** (helicopters)

An aircraft fitted with a set of wings, rotating in a largely horizontal plane to provide both lift and forward propulsion.

- **Tilt wing aircraft**

An aircraft powered with turboprop engines with wings, which can be tilted during operation in order to achieve shorter take off and landing distances

4.3 Aircraft by configuration ^{ICAO/Eurostat}

- **Passenger aircraft**

An **aircraft** configured for the transport of **passengers**, their **baggage** and **freight**, including **mail**.

Except for small aircraft on regional services, freight, mail and passenger baggage other than hand baggage will normally be carried in the belly hold of the aircraft.

- **Cargo aircraft**

An aircraft configured solely for the carriage of freight and/or mail.

- **Combi aircraft**

A passenger aircraft with enhanced capabilities for the carriage of freight on the passenger deck.

- **Quick change aircraft**

An aircraft designed to allow a quick change of configuration from passenger to cargo and vice versa.

Such aircraft may also have enhanced freight carrying capabilities, enlarged doors for example.

- **Other**

Not used for commercial air transport.

4.4 Aircraft by noise characteristics ^{Eurostat}

- **Non-noise certificated aircraft**

Aircraft not certificated against international noise requirements.

- **Chapter II aircraft**

Aircraft meeting the ICAO Chicago Convention Annex 16 Chapter II specifications.

- **Chapter III aircraft**

Aircraft meeting the ICAO Chicago Convention Annex 16 Chapter III specifications.

- **Chapter IV aircraft**

Aircraft meeting the ICAO Chicago Convention Annex 16 Chapter IV specifications.

4.5 Aircraft passenger carrying capacity ^{Eurostat}

The number of passenger seats with which an aircraft is equipped.

4.6 Available aircraft payload capacity ^{AEA/Eurostat}

The maximum payload capacity of an aircraft for **passengers, freight** and **mail** measured in metric tonnes.

4.7 Aircraft age ^{Eurostat}

Years since first registration of an **aircraft**.

4.8 High-Speed Train (HST)

High-speed train is a train service which is capable of travelling of 200 kph+.

In practice city to city speeds might not reach this level.

5. ENTERPRISES

5.1 Airline (Commercial air transport operator)^{Eurostat}

An air transport undertaking with a valid operating licence for operating commercial air flights.

Where airlines have joint-venture or other contractual arrangements requiring two or more of them to assume separate responsibility for the offer and sale of air transport products for a flight or combination of flights, the airline actually operating the flight shall be reported.

5.2 Low-cost carrier

Airline operator meeting most of the following characteristics:

- Marketing emphasis predominantly on price.
- Ticketless travel: low-far airlines operate largely ticketless operations, and their flights cannot be included on a traditional IATA-form international ticket.
- Online ticket sales: airlines' emphasis is on direct/internet sales (telephone sales are discouraged by higher prices and limited service).
- No international offices.
- In-flight services charged separately:
 - Most do not offer free meals and drinks on most flights. Snacks might be available, but at additional cost;
 - For most, no seat selection;
 - No in-flight entertainment; no newspapers; no seat cushions, blankets; etc.
- No "frequent flyer program."
- No airport lounges.
- Use of less busy secondary city airports.
- High dynamism and flexibility in repositioning network.
- No interlining: absence of interlining or links with other airlines.
- Baggage: strict interpretation of baggage allowances.
- High load factor: scheduling liable to change according to load factor.
- Rapid aircraft turnaround (minimum time on the ground).

STATFOR publishes a summary of carriers it considers satisfying the above criteria and monitors them for statistical purposes (Doc 80).

5.3 Air transport operator code^{Eurostat}

3-letter air transport operator code as listed in ICAO Document 8585.

There are equivalent IATA codes for air transport operators.

5.4 Air transport franchise grantor^{Eurostat+}

A company that licenses other operators (**air transport franchise operators**) to provide an air transport service using the franchise grantor's name (and livery) subject to standards and controls to maintain the quality of the service.

For statistical purposes, the traffic is assigned to the franchise operator.

5.5 Air transport franchise operator ^{Eurostat +}

A company operating an air transport service under a franchise granted by another company (**air transport franchise grantor**) in accordance with standards set by the grantor and subject to the grantor's controls.

For statistical purposes, the traffic is assigned to the franchise operator.

5.6 Airport operator ^{Eurostat}

An air transport undertaking operating a commercial airport

5.7 Airport services provider ^{Eurostat}

An undertaking providing **airport** services such as **aircraft** ground handling, fuelling, maintenance and security, **passenger** services such as check in, **baggage** handling and other services.

5.8 Air Navigation Service Provider (ANSP)

Air Navigation Service Provider is an organisation which operates the technical system, infrastructure, procedures, rules of an Air Navigation Service (sub)system.

Examples: FAA, some CAAs, Transport Canada, EUROCONTROL.

5.9 Principal aviation enterprises: air transport operators ^{Eurostat}

Major air transport operators (flag carriers) owning and/or operating the largest air network(s) in each country.

5.10 Secondary aviation enterprises ^{Eurostat}

Air transport operators other than **principal air transport operators**, which carry out transport operations for the public.

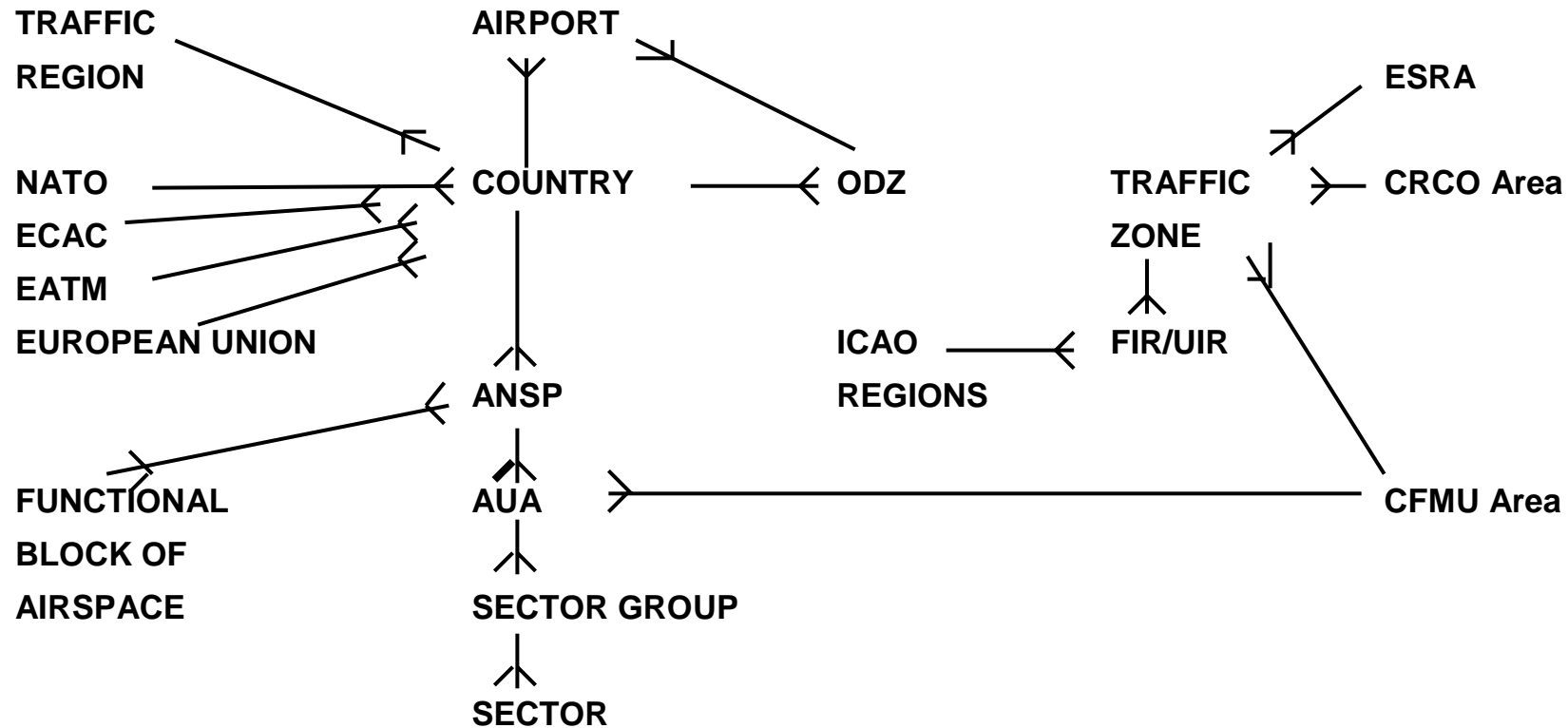
APPENDIX 1

Source of Headings

After each heading in the glossary some indication is given of the source of the definition of the glossary heading. Where a source is followed by '+', this implies that the initial source definition has been modified. The sources are as follows:

Acronym	Source
ACI	Airports Council International
AEA	Association of European Airlines
Eurostat	The European Commission, Eurostat
The European Commission, Energy and Transport DG	The European Commission, Energy and Transport DG
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation
EUROCONTROL/CRCO	EUROCONTROL Central Route Charges Office
EUROCONTROL/CFMU	EUROCONTROL Central Flow Management Unit
EUROCONTROL/EATM	EUROCONTROL European Air Traffic Management

APPENDIX 2 Entity Relationship Diagram of Airspace Categories



Point/set of points: airport, ODZ

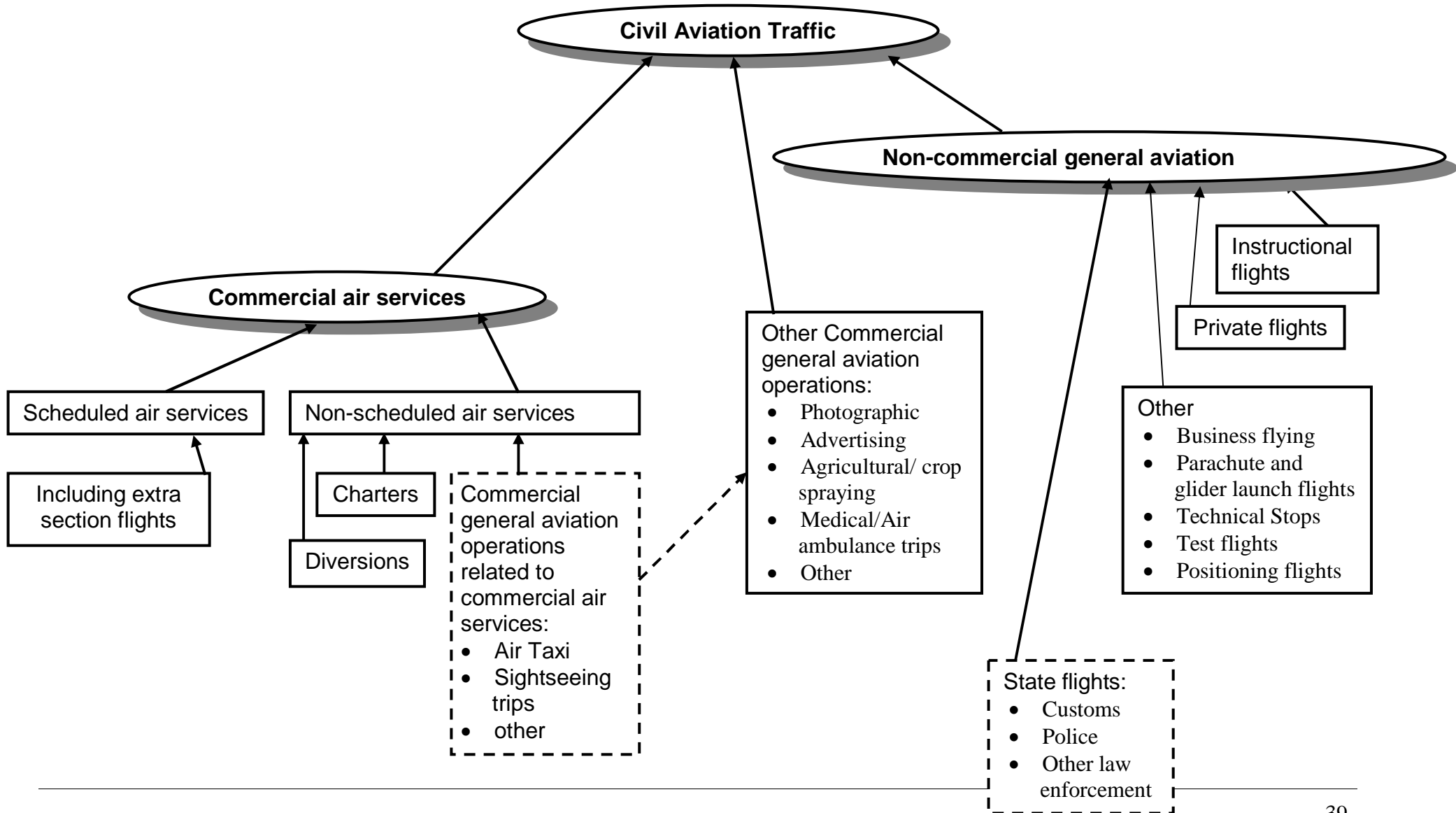
Area: country, traffic region

Organisation: European Union, NATO, ECAC, EATM, ANSP

Volume: sector, sector group, functional block of airspace, AUA, ICAO regions, FIR/UIR, traffic zone, CFMU Area, CRCO Area, ESRA

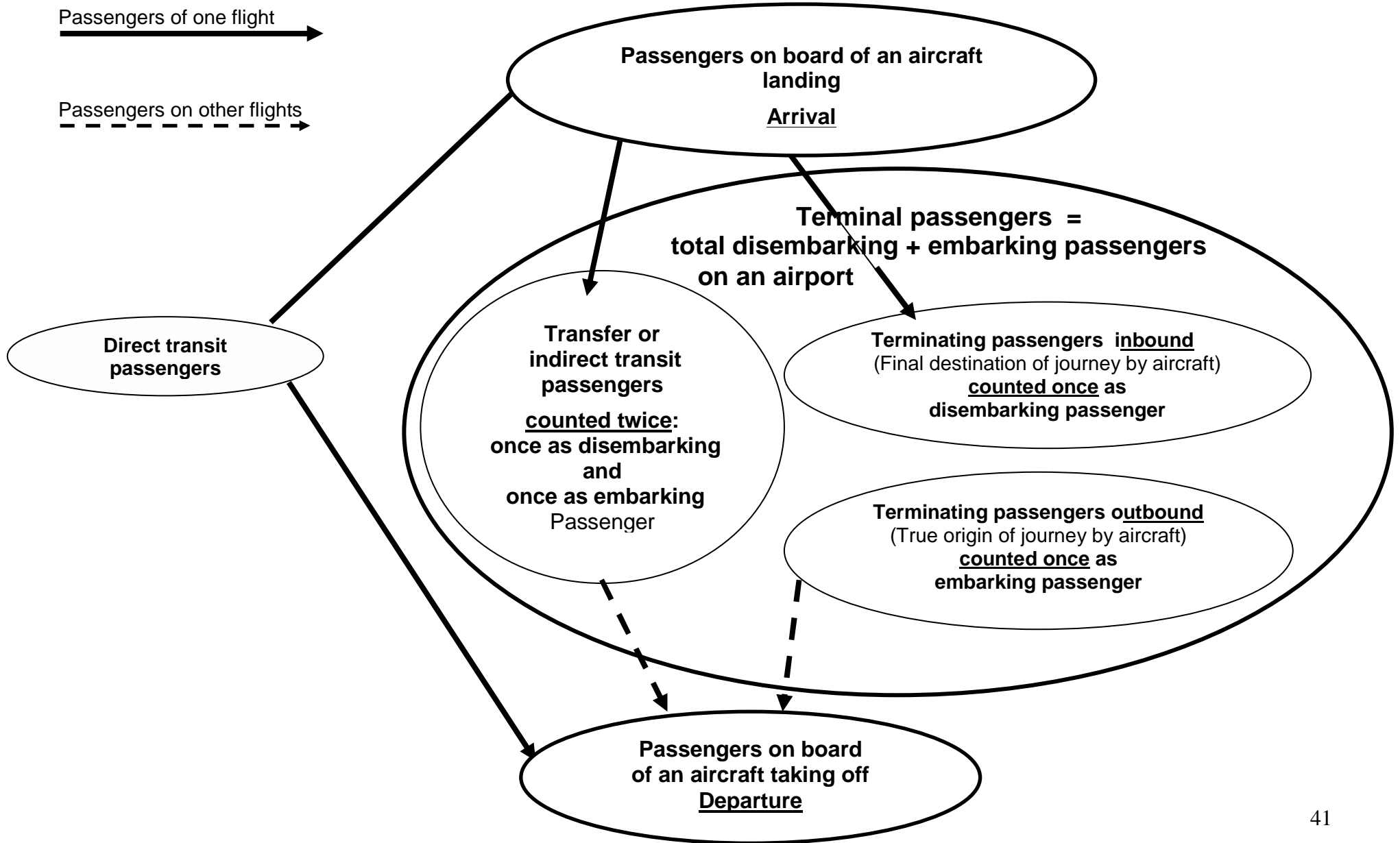
APPENDIX 3

Schematic Diagram of Relationships Between Aviation Transport Glossary Items Eurostat



APPENDIX 4

Schematic Diagram of Relationships Between Passenger Glossary Items Eurostat



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