



EUROCONTROL Short-Term Forecast of Service Units: September 2011 Update

Summary:

This document presents an update of the forecast of total service units in Europe¹ for 2011-2012 prepared by the Statistics and Forecast Service of EUROCONTROL (STATFOR). It is based on actual service unit figures up to end August 2011 and on the updated flight forecasts for 2011-2012 of September 2011²

The forecast for 2011 in EUROCONTROL current participating states (CRCO11) is of 124.4 million SU, a growth of 6.0% compared to the 117.4 million SU observed in 2010. This is a significant revision upwards by 1.5% compared to what was published in May 2011, in part due to flights growing more strongly over the period than expected in the Baltic, to-and-from Russia and in Turkey, and to the first signs of recovery from the traffic disruption from/to North Africa. However, some forecasts have been revised down, like for Italy and Hungary, to reflect in the first case the on-going impact of the North African situation, and in the other a decrease in traffic since the beginning of the year.

The total service units in CRCO11 are forecast to grow by 4.2% in 2012 compared to 2011 forecast service units and reach around 129.7 million.

Both the short-term and medium-term forecast of service units will next be updated in February 2012.

Comments are welcome at statfor.info@eurocontrol.int.

¹ Here "Europe" refers both to States within EUROCONTROL 2011 charging area (CRCO11) and to States covered by the performance scheme (Regulation (EC) No 691/2010 of 29 July 2010) identified as "PScheme".

² EUROCONTROL Medium-Term Forecast: IFR Flight Movements 2011-2017, STATFOR Doc 442, October 2011, in Preparation

1. INTRODUCTION

This report contains an update of the forecast of service units for 2011-2012. The changes result mainly from taking into account the most recent data on total service units (TSUs) to refine the short-term forecast (2011-2012), but also the updated flight forecast in which the economic growth forecasts have been brought up-to-date. The medium-term forecast (2013-2016) has not been updated and stays the same as the one published in May 2011³; it will next be updated in February 2012. The forecast is principally directed towards the EUROCONTROL States participating in the Multilateral Route Charges System, down to individual charging area level.

Section 2 describes the forecasting methodology, section 3 summarises the recent evolution of total service units and section 4 discusses the main short-term forecast results, while section 5 highlights some of the key risks to the forecast. The first annex details the methodology, and the second annex contains tables that present the 2011 and 2012 forecasts for individual States participating in the Multilateral Route Charges System or covered by the performance scheme (Regulation (EC) N°691/2010 of 29 July 2010).

2. FORECASTING METHODOLOGY

The forecast process uses both monthly data of total service units recorded in the route charges system from January 1990 (or first month of operation in the route charges system) up to and including August 2011 as well as flight information such as the average maximum take-off weight (MTOW) and distance flown up to and including January 2011.

The short-term forecast (2011-2012), as it has been for many years, is mainly based on time-series modelling of trends and seasonal and cyclical patterns in actual monthly service units. It also relies strongly on the flight forecast⁴ and thus picks up future information (economic growth forecasts, schedule data, future events etc) that is included in the flight forecast.

The detailed forecasting methodology can be found in Annex A.

The forecast of the TSUs relies on that of the flights and, as in May 2011, the flight forecast also includes a scenario for recovery from the current situation in Tunisia, Egypt and Libya. In this scenario, the recovery for the flows from these countries, and also the recovery of overflights for Libya, will be gradual but with still some reduction until the beginning of the winter timetable in November 2012. For Italy and Malta, changes in the average distances flown and weight factors have also been identified, these generating further disruption to the TSU growth figures. A similar scenario of gradual recovery to previous factors has also been applied for these two countries.

³ EUROCONTROL Short-and Medium-Term Forecast of Service Units : May 2011 Update, STATFOR Doc 434, May 2011

⁴ EUROCONTROL Medium-Term Forecast: IFR Flight Movements 2011-2017, STATFOR Doc 442, Sep 2011, in Preparation

3. RECENT EVOLUTION OF TOTAL SERVICE UNITS

Figure 1 presents the monthly evolution of the total service units (TSUs) recorded in the participating states of EUROCONTROL in 2011 (CRCO11), from January 2008 to August 2011⁵.

Setting aside April 2011, whose growth was affected by the ash-cloud in 2010, the growth in total service units has gradually slowed since the beginning of the year. January to March saw on average over 5% growth, May to July saw 4%, and there was 2.7% growth in August. In spite of this deceleration, the volume of service units remains comfortably ahead of both the record levels seen in Summer 2010 and ahead of the previous peak in 2008.

Figure 1. Evolution of total service units recorded in CRCO11 area in 2008-2011



4. SHORT-TERM FORECAST RESULTS: 2011-2012

Figure 3 presents the 2011 and 2012 forecast of total service units per State prepared by EUROCONTROL/STATFOR on behalf of CRCO at the end of September 2011.

The forecast for 2011 in current EUROCONTROL member states (CRCO11) is of 124.4 million SU, a growth of 6.0% compared to the 117.4 million SU observed in 2010. This is a significant revision upwards by 1.5% compared to what was published in May 2011⁶. This change is consistent with the recent strong flight growth and the flight forecast which has also been revised upwards, in particular due to stronger than expected growth in the Baltic, to-and-from Russia and in Turkey. This is for example seen in the strong revision upwards for Poland, from a TSU growth of 8.7% to a growth of 12.1% expected in 2011.

Turkey has also been revised upwards due to recent strong traffic growth both domestically and resulting from an increased interest as a holiday destination in view of the current instability in North African traditional destinations. The growth of traffic to the Canary Islands for similar reasons has also contributed to increased forecasts for Spain and Portugal. Greece is expected to see a growth in TSUs of 6.4% in 2011, a significant revision upwards compared to the 1.2% expected in May that reflect the recent growth of its traffic that has also benefited from the re-routing of traffic flows that used to fly over Libya, e.g. from Western-Europe to Eastern and Southern-Africa. Since these are largely one-off effects, the growth of TSUs in most of these countries is not forecast to stay as strong in 2012. Cyprus and Malta TSU forecasts have been revised significantly upwards, with an increased growth in 2011 as well as in 2012, showing the signs of recovery from the North African crisis.

Not all States have been revised upwards. Italy in particular has been revised downwards to 1.1% below 2010 levels. This is due to both the decrease in traffic volume to Tunisia and more generally to the lower contribution to TSUs of the North-South traffic, which had flown longer distances compared to the West-

⁵ Data for Armenia and Latvia that respectively joined the CRCO on 01/03/2009 and 01/01/2011 are included in the counts prior to these dates. For Armenia, the data corresponds to national monthly data whereas for Latvia the data was reconstructed from yearly figures.

⁶ EUROCONTROL Short-and Medium-Term Forecast of Service Units : May 2011 Update, STATFOR Doc 434, May 2011

East flows, thus generating a lower growth of TSU compared to that of the flights. However, if the TSU levels in Italy are expected to be low in 2011, they are also forecast to recover in 2012 with a strong growth of 7.9% compared to 2011. Hungary TSU forecast has also been revised downwards in 2011 and 2012, with a decline of 1.5% expected for 2011 compared to 2010. This is not only linked to the impact of a decreased traffic to and from Egypt, but can be mainly associated to a general loss of flights due to rerouting around the South-Eastern region.

The total service units in the EUROCONTROL member states (CRCO11) are forecast to grow by 4.2% in 2012 compared to 2011 forecast service units and reach around 129.7 million, 2.3 million service units greater than what was forecast in May 2011⁶.

It is important to bear in mind that these forecasts rely on the flight forecasts, which involve a scenario for the recovery from and to Tunisia, Egypt and over Libya. Whether these assumptions will be fully met is unknown: section 5 discusses the risks.

Estimates of chargeable service units per State in 2011 and 2012, based on EUROCONTROL SU forecasts and numbers of exempted service units in 2010, are presented in Figure 4. The chargeable service units in ESRA02 in 2011 and 2012 are estimated to amount to around 122.1 million and 127.5 million respectively.

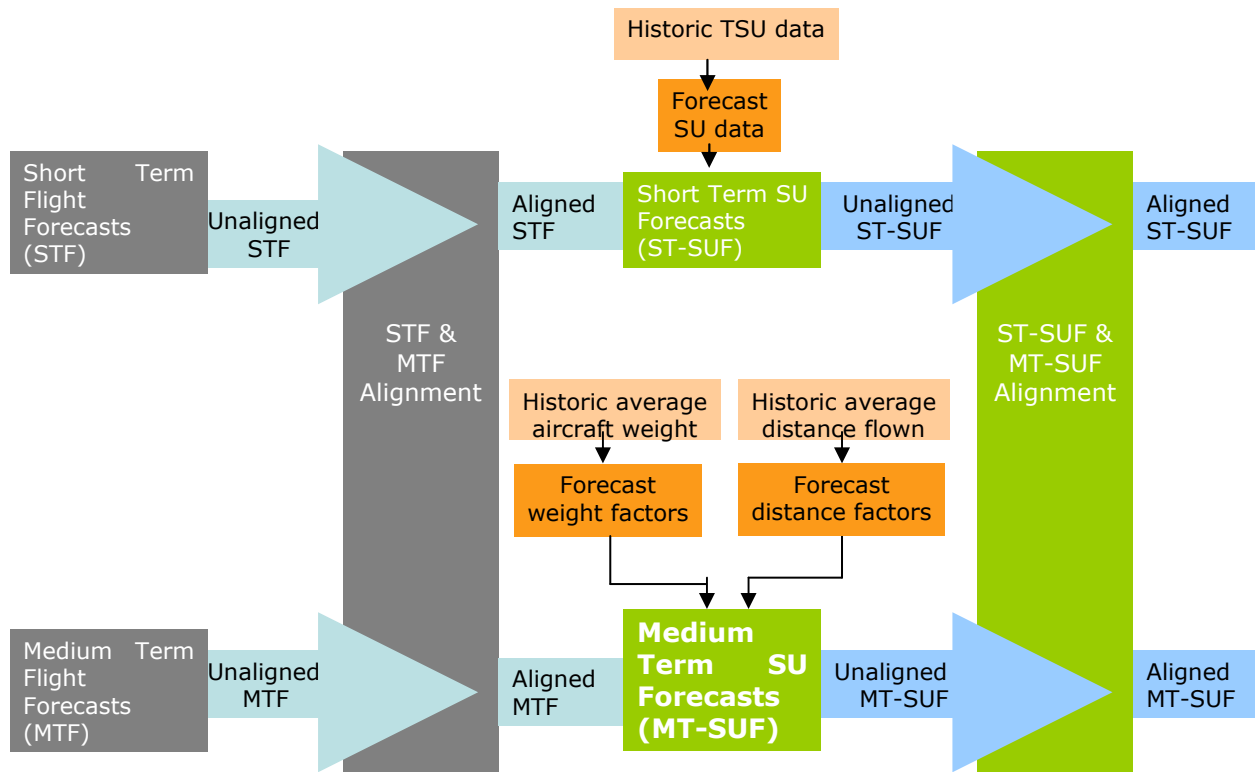
5. RISKS TO THE FORECAST

Users of the forecast are strongly advised that, even though the short-term forecast is given without a forecast range, significant uncertainty remains around the given values. The main contributors to this are:

- The economic situation remains weak and uncertain, in particular with regards to the recent difficulties of the Eurozone countries.
- Recent events in Tunisia and Egypt have led to a fair proportion of European holidaymakers transferring to other Mediterranean destinations for summer (e.g. Spain continental, Greece, Canary Islands, Turkey). This has affected significantly some of the flows, as well as some growth figures. This trend is expected to develop further and a scenario has been chosen to estimate the traffic recovery to Tunisia, Egypt, and over Libya, but this recovery might happen faster or slower and the interest in other destinations might remain.
- Overflight patterns on the South-East axis remain particularly fluid. Though overflight growth is currently weaker on Hungary-Romania routings and stronger further South, this has the potential to reverse if capacity gaps emerge and start causing delays.
- Forecasts for Armenia, Serbia & Montenegro, Poland and Lithuania must be treated with extra care as these are based on a limited set of historical data. These regions are not included in the aggregated zones CRCO88, ESRA02 but are included in the TOTAL and CRCO11. The same comment is also valid for Estonia that is only included in the TOTAL and in PScheme.

A. Detailed forecasting methodology

Figure 2. Service units forecast method



The overall forecast method and tool have been finalised in the first half of 2010. The forecasting methodology is in two parts, the short-term forecast and medium-term forecast being produced by two independent means. However; these two forecasts are later realigned for the first 2-year look ahead period, the scope of the short-term forecast, to account for the fact that the short-term forecast, which is based on time-series modelling of trends and seasonal and cyclical patterns in actual monthly service units, is usually better in capturing latest developments and giving the short-term outlook.

The short-term forecast is based on time series analysis, using actual monthly data of total service units recorded in the route charges system from January 1990 (or first month of operation in the route charges system). The latest EUROCONTROL flight forecast and medium-term forecast of service units prepared are used as supporting information in developing this forecast of service units. The actual data for April and May 2010 have been adjusted for the drop in service units due to flight cancellations resulting from the eruption of the Eyjafjallajökull volcano, as well as the actual data for December 2010 for the drop caused by the major snow falls in Europe. Some local corrections were also introduced to compensate for some loss of service units that could be attributed to local strikes.

The method for the medium-term forecast of the service units adopts the structure for calculating the en route service units in reality: it combines forecasts of **distance factors** and **weight factors** with the **number of flights** as forecast by the latest EUROCONTROL Medium-Term Forecast of flight movements, thus making these two forecasts compatible. The future distance and weight factors are derived from observed historical trends in average flown distance and average MTOW of aircraft on arrivals, departures, internals and overflights in each charging area.

For managing risk related to future traffic uncertainty, in addition to a base central figure the medium-term forecast produces also high and low values. Overall, the future total service units can be expected to be between these about half of the time. The EUROCONTROL forecast of service units is impartial in that it uses the same method for all the States. However, users should note that for the medium-term forecasts, the forecast modelling as well as the results are based on a relatively short history of data (starting mostly in January 2003) which did not allow full assessment of the forecast performance for the complete 5-year horizon and thus its results should be treated with care.

B. State-by-state short-term forecast of service units

Figure 3. Forecast of total service units in 2011-2012 – September 2011

Charging Area		2010 Actual TSU	2011 STATFOR Forecast TSU	2011/2010 Forecast Growth	2012 STATFOR Forecast TSU	2012/2011 Forecast Growth	2011 States Forecast TSU****	current 2011 STATFOR/States
EB	Belgium/Luxembourg	2,114,555	2,218,398	4.9%	2,296,799	3.5%	2,170,349	2.2%
ED	Germany*	12,294,212	12,822,917	4.3%	13,231,755	3.2%	13,017,250	-1.5%
LF	France	16,636,697	17,753,981	6.7%	18,246,124	2.8%	17,367,156	2.2%
EG	UK	9,480,262	9,944,259	4.9%	10,171,601	2.3%	9,971,189	-0.3%
EH	Netherlands	2,476,273	2,619,363	5.8%	2,704,119	3.2%	2,555,000	2.5%
EI	Ireland	3,615,036	3,851,418	6.5%	3,997,644	3.8%	3,631,000	6.1%
LS	Switzerland	1,409,298	1,443,334	2.4%	1,478,252	2.4%	1,450,306	-0.5%
LP	Lisbon FIR	2,624,149	2,847,023	8.5%	2,950,581	3.6%	2,757,489	3.2%
LO	Austria	2,448,711	2,550,604	4.2%	2,659,008	4.3%	2,600,000	-1.9%
LE	Spain	8,641,861	9,284,514	7.4%	9,556,302	2.9%	9,109,567	1.9%
GC	Canary Islands	1,539,855	1,655,553	7.5%	1,714,308	3.5%	1,617,722	2.3%
AZ	Santa Maria FIR	3,696,385	3,944,358	6.7%	4,083,341	3.5%	3,833,853	2.9%
LG	Greece	4,454,155	4,739,525	6.4%	4,944,155	4.3%	4,560,079	3.9%
LT	Turkey	8,923,420	9,671,273	8.4%	10,315,717	6.7%	9,711,049	-0.4%
LM	Malta	486,800	544,177	11.8%	583,272	7.2%	502,000	8.4%
LI	Italy	8,621,257	8,528,219	-1.1%	9,198,133	7.9%	9,066,765	-5.9%
LC	Cyprus	1,351,886	1,396,692	3.3%	1,495,589	7.1%	1,440,000	-3.0%
LH	Hungary	2,091,322	2,059,887	-1.5%	2,107,786	2.3%	2,139,950	-3.7%
EN	Norway	1,582,742	1,701,332	7.5%	1,753,798	3.1%	1,607,304	5.9%
EK	Denmark	1,410,791	1,492,488	5.8%	1,553,042	4.1%	1,524,000	-2.1%
LJ	Slovenia	365,201	439,464	20.3%	473,325	7.7%	368,107	19.4%
LR	Romania	3,414,282	3,523,789	3.2%	3,721,469	5.6%	3,537,500	-0.4%
LK	Czech Republic	2,190,096	2,304,924	5.2%	2,351,760	2.0%	2,255,969	2.2%
ES	Sweden	2,950,007	3,187,104	8.0%	3,296,606	3.4%	3,109,178	2.5%
LZ	Slovakia	855,572	899,074	5.1%	940,852	4.6%	944,000	-4.8%
LD	Croatia	1,450,834	1,672,632	15.3%	1,796,302	7.4%	1,507,000	11.0%
LB	Bulgaria	1,839,757	1,987,584	8.0%	2,122,098	6.8%	1,785,000	11.3%
LW	FYROM	183,280	203,459	11.0%	213,127	4.8%	194,000	4.9%
LU	Moldova	181,460	199,972	10.2%	218,005	9.0%	176,377	13.4%
EF	Finland	739,502	830,894	12.4%	855,000	2.9%	772,943	7.5%
LA	Albania	403,785	461,016	14.2%	501,606	8.8%	430,700	7.0%
LQ	Bosnia-Herzegovina	637,009	736,266	15.6%	791,713	7.5%	692,607	6.3%
UD	Armenia	146,071	174,086	19.2%	185,846	6.8%	153,407	13.5%
LY	Serbia & Montenegro	1,819,215	1,879,856	3.3%	1,946,046	3.5%	1,847,045	1.8%
EP	Poland	3,312,823	3,713,528	12.1%	4,035,338	8.7%	3,587,255	3.5%
EY	Lithuania	370,823	421,038	13.5%	448,569	6.5%	394,710	6.7%
EE	Estonia**	626,943	719,159	14.7%	760,988	5.8%	659,865	8.6%
EV	Latvia***	634,000	702,035	10.7%	731,084	4.1%	660,000	6.4%
CRCO88	CRCO88	66,977,294	70,935,723	5.9%	73,089,835	3.0%	70,080,880	1.2%
ESRA02	ESRA02	110,069,659	116,318,211	5.7%	121,029,870	4.1%	115,282,101	0.9%
CRCO11	CRCO11	117,393,384	124,406,035	6.0%	129,670,072	4.2%	123,047,825	1.1%
PScheme	PScheme	100,578,869	106,182,277	5.6%	110,379,357	4.0%	105,161,652	1.0%
TOTAL	Total	118,020,327	125,125,194	6.0%	130,431,059	4.2%	123,707,690	1.1%

* includes service units for flight segments performed as Operational Air Traffic. Estimated number in Germany is 95,000 per year.

** For this new forecast, we are using monthly data for Estonia since January 2008, data provided by the state. Previously, we have estimated from yearly data. Estonia is not accounted for in CRCO11 but in PScheme and the TOTAL.

*** Latvia has only joined EUROCONTROL member states in 2011. Before that date, only yearly data was available for the TSUs.

****The State Forecasts correspond to the forecasts used in November 2010 for establishing the cost-based and unit rates for 2011, doc CER-91-2010-3319.

Figure 4. Forecast of chargeable service units in 2010-2011 – September 2011

Charging Area		2010 Actual TSU	2011 STATFOR Forecast TSU	2012 STATFOR Forecast TSU	2010 Actual Exempted SU in %	2010 Actual Chargeable SU in %	2011 Chargeable SU Estimate	2012 Chargeable SU Estimate
EB	Belgium/Luxembourg	2,114,555	2,218,398	2,296,799	1.4%	98.6%	2,187,300	2,264,600
ED	Germany*	12,294,212	12,822,917	13,231,755	1.2%	98.8%	12,672,600	13,076,700
LF	France	16,636,697	17,753,981	18,246,124	1.1%	98.9%	17,559,100	18,045,800
EG	UK	9,480,262	9,944,259	10,171,601	1.7%	98.3%	9,773,600	9,997,100
EH	Netherlands	2,476,273	2,619,363	2,704,119	1.2%	98.8%	2,586,800	2,670,500
EI	Ireland	3,615,036	3,851,418	3,997,644	1.9%	98.1%	3,778,700	3,922,200
LS	Switzerland	1,409,298	1,443,334	1,478,252	0.3%	99.7%	1,439,200	1,474,000
LP	Lisbon FIR	2,624,149	2,847,023	2,950,581	2.0%	98.0%	2,791,300	2,892,800
LO	Austria	2,448,711	2,550,604	2,659,008	0.3%	99.7%	2,543,500	2,651,600
LE	Spain	8,641,861	9,284,514	9,556,302	1.4%	98.6%	9,155,000	9,423,000
GC	Canary Islands	1,539,855	1,655,553	1,714,308	0.9%	99.1%	1,640,100	1,698,300
AZ	Santa Maria FIR	3,696,385	3,944,358	4,083,341	3.8%	96.2%	3,795,100	3,928,800
LG	Greece	4,454,155	4,739,525	4,944,155	2.6%	97.4%	4,617,800	4,817,200
LT	Turkey	8,923,420	9,671,273	10,315,717	3.1%	96.9%	9,370,700	9,995,100
LM	Malta**	486,800	544,177	583,272	3.3% (14.8%)	96.7% (85.2%)	463,600**	564,200
LI	Italy**	8,621,257	8,528,219	9,198,133	2.5% (4.4%)	97.5% (95.6%)	8,155,800**	8,965,800
LC	Cyprus	1,351,886	1,396,692	1,495,589	1.2%	98.8%	1,379,600	1,477,300
LH	Hungary	2,091,322	2,059,887	2,107,786	2.2%	97.8%	2,015,100	2,062,000
EN	Norway	1,582,742	1,701,332	1,753,798	1.2%	98.8%	1,681,100	1,732,900
EK	Denmark	1,410,791	1,492,488	1,553,042	0.7%	99.3%	1,482,400	1,542,500
LJ	Slovenia	365,201	439,464	473,325	0.5%	99.5%	437,300	470,900
LR	Romania	3,414,282	3,523,789	3,721,469	3.2%	96.8%	3,409,700	3,601,000
LK	Czech Republic	2,190,096	2,304,924	2,351,760	3.3%	96.7%	2,229,100	2,274,400
ES	Sweden	2,950,007	3,187,104	3,296,606	0.4%	99.6%	3,174,300	3,283,300
LZ	Slovakia	855,572	899,074	940,852	0.1%	99.9%	897,900	939,600
LD	Croatia	1,450,834	1,672,632	1,796,302	0.3%	99.7%	1,667,600	1,790,900
LB	Bulgaria	1,839,757	1,987,584	2,122,098	1.0%	99.0%	1,967,300	2,100,400
LW	FYROM	183,280	203,459	213,127	0.2%	99.8%	203,100	212,700
LU	Moldova	181,460	199,972	218,005	0.1%	99.9%	199,800	217,900
EF	Finland	739,502	830,894	855,000	0.8%	99.2%	824,200	848,100
LA	Albania	403,785	461,016	501,606	0.6%	99.4%	458,300	498,700
LQ	Bosnia-Herzegovina	637,009	736,266	791,713	0.1%	99.9%	735,400	790,800
UD	Armenia	146,071	174,086	185,846	0.2%	99.8%	173,800	185,600
LY	Serbia & Montenegro	1,819,215	1,879,856	1,946,046	0.1%	99.9%	1,878,200	1,944,400
EP	Poland	3,312,823	3,713,528	4,035,338	0.5%	99.5%	3,695,000	4,015,200
EY	Lithuania	370,823	421,038	448,569	0.4%	99.6%	419,500	446,900
EE	Estonia	626,943	719,159	760,988	0.0%	100.0%	719,000	760,800
EV	Latvia	634,000	702,035	731,084	1.7%	98.4%	690,500	719,000
CRCO88	CRCO88	66,977,294	70,935,723	73,089,835	1.4%	98.6%	69,924,100	72,047,500
ESRA02	ESRA02	110,069,659	116,318,211	121,029,870	1.7%	98.3%	114,085,300	118,942,800
CRCO11	CRCO11	117,393,384	124,406,035	129,670,072	1.6%	98.4%	122,131,700	127,536,800
PScheme	PScheme	100,578,869	106,182,277	110,379,357	1.5%	98.5%	104,367,100	108,728,200
TOTAL	Total	118,020,327	125,125,194	130,431,059	1.6%	98.4%	122,849,700	128,296,500

* includes service units for flight segments performed as Operational Air Traffic. Estimated number in Germany is 95,000 per year.

** The Chargeable SU in % of 2010 is normally applied to estimate the Chargeable Service Units for 2011 and 2012 from the TSU forecasts. However, for these 2 countries, a different figure has been used for 2011 (only). The figure used for 2011 is displayed in bold between brackets and accounts for the recent reduction (by 2% for Italy, by 11.5% for Malta) due to an increase in the military traffic in these 2 areas. The percentage corresponds to the actual percentage that has been charged so far since January 2011.

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