Performance Review Body
designated by
the European Commission

EUROCONTROL

PRB Annual monitoring Report 2012

Volume 1

European overview and PRB recommendations

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FOREWORD by the PRB Chair, Mr Peter Griffiths

Welcome to the first comprehensive monitoring report on States' achievements in the SES Performance Scheme. This report is a yearly assessment of the contributions made by States. It gives an in-depth analysis of the **opportunities** and **risks** that are apparent. This report is for the first full year of operation, 2012.

We compiled this report from the data obtained from the system, the States' own reports and a number of other key reporting programmes, such as the CRCO reports, the CAPEX (Capital Expenditure) reporting mechanism and reports from both the Network Manager and EASA. We are sure you will find this extremely useful information to help support your own contributions to a more effective, high-performance Air Traffic Management System.

I thought I would take this opportunity to remind us all about what we initially set out to achieve. Firstly, the key priority was to set up a performance scheme where everyone would be able to make a contribution. The second step was to set **targets** which were **achievable** yet **ambitious** and **challenging** as well.

Each one of us will have our own interpretation of ambition and challenge; however, the targets set a minimum expectation of achieving better operational performance in these the following areas:

- delay, by reducing the average delay per flight.
- improving the environmental impact and in flight efficiency
- maintaining the cost base below €6.1 billion per annum for en route in the first reference period.

The targets were deliberately set at a slightly more challenging level than could be achieved by individual States on their own, and so they were required to cooperate in FABs in order to achieve them.

The targets were also set against a backdrop of **falling traffic** which created a further difficulty for States and ANSPs. They had to adjust to this new volatility in traffic patterns and address changes in the cost-recovery mechanisms. These new mechanisms replaced the full cost recovery mechanism for ANSPs and introduced the concepts of revenue and costs, profit and losses, via risk-sharing legislation.

As service providers no longer have full cost recovery, they are exposed to both a risk and an opportunity on 4.4% of their cash flows and we have already seen that this provides them with a greater incentive to adjust their cost profiles in line with market trends. As can be seen in this report, in this first year, 24 of the 29 ANSPs managed to adjust their cost bases in response to the traffic demand trends.

However, there remains a small proportion of providers with high legacy costs that are still in the process of adjustment. We need to develop tools to help them improve this process and to smooth out the volatility.

As you will see on reading this report, the results are very encouraging.

For **safety**, we maintained the safety levels existing in the system, prior to the application of the Performance Scheme. The report on safety compiled by EASA for the PRB is attached to this report.

On **delay,** we not only met but exceeded the target. Lower traffic volumes have contributed to this but we have also seen, via the Network Manager, that some Sates with traditional bottlenecks undertook changes to improve capacity and decrease delays. So, it is gratifying that in the first year of the Reporting Period, we more than met the delay target.

On **flight efficiency**, we saw a slight divergence from the planned performance profile. In the first year, at the request of States while we were setting the targets, we began to collate and analyse the actual distances involved as well as the planned flight profiles. This shows an approximately 2% margin of improvement in planned performance. This margin proves that all elements of the Air Traffic Management process are working towards reducing flight inefficiencies in a comprehensive way. It has also exposed an interdependency between cost and route chosen; this will need addressing in RP2.

On **cost**, once again, we see a very good level of performance Community-wide in meeting the target. Continuation of this performance will make RP1 a success.

However, in closing this short Foreword, I have to raise concerns which will need to be addressed. Attached to this report, you will find the first comprehensive **Capital Investment Report**. This report was compiled from a number of sources and shows that investment has either been postponed or cancelled in a number of States. The impact of these actions is, as yet, unknown but this reduction in investment is a cause for concern. We will need to pay careful attention to delays in essential expenditure so as to ensure that technology change is not delayed in the longer-term. For me, this will become a focus of the second year of RP1 so that we are able to set achievable targets for RP2.

I commend this report to you: it contains a considerable depth of analysis and presentation of the data - more of which you can find on the Performance Dashboard. Lastly, I would like to thank, on your behalf, all the members of EUROCONTROL's **Performance Review Unit** who have worked diligently over the summer to produce this for you.

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1 Introduction

1.1 The SES Performance Scheme

1.1.1 ANS performance targets are set under the SES Performance Scheme at both Union-wide and National/FAB level. The Performance Scheme is organised in Reference Periods (RPs) and the first reference period (RP1) runs for three years from 2012 to 2014.

1.1.2 This report covers the performance of the Member States covered by the Performance Scheme in the first year of RP1 (2012). ANS Performance is measured over four Key Performance Areas (KPAs): Safety, Capacity, Cost-Efficiency and Environment. Three of these KPAs had Union-wide targets for RP1:

- the Union-wide **Environment** target is a reduction of -0.75% point of the route extension in 2014 compared with 2009;
- the Union-wide **Capacity** target is set at 0.5 of a minute en-route ATFM delay per flight for 2014; and
- the Union-wide **Cost-efficiency** target is a set each year for en-route determined unit rates expressed in €2009 per service unit: €57.88 in 2012, €55.87 in 2013 and €53.92 in 2014.

1.1.3 Unless otherwise indicated, the Annual Monitoring Report for 2012 refers to ANS performance in the airspace shown in Figure 1, which was the geographical scope of the Union-wide targets for RP1.

1.1.4 It covers the airspace controlled by the RP1 SES States in the ICAO EUR and AFI regions. Therefore it covers the airspace controlled by the 27 EU Member States as well as the airspace controlled by Norway and Switzerland (total 29 States) in the ICAO EUR region, as well as the Canaries FIR (Spain), Bodø FIR (Norway) and NOTA/SOTA (UK/IRL).

1.1.5 Performance monitoring is an iterative process using data collected and available on the PRB online monitoring dashboard [Ref: i] and the data provided in the annual monitoring reports submitted by the RP1 SES States.

Figure 1: RP1 SES States

1.1.6 Under Article 2c of the EC recommendation on requirements for monitoring and reporting on the implementation of performance plans under Commission regulation (EU) No 691/2010 [Ref. ii] RP1 SES States are requested to provide the parts of the report relating to capacity and environment KPAs by 15 March of each year. Due to the delay in publication of this recommendation, the deadline for submission was extended to 2 April. Cost-efficiency data was made available in June 2012, via the CRCO processes.

1.1.7 RP1 SES States have submitted their monitoring reports for 2012. At the time of writing this report (August 2013) Cyprus had not yet delivered its annual monitoring report.

1.2 About this document

1.2.1 The Performance Review Body (PRB) of the Single European Sky (SES) has published an e-Dashboard on the EUROCONTROL website, providing harmonised ANS performance data for all 29 States subject to the SES Performance Scheme during RP1. Much of the data in this report originates from this e-Dashboard, which can be accessed via the PRB website [Ref. i].

1.2.2 The purpose of this document is to provide a summary of the performance achieved in 2012, as reported by the RP1 SES States. This report highlights specific issues raised by the States, identifies corrective actions planned by States and makes recommendations to the European Commission for further action to ensure achievement of the Union-wide targets for RP1.

1.2.3 This report is organised around 4 Volumes:

- This report (Volume I) is organised into four chapters (one for each KPA: safety, environment, capacity and cost-efficiency). Each of these chapters presents the performance at Union-wide level as well as some key highlights at performance plan level. Chapter 6 presents the situation regarding alert thresholds, both at Union-wide level and local level. The final chapter presents the PRB's conclusions and recommendations to the Commission.
- Volume II presents the summary/overview pages of performance for each RP1 performance plan.
- Volume III presents a specific analysis of capital expenditures at Union and FAB level.
- Volume IV embeds the Safety review as produced by the PRU/EASA Safety team.

1.3 Key Events in 2012

1.3.1 For the first time in the SES Performance Scheme, RP1 SES States produced Performance Plans that were adopted by the Commission in July 2012.

1.3.2 In total, 27 Performance Plans were submitted, including two Performance Plans from FABs:

- FABEC; and
- Danish-Swedish FAB.

1.3.3 Both FABEC and Danish-Swedish FAB included FAB-level Performance Plans for the capacity, safety and environment KPIs; separate national targets were provided for cost-efficiency (FABEC provided FAB level cost-efficiency targets for information only).

1.3.4 Based on Regulation (EU) 691/2010 [Ref. ii] the Network Manager prepared a Performance Plan (NMPP) which was also assessed by the PRB and the European Commission.

1.3.5 In July 2012, States/FABs received notification letters from the European Commission that included the Commission's finding regarding the revised performance plans and associated targets adopted by States/FABs for RP1.

1.3.6 Member States' and FAB Performance Plans include a number of assumptions around traffic and economic indicators that underpin the RP1 targets for each of the KPIs. In a number of areas, actual developments have not been in line with these assumptions:

- Traffic development (flights and service units) in 2012 has been lower than planned at SES level. IFR Flights are -3.0% lower in 2012 than 2011, and Service Units in 2012 are -4.4% lower than forecast in the Performance Plans and -1.5% lower than 2011 actuals.
- The SES States' economies are not recovering from economic depression as quickly as anticipated. The European economic crisis has been deeper than forecast and there are stability mechanisms in place that are likely to remain for some time.

1.3.7 There were a number of changes to reporting mechanisms during 2012:

- A EUROCONTROL/EASA task force established to advise on safety reporting across EASA and EUROCONTROL Members has resulted in an improved safety-performance monitoring of safety lagging indicators (accidents and incidents).
- The new airport data flow set up in 2011 as part of the Performance Scheme has been used for the calculation of additional ASMA and taxi-out times for those airports for which the data flow was successfully implemented. Although subject to further quality analysis, the accuracy of these indicators is expected to be enhanced.
- The PRB On-line Monitoring Dashboard is now in place and can be accessed via the EUROCONTROL website [Ref: iii]. The dashboard covers all Key Performance Indicators (KPIs) and Performance Indicators (PIs) regulated by the performance scheme Regulation. KPIs are presented against adopted targets.

1.3.8 Whilst 2012 saw considerable activity relating to the first full year of monitoring in the SES Performance Scheme, it also saw progress against the wider SES goals:

- **FABs**: The creation of FABs is one of the cornerstones of the SES. Under the provisions of the SES legislation, FABs had to be implemented by 5 December 2012, with each RP1 SES State confirming to the Commission that they have taken all necessary measures to ensure implementation of the FAB in which they are involved. The Commission is currently examining whether FABs fully comply with the requirements.
- **Designation of the Network Manager**: EUROCONTROL, through its Directorate Network Management, has been designated as the European "Network Manager" to implement SES in a pan-European dimension and deliver performance in partnership with all operational stakeholders [Ref. iv]. The Network Manager (NM) played a vital role in the achievement of Union-wide performance targets with a particular accountability for meeting the environmental target.
- **Changes to the charging scheme**: 2012 was the first year that all SES States/ANSPs moved away from the full recovery charging mechanism and adopted the "determined costs" method with specific risk-sharing arrangements aimed at incentivising ANSPs' economic performance.
- **SESAR developments**: in December 2012, SESAR provided their preliminary inputs to the PRB, which included indicative ranges for benefits (to capacity and environment) anticipated as a result of the SESAR solutions to be deployed during RP2. Final inputs are expected resulting from the discussions on the Pilot Common Project.
- **Better Airports Package**: on 1st December 2011, the Commission proposed to the Council and Parliament a comprehensive package of measures to address capacity shortage at Europe's airports and improve the quality of services offered to passengers. The package contains three legislative proposals on slots, ground handling and noise, as well as a communication on the "Airport policy in the European Union" (COM 2011 823) [Ref. v]. The legislative proposals are being discussed by the European Parliament and the Council in order to become Community law. The Better Airports Package is expected to have a positive and significant impact on airport performance, including ANS performance.

1.4 Performance in 2012

1.4.1 In the context of lower-than forecast traffic and slower than anticipated economic recovery, the following points summarise the performance across each of the four KPIs in their first full year of monitoring under the SES Performance Scheme:

- **Safety**: in 2012 there were no fatal accidents with an ANS contribution.
- **Environment**: Horizontal en-route flight efficiency continued to improve in 2012, although the rate of improvement was slowed down by industrial action in September and November 2012. In 2012 the actual horizontal en-route extension was 5.15% of the Great

Circle Distance, very close to the NM envisaged profile (target) of 5.12%. The Network Manager assumed responsibility for the coordination of the pan-European approach to improving flight efficiency. Local FRA initiatives continue to bring improvements in en-route flight efficiency, and a harmonised implementation in coordination with the Network Manager ensures interconnectivity between the various initiatives.

- **Cost Efficiency**: Actual ANS costs for 2012 were lower than the performance plan projections as States have reduced their costs (by €207M) in response to the decrease in traffic.
- **Capacity**: In 2012, en-route ATFM delays decreased by -46% compared to 2011, in the context of a -2.7% traffic decrease. The EU-wide value for 2012 was 0.63 minutes of ATFM delay per flight, which satisfies the (intermediate) value of 0.7 minutes/flight. En-route ATFM delay was concentrated in Cyprus, France, Germany, Norway, Poland, Portugal and Spain.

  Airports with an ATFM delay well above two minutes include London Heathrow (LHR) and Zurich (ZRH), although overall average airport ATFM delay decreased by -28%, in the context of a -2.7% decline in traffic.

1.5 RP1 Key Performance Areas

1.5.1 Table 1 presents the Key Performance Areas (KPAs) and Performance Indicators (PIs) applicable for RP1 (2012-14) as set out in Regulation 691/2010 [Ref. ii]. The three PIs with Union-wide targets in RP1 are referred to as the Key Performance Indicators (KPIs).

KPA	ANS Performance Indicator	RP1
Safety	Effectiveness of safety management (EoSM)	Reporting
	Application of severity classification scheme (RAT methodology)	Reporting
	Application of Just Culture (JC)	Reporting
	Separation Infringements	Reporting
	Runway Incursions	Reporting
	ATM-specific occurrence at ATS units	Reporting
Environmental	Horizontal flight efficiency of last filed flight plan (KEP)	Union-wide target
	Effectiveness of booking procedures for FUA	Reporting
	Utilisation of Conditional Routes	Reporting
Capacity	En-route ATFM delay per flight	Union-wide target Nat/FAB targets
	Arrival ATFM delay	Reporting
	Additional time in taxi-out phase	Reporting
	Additional time in arriving sequencing and metering area (ASMA)	Reporting
Cost Efficiency	Determined Unit Rate (DUR) for en-route ANS	Union-wide target Nat/FAB targets
	Terminal costs	Reporting
	Terminal unit rate	Reporting

Table 1: KPAs and PIs in RP1

1.6 Traffic

1.6.1 In 2012, traffic in terms of average daily IFR flights returned to the levels experienced in 2009 and 2010 (Figure 2). Following a decline of -6.8% in 2009, there was some growth in 2010 and 2011. A subsequent decline has resulted in 2012 traffic levels that are -6.8% lower than in 2008.

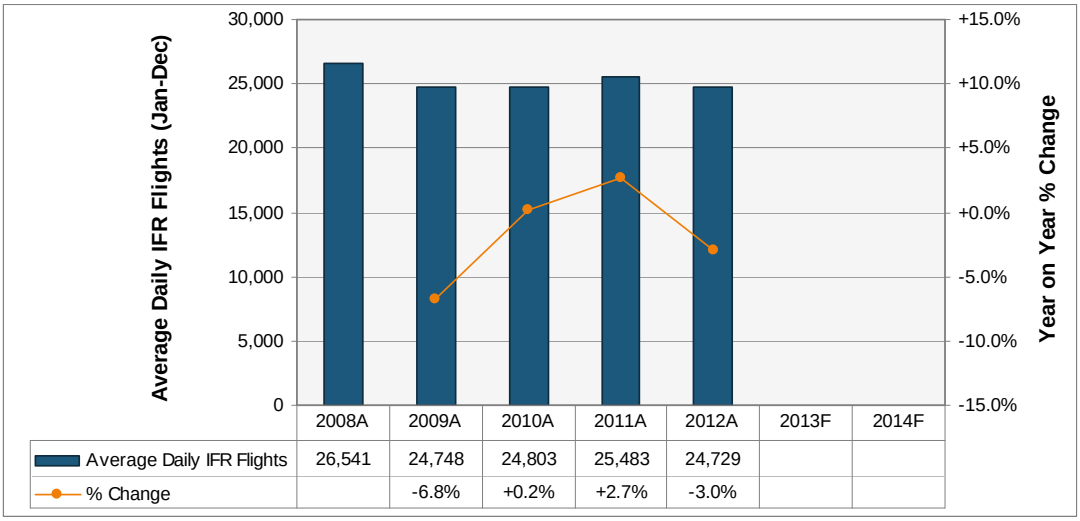


Figure 2: Traffic 2008-2012 (IFR flights)

1.6.2 It should be noted that these Union-wide averages mask considerable variations between member states. For example, growth rates in 2012 ranged from +18.8% in Malta to -7.3% in Finland.

1.6.3 Figure 3 presents a similar trend in traffic as measured by average daily en-route service units.

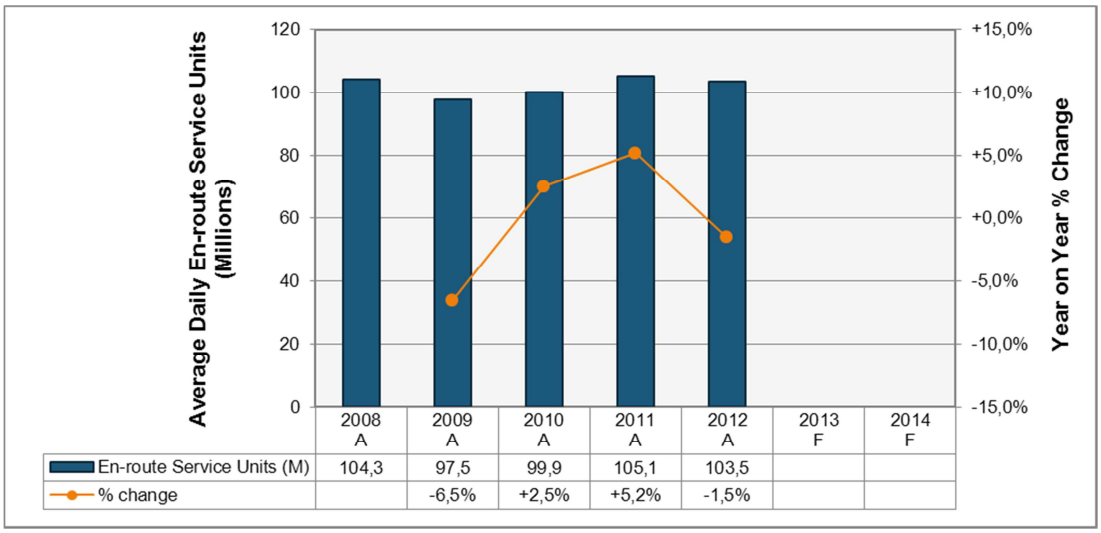


Figure 3: Traffic 2008-2012 (average daily en-route service units)

1.6.4 Figure 3 shows that a decline in 2009 was followed by two years of recovery (2010 and 2011) but Service Units (SUs) decreased again in 2012. The decline in SUs (-1.5%) has been of smaller magnitude than the decline in IFR flights (-3.0%) and the recovery has been greater; as a result, the 2012 SU traffic level (103.5 million) is only -0.8% lower than that in 2008 (104.3 million). The difference between the trend in SUs and average daily IFR Flights in 2012 is a result of the increase in the average MTOW on the one hand which is partly offset by the decrease in the actual distances flown on the other hand.

2 Safety

2.1 Introduction

2.1.1 Although there are no Union-wide safety targets, the States are required to report against a number of Safety Performance Indicators (SPIs) in RP1 (Table 2).

Safety
EoSM: Effectiveness of Safety Management (EoSM) of Member States and their air navigation service providers.
RAT: Application of the severity classification based on the Risk Analysis Tool (RAT) methodology to the reporting of, as a minimum, • Separation Minima Infringements (SMI); • Runway Incursions (RI); and • ATM-specific occurrences (ATM-S) at all Air Traffic Service Units.
JC: Reporting by Member States and their air navigation providers of the level of presence and corresponding level of absence of Just Culture.

Table 2: Safety Performance Indicators for RP1

2.1.2 The safety review presented below summarises Volume IV of the present report. It was produced by the PRU/EASA Safety team and presents consolidated observations made during review of the National/FAB Monitoring Reports and measurements of SPIs for the first year of RP1 of the Performance Scheme.

2.1.3 The review of ANS-related accidents and incidents is based on:

- Accident and serious incidents from the EASA database (2003-2012 preliminary);
- Incident data reported to EUROCONTROL via the AST mechanism established by ESARR2 (2003 - 2012 provisional).

2.2 ANS-related accidents and serious incidents

2.2.1 Figure 4 shows the number of accidents involving commercial air transport (CAT) aircraft above 2,250 kg maximum take-off mass (MTOM). These are categorised as fatal and non-fatal accidents, and whether the accident:

- had an “ANS contribution” (i.e. the ANS system may not have contributed to a given occurrence, but it may have a role in preventing similar occurrences in the future) or
- was “ANS related” (i.e. at least one ANS factor was in the causal chain of events leading to an occurrence, or at least one ANS factor potentially increased the level of risk, or it played a role in the occurrence encountered by the aircraft).

While the number of ANS related accidents has remained low and stable over the ten-year period, the number of accidents with an ANS contribution has decreased. In 2011 and 2012 there were no accidents with an ANS contribution.

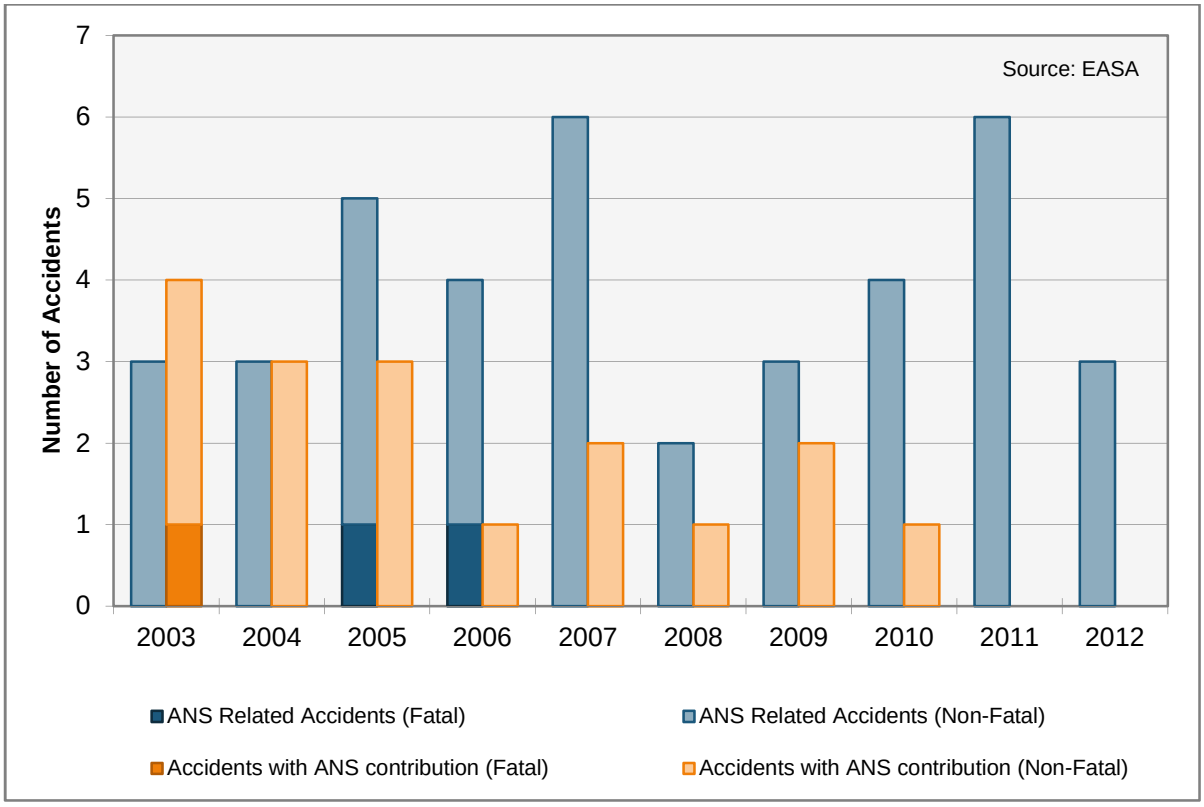


Figure 4: ANS fatal and non-fatal accidents (Source: EASA)

2.2.2 The number of serious incidents per year is shown in Figure 5. CAT aircraft with a MTOM above 2,250 kg, were involved in 343 serious incidents between 2003 and 2012 (these are incidents involving circumstances indicating that an accident nearly occurred). There is no visible trend in either the ANS-related or ANS-contribution categories.

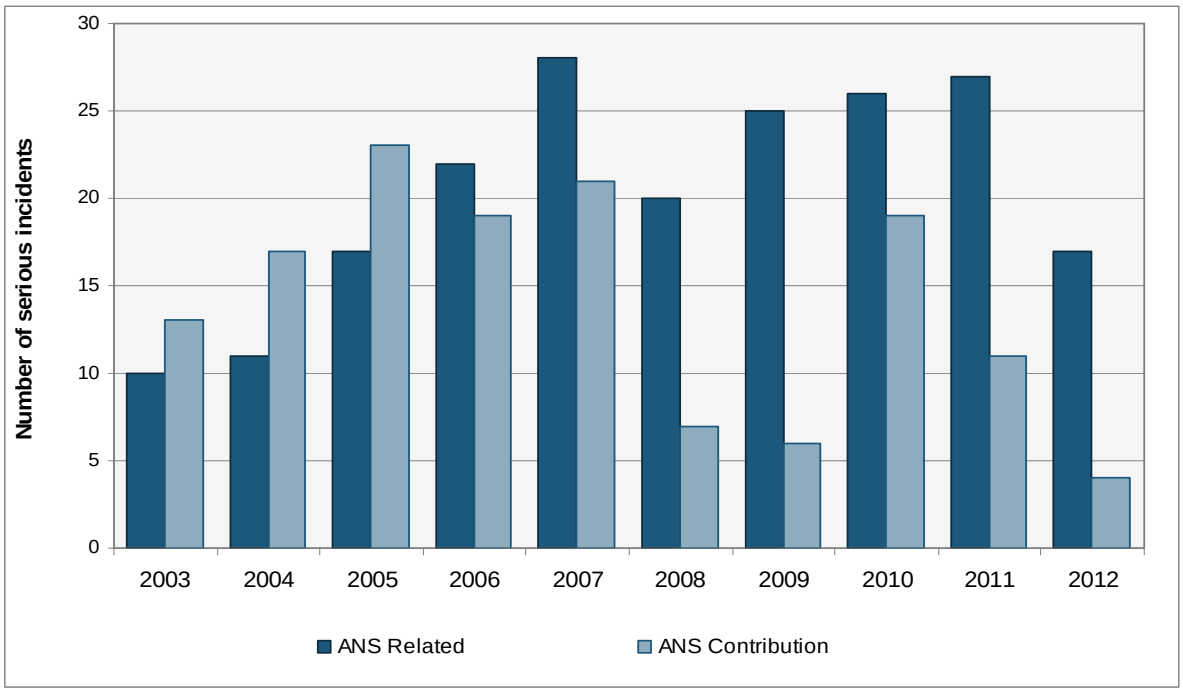


Figure 5: Serious incidents (Source: EASA)

2.3 Effectiveness of Safety Management

2.3.1 For 2012 all 29 States and 37 ANSPs filled in questionnaires used for the measurement of the EoSM in accordance with the Acceptable Means of Compliance (AMC) and Guidance Material (GM) for the Implementation and Measurement of Safety Performance Indicators, (EASA Decision 2011/017/R).

2.3.2 The responses of the States have been scrutinised by EASA via two methods ("thorough" or "light verification"). More details about EASA method of verification can be found in Volume IV of this report.

2.3.3 With regard to the ANSP replies, there is no guarantee that they have been reviewed or commented by the corresponding National Supervisory Authorities (NSAs).

2.3.4 As shown in Figure 6, the scores resulting from the computation of the replies provided by the States ranged from a minimum of 29 to a high of 85 with 41% of the States scoring below 50 and the average effectiveness score achieved by the individual ANSPs ranging from 42 to 89 with only 8% ANSPs scoring below 50.

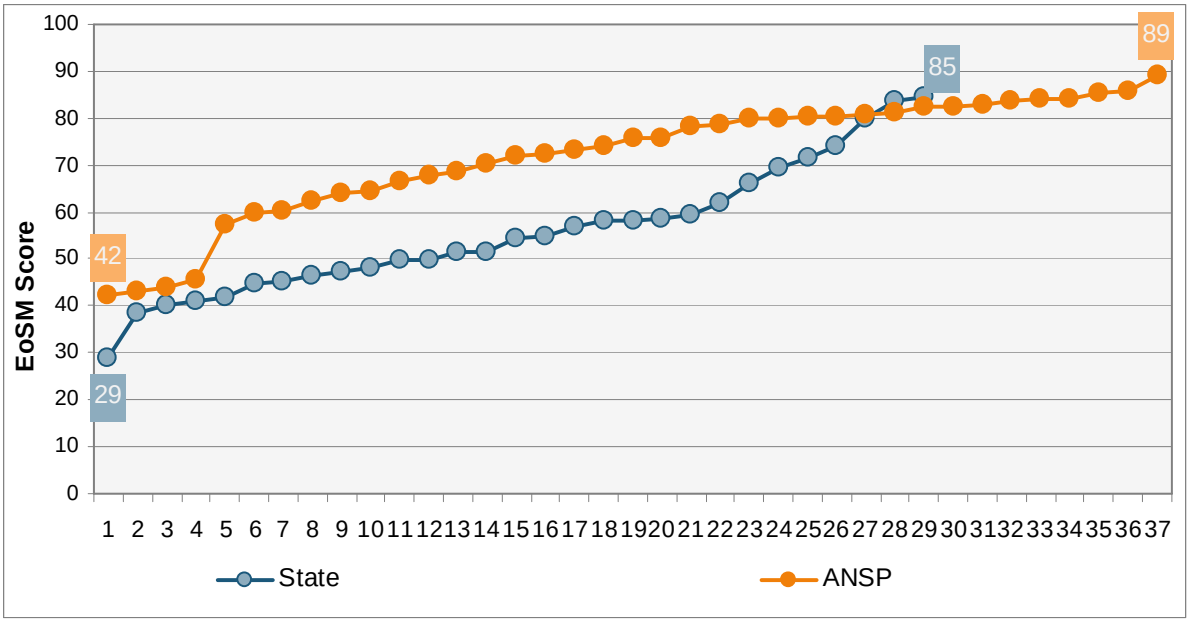


Figure 6: EoSM Maturity Levels achieved per Component for 29 States and 37 ANSPs

2.3.5 Figure 7 and Figure 8 show the results of individual States and their ANSPs.

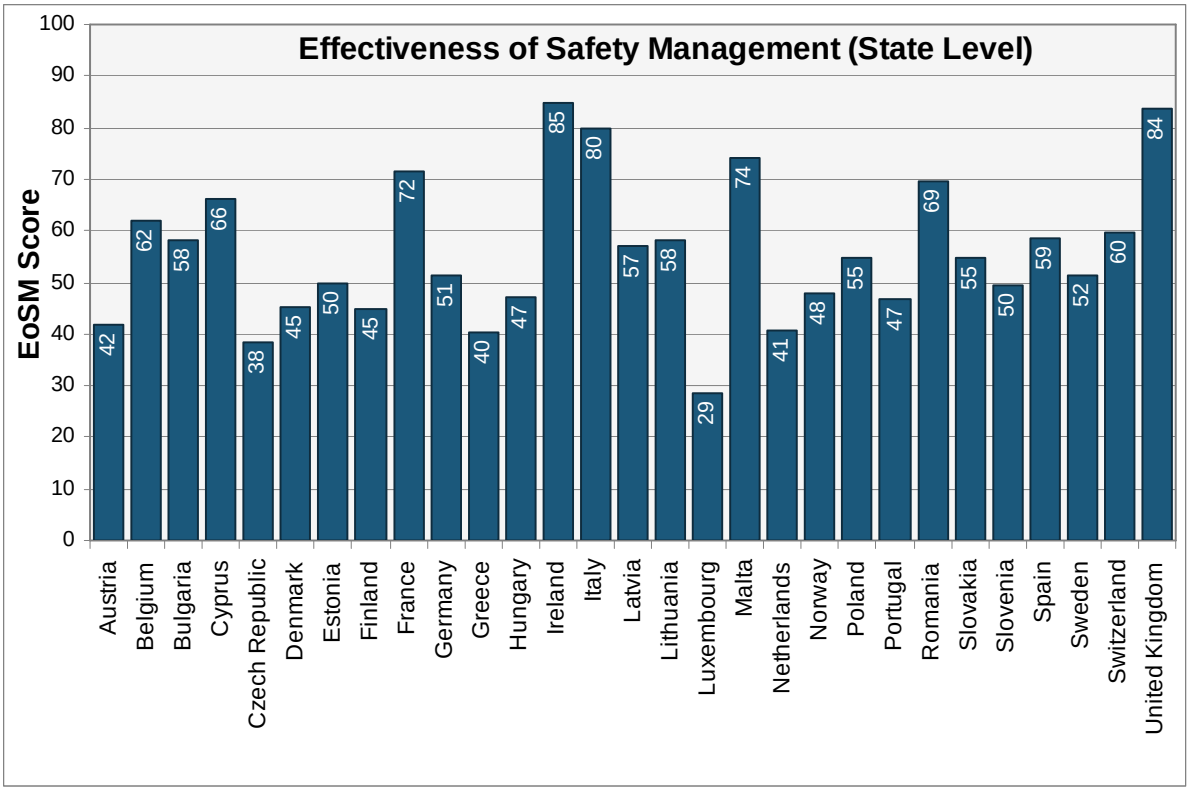


Figure 7: EoSM scores of individual States

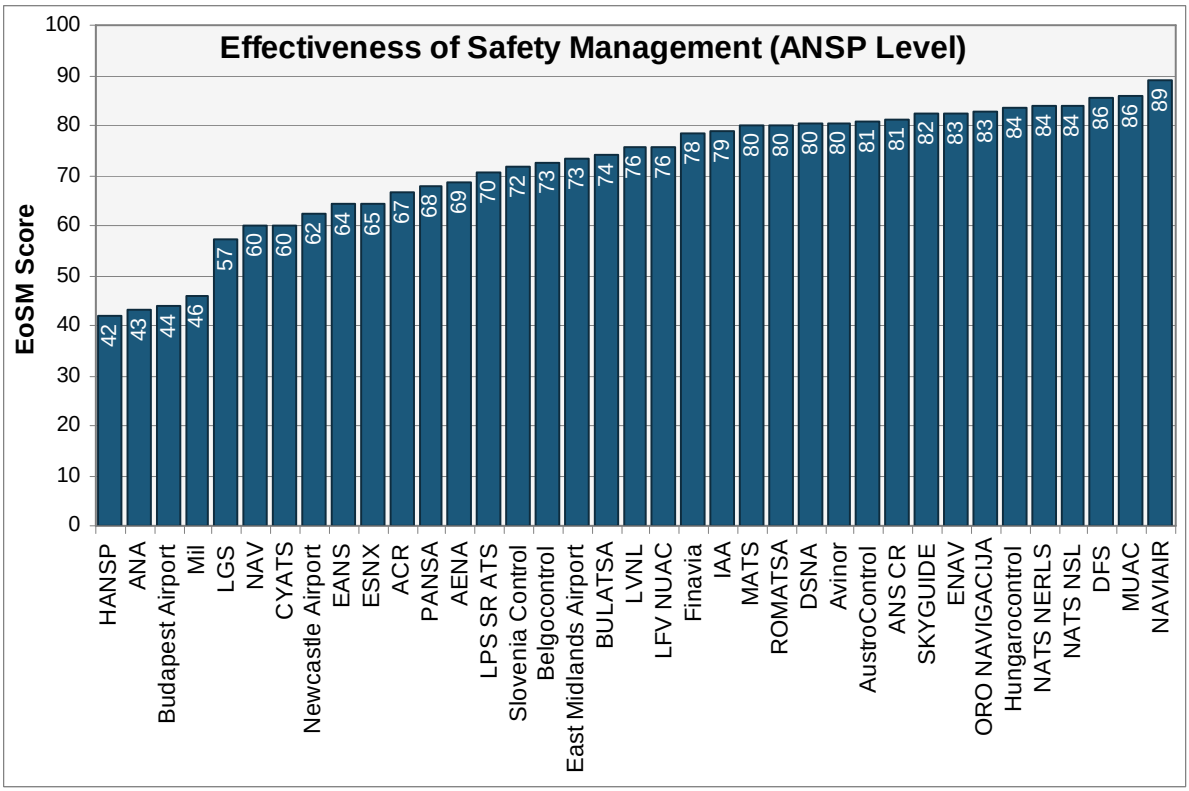


Figure 8: EoSM scores of individual ANSPs

2.3.1 A Maturity Level is assigned to each Management Objective (MO) and is defined to be the lowest response (A – E, equivalent to Levels 1 - 5) in each MO. Five possible responses are: the lowest level being A-initiating, followed up by the levels B-planning

initial/implementation, C-implementing, D-managing and measuring and the highest level E-continuous improvement.

2.3.2 As shown in the Figure 9 the *Safety Policy and Objectives* Component is the strongest area for both States and ANSPs, while the *Safety Culture* Component is the weakest area for both.

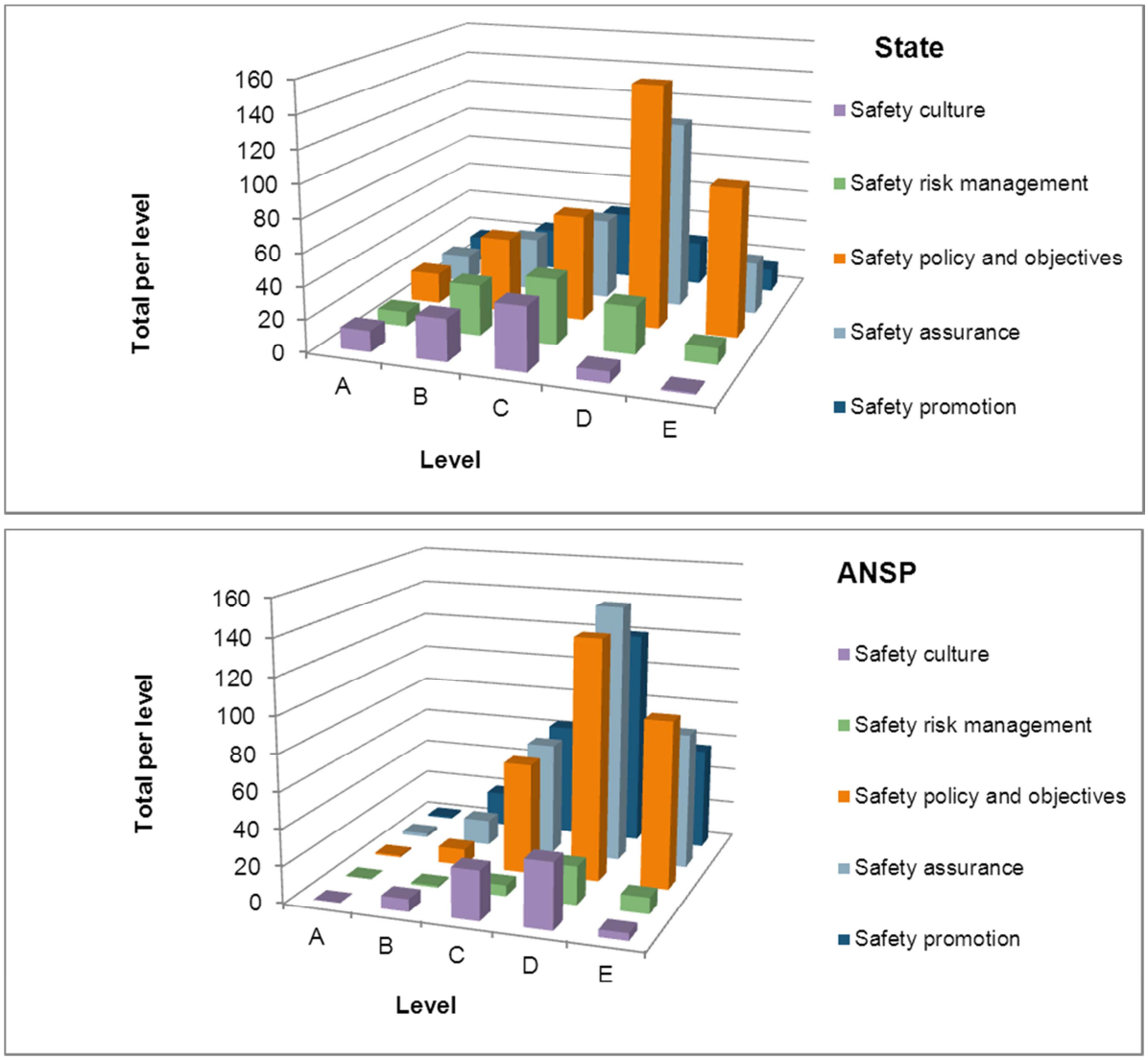


Figure 9: 2012 Level of Safety management achieved for States and ANSPs

2.3.3 For a full report on EoSM results, see Volume IV of this report.

2.4 Application of RAT methodology

2.4.1 States are required to report the proportion of SMIs, RIs and ATM-S for which the severity of the occurrence is assessed using the severity classification, based on the RAT methodology. Figure 10 presents EU averages for each of SMI, RI and ATM-S.

2.4.2 For the first time in RP1, verification of the application of the RAT methodology has been performed through the existing safety data reporting system of ESARR2 / Annual Summary Template (AST). Further details about the method of verification can be found in Volume IV of this report.

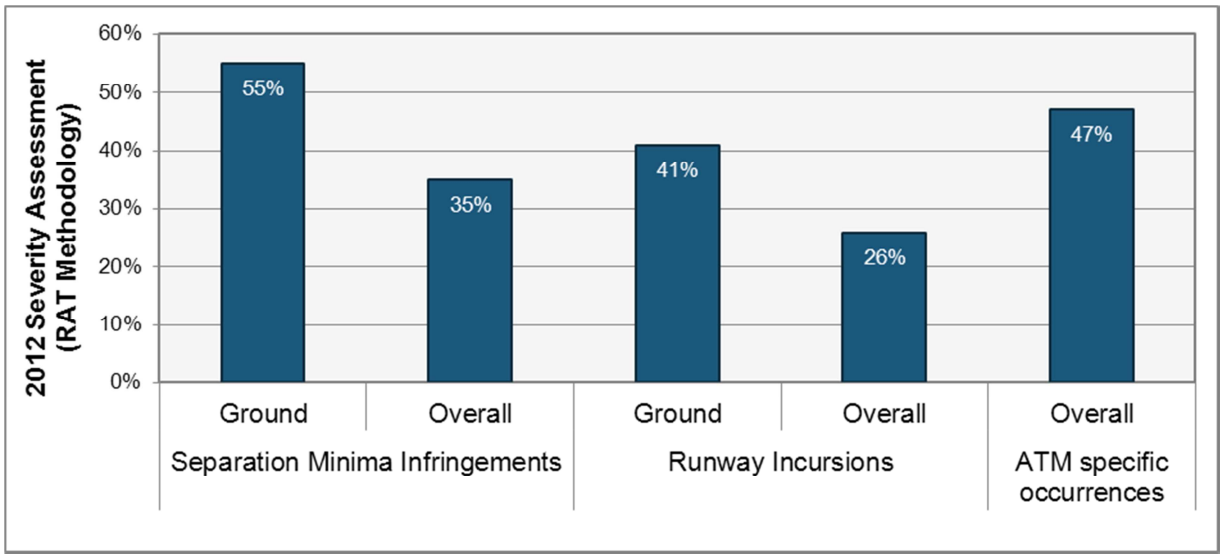


Figure 10: 2012 severity assessment using RAT methodology, EU averages

2.4.3 A number of States still do not report using the RAT methodology. For the calculation of the Union-wide average, non-reporting States were recorded as 0% (no report received). In addition, there are a few cases where no occurrences of a specific type have been reported; these were not included in the calculation of an average but if they had been, they would reduce the percentages shown in Figure 10.

2.4.4 The EU-averages for application of RAT severity methodology for each type of occurrence (SMIs, RIs and ATM-S) show disappointing results after the first year of measurement, especially at State level. Less than one third of States applied the methodology for SMIs and RIs, and less than half for ATM-specific occurrences. Many CAA/NSA entities have indicated that they lack either the information required to complete the RAT Overall score or the knowledge/capability to enable such scoring and reporting, or in some cases both elements.

2.4.5 Indeed, the EASA standardisation inspections revealed some deficiencies in the occurrence reporting mechanism present in Europe: an incorrect interpretation of the obligations established by Directive (EC) 2003/42 [Ref. vi] total absence of technical failure reports, unclear national requirements and/or enforcement measures ensuring that technical occurrences are reported.

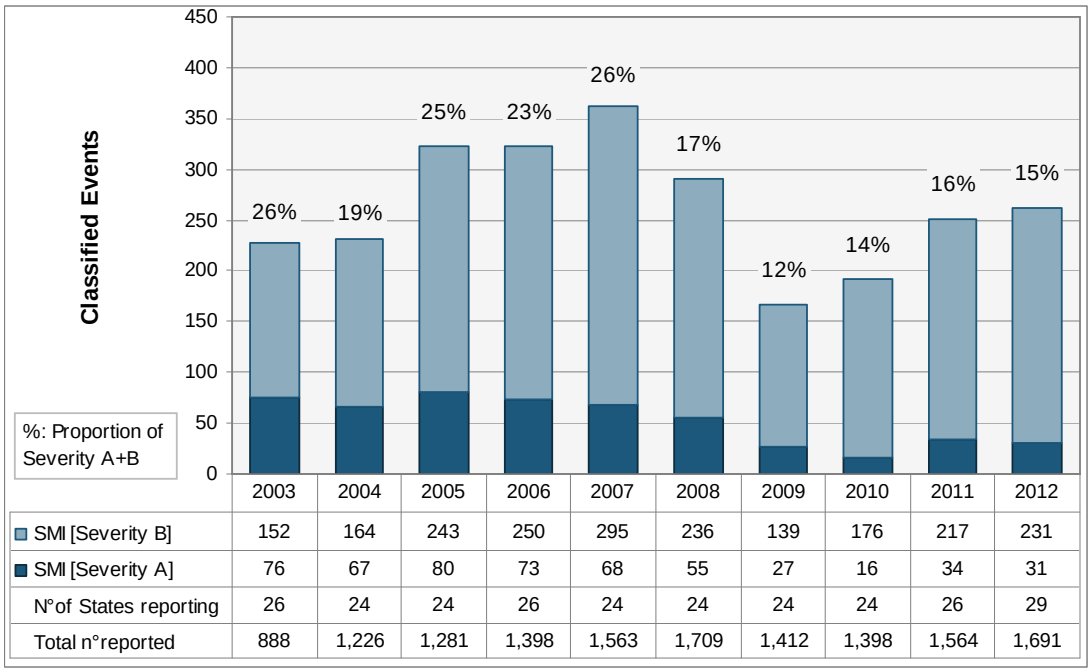
2.4.6 In addition, many States and ANSPs lack sufficient resources, skills and competencies to ensure that all (or almost all) occurrences are analysed and classified. The continuing increase in reporting levels may exacerbate the resourcing problem. Moreover, there is a need for dedicated teams to analyse and classify the reported occurrences, as well as to involve experts from other domains (e.g. pilots, aerodrome operators). Overall, the EASA results indicate that remedial actions are needed in some Member States.

Source: SRC

2.4.7 Figure 11: Reported SMIs in Member States (2003-12P) (Source: SRC) shows the risk-bearing SMIs, in absolute numbers. In 2012 provisional data shows a small decrease compared to 2011:

- Serious incidents (severity class A) decreased in absolute numbers from 34 to 31.
- Major incidents (severity class B) increased in absolute numbers from 217 to 231.

2.4.8 The total number of SMIs reported across all severity categories increased slightly in 2012.



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
SMI [Severity B]	152	164	243	250	295	236	139	176	217	231
SMI [Severity A]	76	67	80	73	68	55	27	16	34	31
N°of States reporting	26	24	24	26	24	24	24	24	26	29
Total n°reported	888	1,226	1,281	1,398	1,563	1,709	1,412	1,398	1,564	1,691

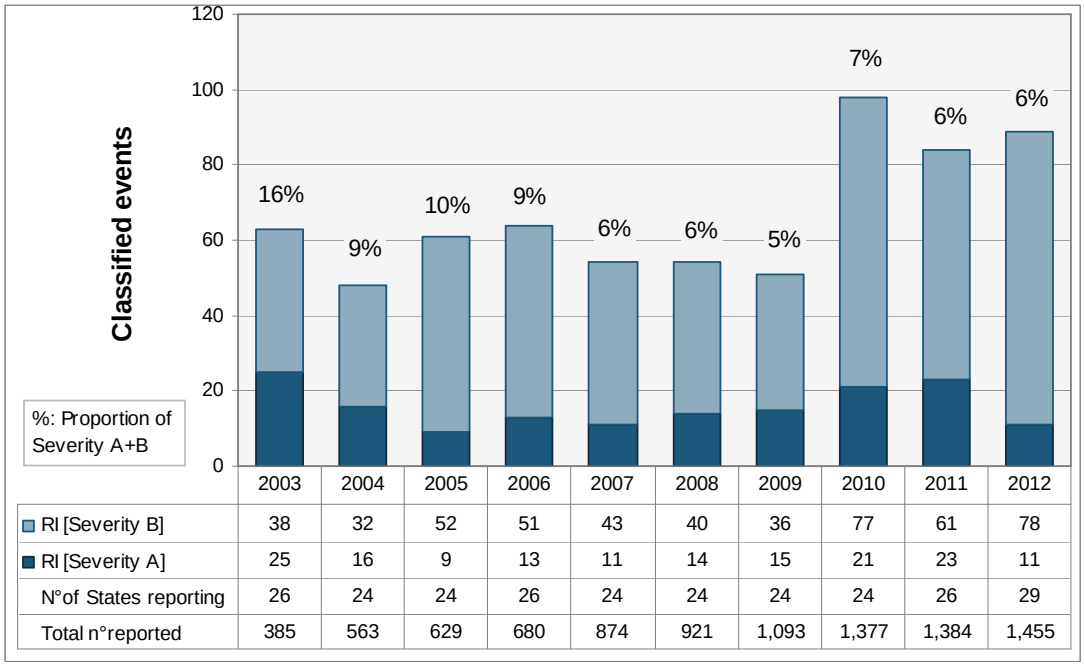
Source: SRC

Figure 11: Reported SMIs in Member States (2003-12P) (Source: SRC)

2.4.9 Around 7% of incidents reported in this category are still under investigation.

2.4.10 As presented in Figure 12, the total number of RIs reported in 2012 increased by around 5% compared with the previous year. The risk-bearing RIs (Severity category A and B) represent around 6% of the total number of reported events, which is consistent with the previous year's figures.

2.4.11 In absolute figures, in 2012 the number of Severity A RIs dropped from 23 to 11 compared with the previous reporting year, whilst the number of Severity B events increased from 61 to 78.



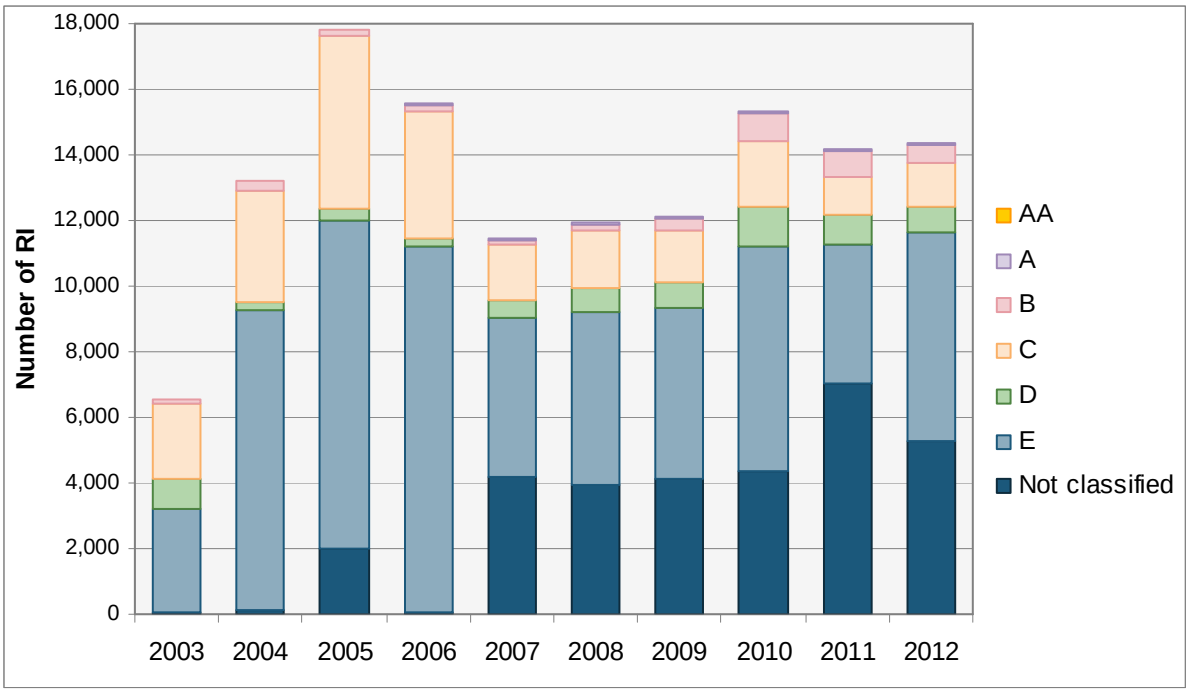
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
RI [Severity B]	38	32	52	51	43	40	36	77	61	78
RI [Severity A]	25	16	9	13	11	14	15	21	23	11
N°of States reporting	26	24	24	26	24	24	24	24	26	29
Total n°reported	385	563	629	680	874	921	1,093	1,377	1,384	1,455

Source: SRC

Figure 12: Reported RIs in EU Member States (2003-2012P)

2.4.12 Approximately 10% of the RIs reported in 2012 are still under investigation.

2.4.13 ATM-S include those situations where the ability to provide safe ATM services is affected by the reported event. ATM-S typically include failure of ATM/CNS technical systems which could have an impact on the safety of air navigation.



Source: SRC

Figure 13: Reported ATM Specific Occurrences in EU Member States (2003-2012P)

2.4.14 The total number of occurrences reported in 2012 increased by almost 1% compared to the previous year. Note that the review of ATM-S reported through the AST, as updated in March 2013, is based on the preliminary data for 2012.

2.4.15 The number of occurrences that had a serious impact on the ANSPs' ability to supply ATM services has evolved in 2012 compared to the previous year as follows:

- Severity class AA (total inability to provide ATM Services) decreased from 18 to 10;
- Severity class A (serious inability to provide ATM Services) decreased from 48 to 29;
- Severity class B (partial inability to provide ATM Services) decreased from 791 to 563.

2.4.16 There was a significant decrease in the number of ATM-S with no severity classification in 2012 by 25% compared to the previous year.

2.5 Just Culture

2.5.1 This assessment is based on the responses given to the Questionnaires on Just Culture as defined under Regulation 691/2010 [Ref. ii]. The Questionnaires for both States and Air Navigation Service Providers (ANSPs) were divided into three areas:

- Policy and its implementation;
- Legal & Judiciary; and
- Occurrence reporting and investigation.

2.5.2 Within each area the questions vary between the State and the ANSP questionnaires. The aim of the review was to identify certain institutional tendencies and approaches in place in the context of measuring the presence (or corresponding absence) of Just Culture.

2.5.3 A total of 29 States and 36 ANSPs completed the self-assessment questionnaires used for the measurement of the Just Culture KPI in accordance with Acceptable Means of Compliance (AMC) and Guidance Material (GM) for the Implementation and Measurement of Safety Performance Indicators, (EASA Decision 2011/017R). Volume IV of this reports explains the methodology for the verification of the responses by EASA as well as in the descriptive assessment (chapter 2.3).

2.6 Recommendations on safety

2.6.1 The EoSM scores achieved by the individual States show that 41% of States are scoring below 50, which is considered to be too low. The verified results of the EoSM questionnaires at State level clearly show that implementation of safety management principles at State level are below implementation levels of ANSPs. This raises concerns as to how States perform both their oversight and safety management tasks and responsibilities. All States are therefore urged to apply additional effort to achieve higher levels of safety management.

2.6.2 The EU averages for application of RAT severity methodology (for SMIs, RIs and ATM-S occurrences) show that after the first year of reporting for RP1 less than a third of States applied the methodology for SMIs and RIs, and less than half for ATM-S events. Many CAA/NSA entities have indicated that they lack either sufficient information to complete the RAT Overall score or the knowledge/capability to enable such scoring and reporting, or that they lack both elements. Therefore, States are encouraged to continue additional efforts to enable further enhancements in reporting and application of RAT methodology by seeking, planning and applying training on this matter.

3 Environment

3.1 Flight Efficiency

UNION-WIDE LEVEL

3.1.1 There are several performance indicators under the Environmental KPA: horizontal flight efficiency KPI and the effective use of civil military airspace structures PIs. The Union-wide KPI for flight efficiency is presented in Table 3:

Environment
• The average horizontal en-route flight efficiency of the last filed flight plan trajectory.

Table 3: Environmental KPA: Flight efficiency PI for RP1

3.1.2 A flight efficiency target of 4.67% (measured as the flight extension as a proportion of the great circle distance) has been established for 2014, which represents a -0.75% point reduction compared to the 2009 baseline.

3.1.3 The Route Network Design function and the ATFM function of the Network Manager directly supports the achievement of the flight efficiency target.

3.1.4 Figure 14 shows the horizontal flight efficiency in the period 2009-2012. There is no annual intermediate target established in the SES Performance Scheme. The Network Manager has annual environment performance targets which correspond, compared to the 2009 baseline, to -0.30 percentage points in 2012, -0.50 percentage points for 2013 and -0.75 percentage points for 2014.

3.1.5 The performance for 2012 corresponds to a reduction of 0.27 percentage points, which is slightly less than the NM target of 0.30 percentage points for 2012. The NM annual report highlights the negative impact of industrial actions and social issues which led to a reduction in capacity and the requirement for re-routings to avoid capacity constrained areas.

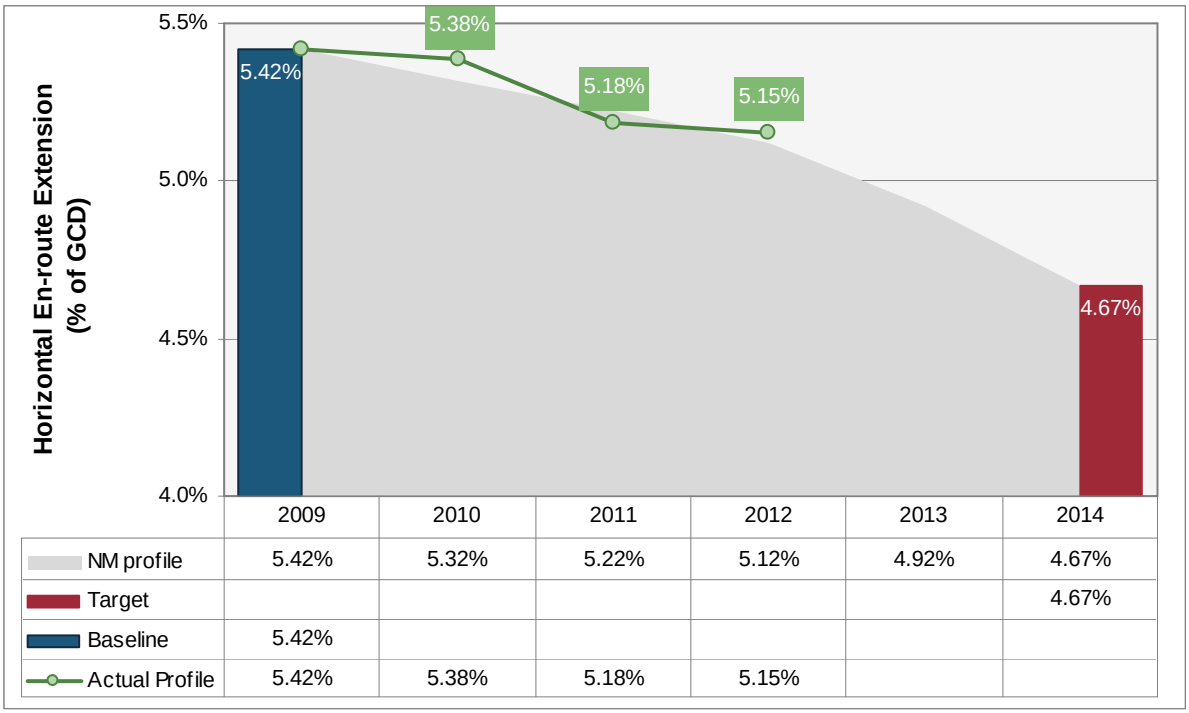


Figure 14: Horizontal en-route flight efficiency (2009-2014)

3.2 Flight efficiency and route charges

3.2.1 As part of the monitoring of performance, the PRB analysed the possible effects of route charges rules on the choice of flight plans.

3.2.2 By way of example, two alternative routes between Milan and Brindisi were considered. Figure 15 shows two alternative routes, corresponding to flight plans filed during the month of July 2013. One route (green) is entirely within Italy, while the other (red) crosses Croatia.

3.2.3 The distances on which route charges are calculated correspond to the great circle distance within the charging areas and are represented in the figure by the dashed lines. For routes through multiple charging zones, the great circle distances between the intersections of the flight plans with the charging zones are used. Compared to the flight plan contained entirely within Italy, the route through Croatia implies a reduction of 430 km in Italy and an increase of 477 km in Croatia.

3.2.4 For an aircraft weighing 80 metric tonnes, the price per kilometre (July 2013) is €1.00 in Italy and €0.53 in Croatia. The longer route (through Croatia) is therefore €177.19 cheaper (430km x €1.00 – 477km x €0.53).

3.2.5 This reduction in costs depends on the difference in Unit Rates and on the charging rules. Whether the flight will be cheaper for the airspace user will depend on its operating costs and the additional distance flown. In this specific example the additional distance is 41km for the plan through Croatia. In this case it is cheaper for the airspace user to file (and fly) the longer flight plan as long as its operating costs per kilometre are less than €4.32 (€177.19 / 41km).

3.2.6 Such a situation exposes the risk of possible unintended consequences of the current rules. They might constitute an incentive for airspace users to file longer routes with a detrimental effect on the horizontal flight efficiency indicator (KEP). They might create cost competition based on Unit Rates, in order to attract traffic.

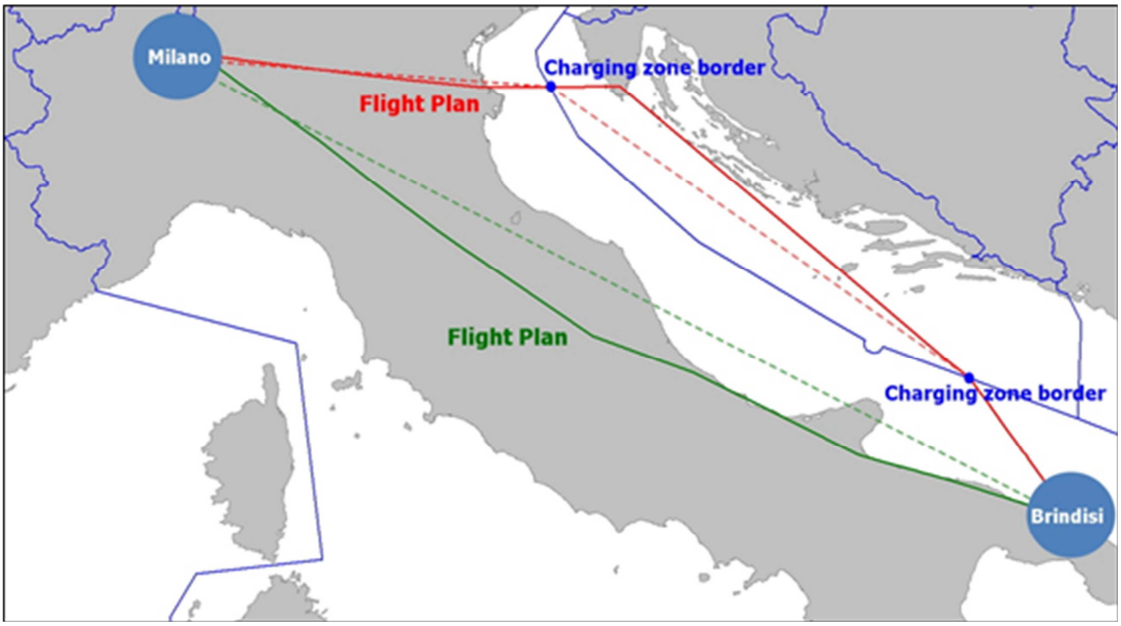


Figure 15: Alternative routes between Milan and Brindisi

3.3 Effective Use of Civil Military Airspace Structures

3.3.1 The Commission is required to monitor and report against the effective use of civil military airspace structures during RP1 (Table 4).

Environment
• The second European Union-wide environment KPI shall be the effective use of the civil/military airspace structures, e.g. CDRs (Conditional Routes). For the first reference period, this indicator shall be monitored by the Commission.

Table 4: Environmental KPA: Civil military PI for RP1

3.3.2 A letter from the Commission to Members of the Single Sky Committee, Ref. Ares (2012) 69968 - 20/01/2012, confirmed that this performance indicator would be measured by two separate performance indicators, namely "*Booking and Release Procedures*" and "*Utilisation of Conditional Routes*".

Utilisation of Conditional Routes

3.3.3 Data on this indicator is available at network level only. Figure 16 shows the ratio of aircraft filed flight plans which used conditional routes against those that could have planned via conditional routes. Figure 16 (left) shows that 74% of aircraft that could have used CDR1s (which are available by default) are filing flight plans that include conditional routes. Figure 16 (right) shows that 64% of aircraft that could use CDR2s (which are not available by default) are filing flight plans that include conditional routes.

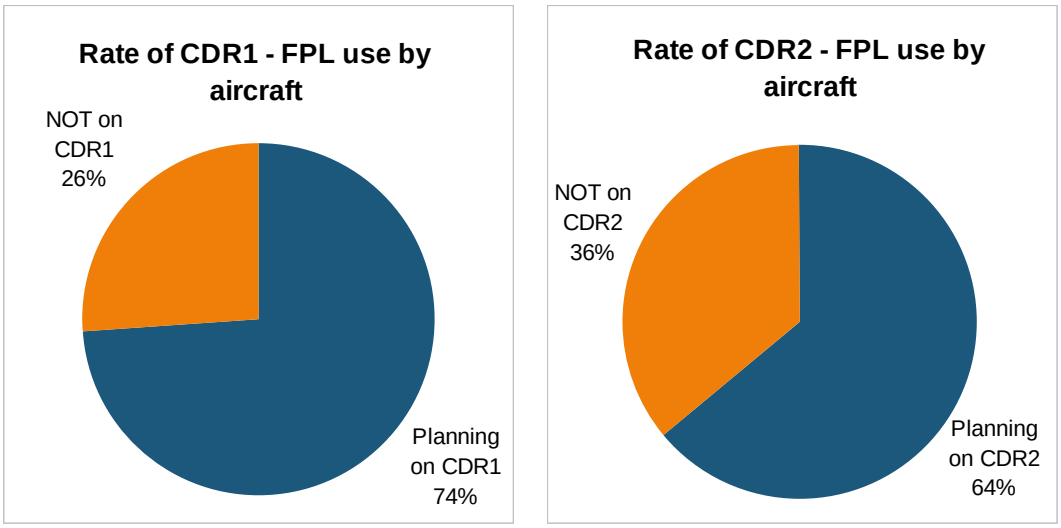


Figure 16: Utilisation of conditional routes

Booking and Release Procedures

3.3.4 For RP1, States were asked to provide data on the number of hours that airspace structures were allocated for activities requiring segregation or restriction of other traffic, the number of hours that were released at least three hours prior to activation of the airspace structure, and the number of hours that the airspaces structures were actually used for the activities requiring segregation or restriction of other traffic.

3.3.5 Since the overwhelming majority of States did not report any airspace releases at least three hours prior to activation, it is only possible to make a high level presentation of the effectiveness of booking procedures against actual use of the airspace, as below.

3.3.6 Due to the specific nature of national training requirements, it is not possible to present a homogenous indicator at EU wide level, although a summary of the national indicators is presented in Table 5.

State	Time used/ Time allocated (%)	State	Time used/ Time allocated (%)
Austria	38%	Latvia	7%
Belgium	54%	Netherlands	90%
Bulgaria	40%	Norway	44%
Czech Republic	38%	Poland	48%
Denmark	58%	Romania	41%
France	64%	Slovak Republic	25%
Finland	23%	Slovenia	72%
Germany	37%	Sweden	100%
Hungary	33%	United Kingdom	30%
Italy	48%		

Table 5: Environmental KPA: Effective booking procedures

3.3.7 The PRB received requests for further information from several Member States predominantly seeking clarification on which airspace structures to include in the reporting and, more importantly, which airspace structures could be excluded from the reporting.

3.3.8 The PRB advised the stakeholders that since the performance scheme is intended to improve the provision of air navigation services, only those airspace structures that affect either available route options or available ATC capacity were relevant for the calculation of the indicator.

3.3.9 Member States were asked to provide information on airspace usage and allocation, when the allocation was made the day before operations (pre-tactical) and airspace allocations three hours prior to the start of the airspace booking. Since the overwhelming majority of States did not report any difference between the initial airspace allocation and the airspace allocation at three hours prior to the airspace booking, it was decided not to report this sub-indicator on the dashboard.

3.3.10 Member States were asked to provide information on airspace usage and allocation made on the day of operations (tactically), if this procedure is applicable within the State concerned. Since only one State provided information on the tactical booking and use of airspace, it was decided not to report this sub-indicator on the dashboard.

3.3.11 At the time of drafting this report (August 2013):

- Two Member States, Greece and Spain, have not provided any information relating to the 2nd Environmental KPI.
- Two Member States, Estonia and Switzerland, provided partial information only. Unfortunately, since no information was provided on the actual use of the airspace, it was not possible to calculate the indicator for those States.
- Six Member States (Cyprus, Ireland, Lithuania, Luxembourg, Malta and Portugal) consider that the allocation and activation of special use airspace has no impact on the route options available to airspace users, or on the available ATC capacity.
- Nineteen Member States (Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, Latvia, the Netherlands, Norway, Poland, Romania,

Slovenia, Slovak Republic, Sweden and the United Kingdom) provided sufficient information to calculate the indicator. The results are presented in Table 5.

3.4 Recommendations on Environment

3.4.1 The PRB would like to reduce the burden of reporting on Member States whilst ensuring the effectiveness of the performance indicator by proposing the recommendations below:

- The PRB invites the Member States to review the impact of allocating or activating individual restricted or segregated areas on either the available ATC capacity, or on the availability of route options within the relevant airspace.
- The PRB invites the Commission to clarify that the reporting requirement for the "effective use of civil military airspace structures" performance indicator relates exclusively to all restricted or segregated areas which the Member States have identified as having an impact on available ATC capacity, or on available route options within the relevant airspace.

4 Capacity

4.1 En-route ATFM Delays

UNION-WIDE LEVEL

4.1.1 Under the Capacity KPA, an Union-wide target is set for en-route ATFM delays per flight (Table 6) :

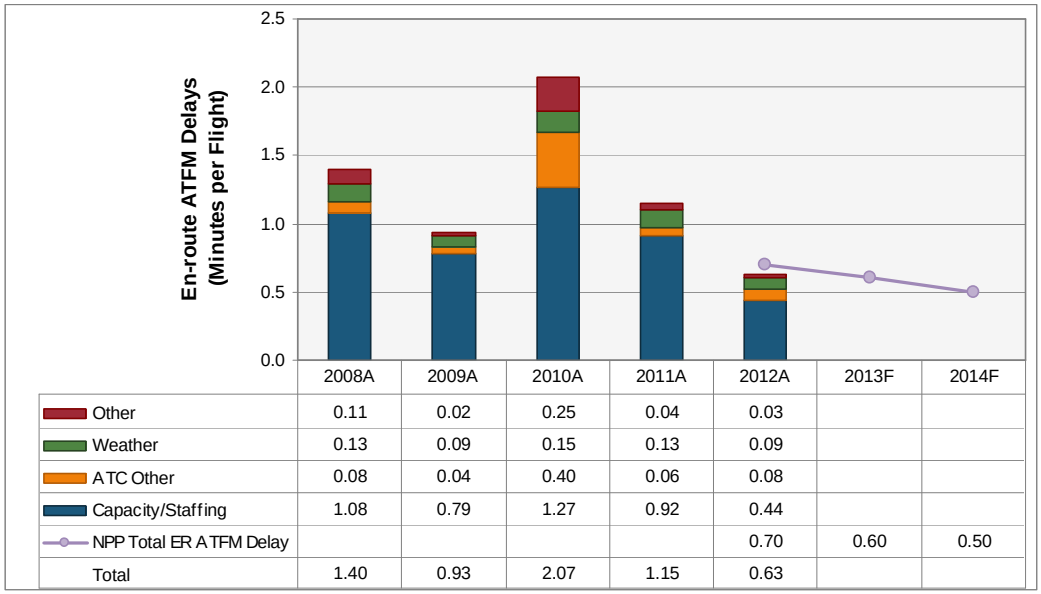
Capacity
• En-route ATFM delays per flight

Table 6: Capacity KPA: en-route ATFM delays KPI for RP1

4.1.2 The binding Union-wide target for en-route ATFM delays in 2014 is 0.5 minutes per flight, with intermediate (non-binding) targets of 0.7 min/flight in 2012 and 0.6 min/flight in 2013. These targets are shown on Figure 17, which also presents a breakdown of en-route ATFM delays according to the cause stated by the Flow Management Position for the period 2008-2012.

4.1.3 The EU wide target of 0.7 minutes was met which is a substantial improvement on previous years. However, the improved capacity performance coincided with a decline in traffic from 2011.

4.1.4 The EU wide capacity performance is the aggregation of both national and FAB capacity performance. Further details on the specific contribution of each Member State, or FAB can be seen in Volume II of this report.



	2008A	2009A	2010A	2011A	2012A	2013F	2014F
Other	0.11	0.02	0.25	0.04	0.03		
Weather	0.13	0.09	0.15	0.13	0.09		
ATC Other	0.08	0.04	0.40	0.06	0.08		
Capacity/Staffing	1.08	0.79	1.27	0.92	0.44		
NPP Total ER ATFM Delay					0.70	0.60	0.50
Total	1.40	0.93	2.07	1.15	0.63		

Figure 17: En-route ATFM delays 2008-2012

LOCAL LEVEL

Trends in KPIs on a State by State basis;

4.1.5 Table 7 shows the contribution of each Member State to the 2012 total en-route ATFM delay minutes per flight. The table shows the Member States' reference values provided by the Network Manager in 2011 and used to determine consistency with the Union-wide target, the States' target value (as provided in their Performance Plans) and the actual value recorded in 2012. The colours in the first two columns indicate whether the actual value is better (green) or worse (red) than value of the respective column (i.e. the Reference Value or the Target).

State	Reference Value (to be consistent with Union-wide target)	Target (from Performance Plan)	Actual
Austria	0.30	0.85	0.13
Belgium/Luxembourg	0.25	No national target	0.03
Bulgaria	0.11	0.11	0.00
Cyprus	0.93	1.90	1.59
Czech Republic	0.15	0.15	0.00
Denmark	0.06	No national target	0.00
Estonia	0.11	0.11	0.11
Finland	0.10	0.05	0.01
France	0.34	No national target	0.54
Germany	0.35	No national target	0.51
Greece	0.37	1.10	0.15
Hungary	0.03	0.30	0.00
Ireland	0.09	0.07	0.00
Italy	0.14	0.14	0.00
Latvia	0.02	0.02	0.00
Lithuania	0.04	0.04	0.00
Malta	0.02	0.02	0.00
Netherlands	0.12	No national target	0.17
Norway	0.04	0.04	0.28
Poland	0.32	1.00	0.52
Portugal	0.28	0.25	0.65
Romania	0.00	0.00	0.00
Slovak Republic	0.24	0.30	0.00
Slovenia	0.31	0.31	0.00
Spain	0.52	0.80	0.48
Sweden	0.02	No national target	0.04
Switzerland	0.22	No national target	0.15
UK	0.31	0.31	0.07

FAB	Reference Value (to be consistent with Union-wide target)	Target (from Performance Plan)	Actual
Denmark- Sweden	0.04	0.20	0.03
FABEC	0.52	0.77	0.60

Table 7: Data for En-route ATFM delay minutes per flight – State contributions

4.1.6 Table 7 shows that whilst all States except Portugal and Norway have achieved their national target (when a national target was published), a number of States (Cyprus, France, Germany, Netherlands, Norway, Poland, Portugal, Sweden and FABEC) show performance which is not consistent with the EU wide capacity target, as broken down into the indicative/reference values provided to Member States in December 2011.

4.1.7 More details can be found in Volume II for these States.

4.2 ANS Capacity at Airports

UNION-WIDE LEVEL

4.2.1 The EC is required to report on the three PIs related to airport capacity, as outlined in Table 8.

Capacity
• Airport ATFM delays • Additional ASMA time • Additional Taxi Out time

Table 8: Capacity KPA: Airport Capacity PI

4.2.2 77 airports are subject to the performance Regulation (Regulation (EU) No 691/2010) during RP1, as shown in Figure 18. The full list of RP1-airports can be found in Volume II of this report.

4.2.3 Only the RP1-airports accommodating more than 100 000 movements per annum are subject to ASMA monitoring, say 39 airports.

4.2.4 The new airport data flow established in 2011 as part of the Performance Scheme has been used for the calculation of additional ASMA and taxi-out times for those airports for which the data flow was successfully implemented.

4.2.5 When data required for the calculation of ASMA and taxi-out times is not provided by airports, these indicators are not published by the PRB. Consequently,

- ASMA time could be calculated for 36 out of 39 airports (missing information for Oslo/Gardermoen, Warsaw and Nice);

Figure 18: RP1 Airports

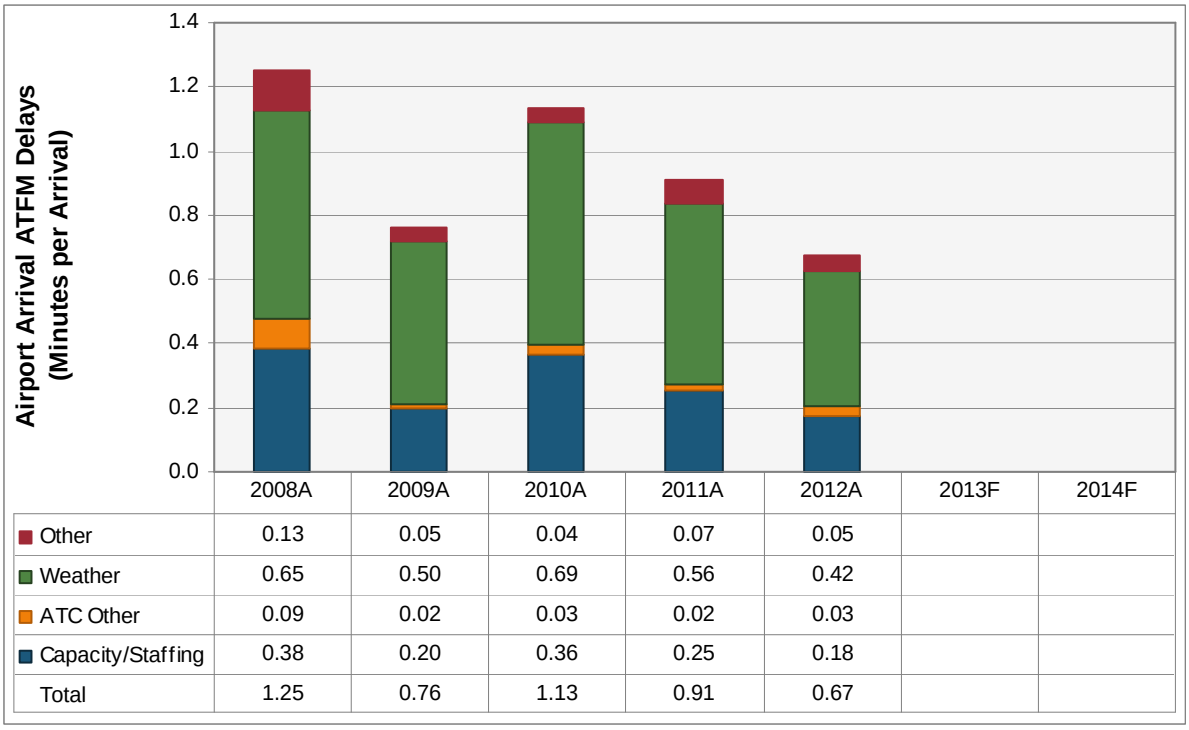
- Additional taxi-out time could be calculated for 58 airports out of the 77 airports subject to RP1 (either quality issue or missing data regarding the other 19 airports).
- The PRU is coordinating a remedial action plan with the "missing" airports.

4.2.6 No targets have been set for ANS capacity at airports in RP1.

4.2.7 The Union-wide averages of performance indicators are included in this chapter in order to provide a high-level trend. It is acknowledged however that the averages may hide significant variance between airports due to specifics at local airport level. The performance at airport level is reported in the on-line SES dashboard as well as in Volume II of this report.

4.2.8 The Traffic volume at each airport is also an important factor to be considered before drawing conclusions on performance. For instance, with an average ATFM delay of 0.8 min/arrival in 2012, Paris/Charles-de-Gaulle had a greater impact on the network than Oslo Gardermonen which recorded 1.4 min/arrival ATFM delay on average, because the traffic volume at Charles-de-Gaulle was 1.3 times greater than at Oslo over the same period.

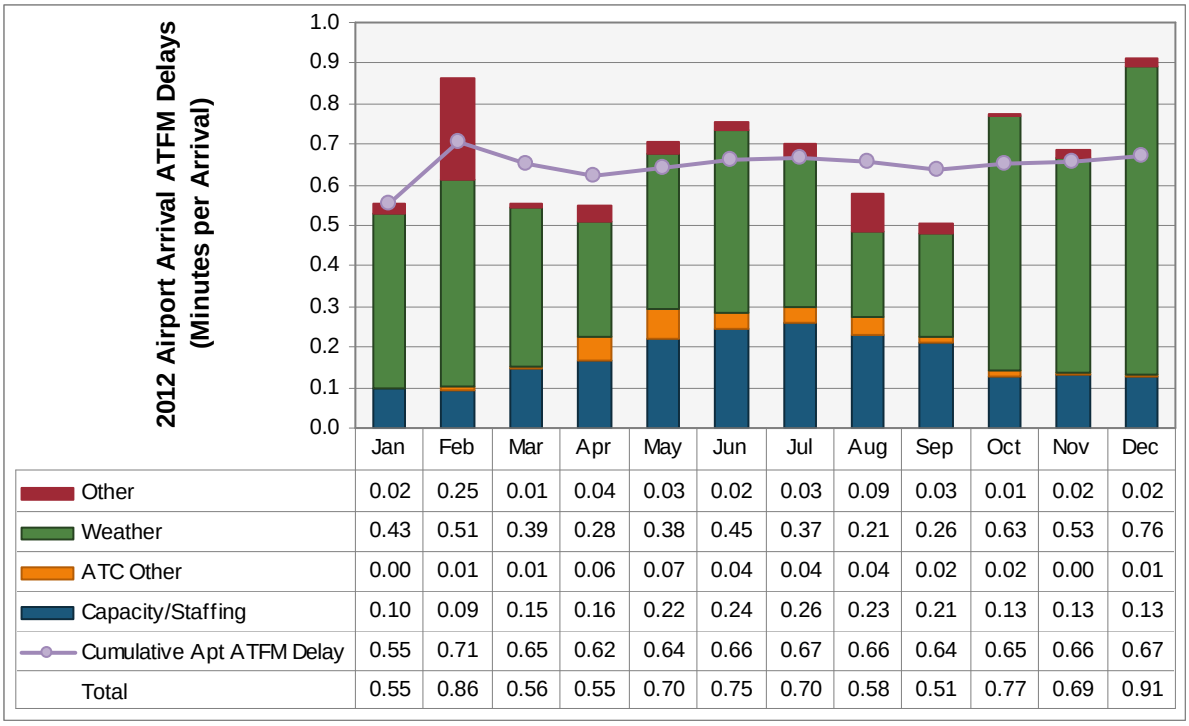
4.2.9 Airport arrival ATFM delays have decreased from 1.25 min/arrival in 2008 to 0.67 min/arrival in 2012 (Figure 19). The share of airport arrival ATFM delays contributed by weather-related issues has increased from 52% in 2008 to 63% in 2012. Capacity/staffing issues account for over a quarter of airport arrival ATFM delays throughout the period.



	2008A	2009A	2010A	2011A	2012A	2013F	2014F
Other	0.13	0.05	0.04	0.07	0.05		
Weather	0.65	0.50	0.69	0.56	0.42		
ATC Other	0.09	0.02	0.03	0.02	0.03		
Capacity/Staffing	0.38	0.20	0.36	0.25	0.18		
Total	1.25	0.76	1.13	0.91	0.67		

Figure 19: Airport arrival ATFM delays 2008-2012

4.2.10 In 2012, overall airport arrival ATFM delays were greatest in December (0.91 min/arrival) and February (0.86 min/arrival), and lowest in September (0.51 min/arrival) (Figure 20). Delays relating to capacity/staffing issues were higher in summer than winter months. As expected, weather-related airport arrival ATFM delays were greatest in the winter months and lowest in August and September.

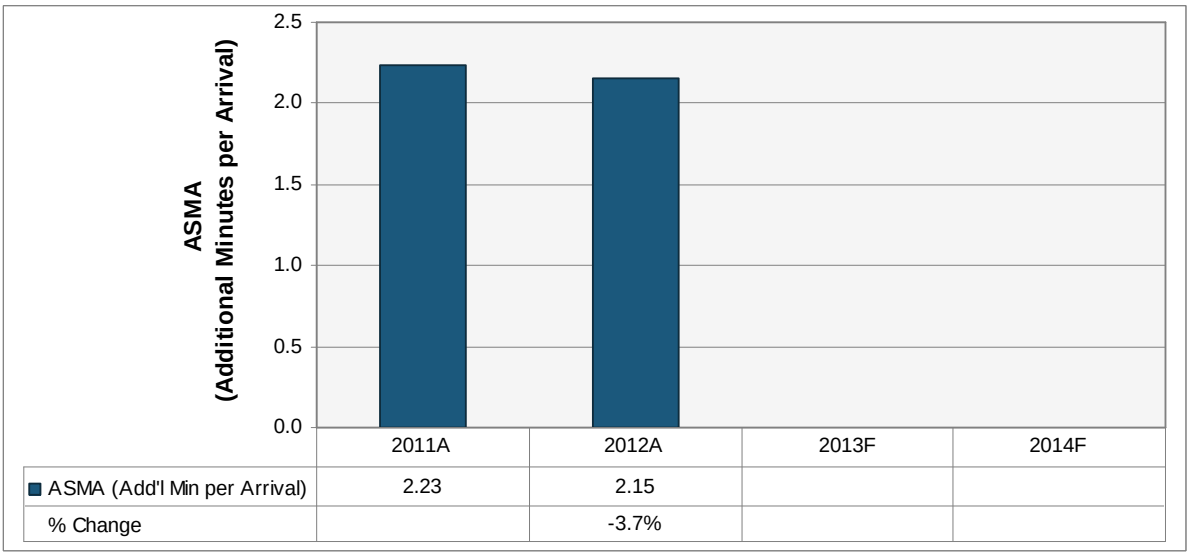


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Other	0.02	0.25	0.01	0.04	0.03	0.02	0.03	0.09	0.03	0.01	0.02	0.02
Weather	0.43	0.51	0.39	0.28	0.38	0.45	0.37	0.21	0.26	0.63	0.53	0.76
ATC Other	0.00	0.01	0.01	0.06	0.07	0.04	0.04	0.04	0.02	0.02	0.00	0.01
Capacity/Staffing	0.10	0.09	0.15	0.16	0.22	0.24	0.26	0.23	0.21	0.13	0.13	0.13
Cumulative Apt ATFM Delay	0.55	0.71	0.65	0.62	0.64	0.66	0.67	0.66	0.64	0.65	0.66	0.67
Total	0.55	0.86	0.56	0.55	0.70	0.75	0.70	0.58	0.51	0.77	0.69	0.91

Figure 20: 2012 airport arrival ATFM delays

4.2.11 The situation at local airports may vary significantly due to local circumstances. The arrival ATFM delay varied from 0.8 min/arrival at Paris/Orly to 2.6 min/arrival at London Heathrow on average in 2012.

4.2.12 Additional ASMA time decreased -3.7% from 2.23 min/arrival in 2011 to 2.15 min/arrival in 2012 (Figure 21) across all reporting airports [Ref. vii].



	2011A	2012A	2013F	2014F
ASMA (Add'l Min per Arrival)	2.23	2.15		
% Change		-3.7%		

Figure 21: Additional ASMA time 2011-2012

4.2.13 Figure 22 presents the seasonal variation in additional ASMA time in 2012. Delays were generally higher in winter than in summer months, ranging from 2.60 min/arrival in December to 1.64 min/arrival in August. 2012 delay levels were lower than the corresponding 2011 figures for all months except April 2012, which was 16% higher than April 2011. The biggest decrease from 2011 to 2012 was in August (-11%).

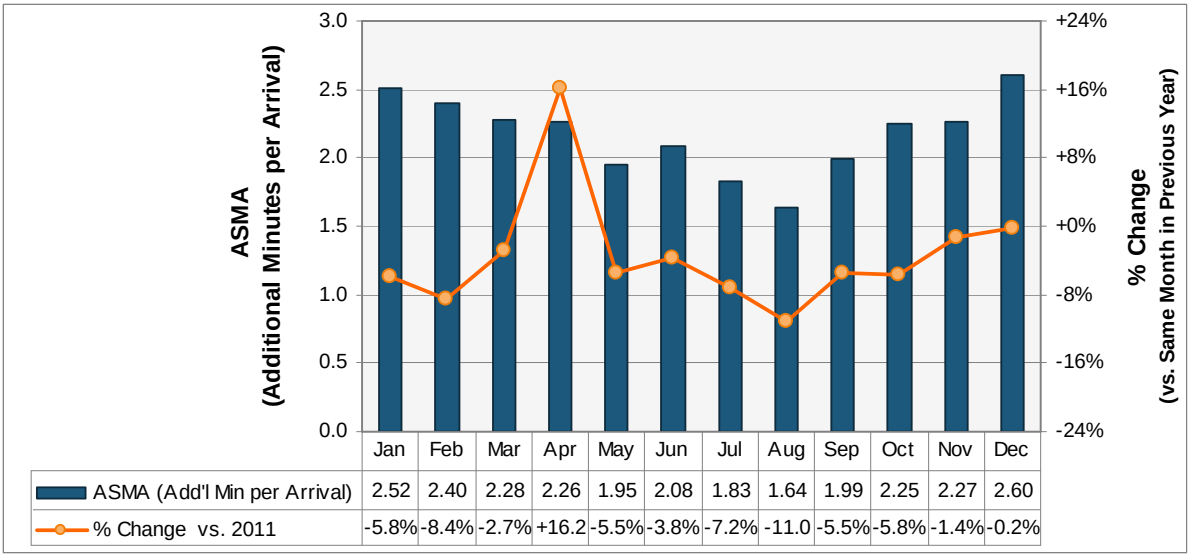


Figure 22: 2012 additional ASMA time

4.2.14 Reflecting local circumstances, the additional ASMA time varied from 1.09 minutes/arrival at Brussels airport to 9.17 minutes/arrival at London Heathrow on average during 2012.

4.2.15 Additional taxi-out time is higher than additional ASMA time, but has decreased by -5.2% from 3.53 min/departure in 2011 to 3.34 min/departure in 2012 (Figure 23) [Ref: viii].

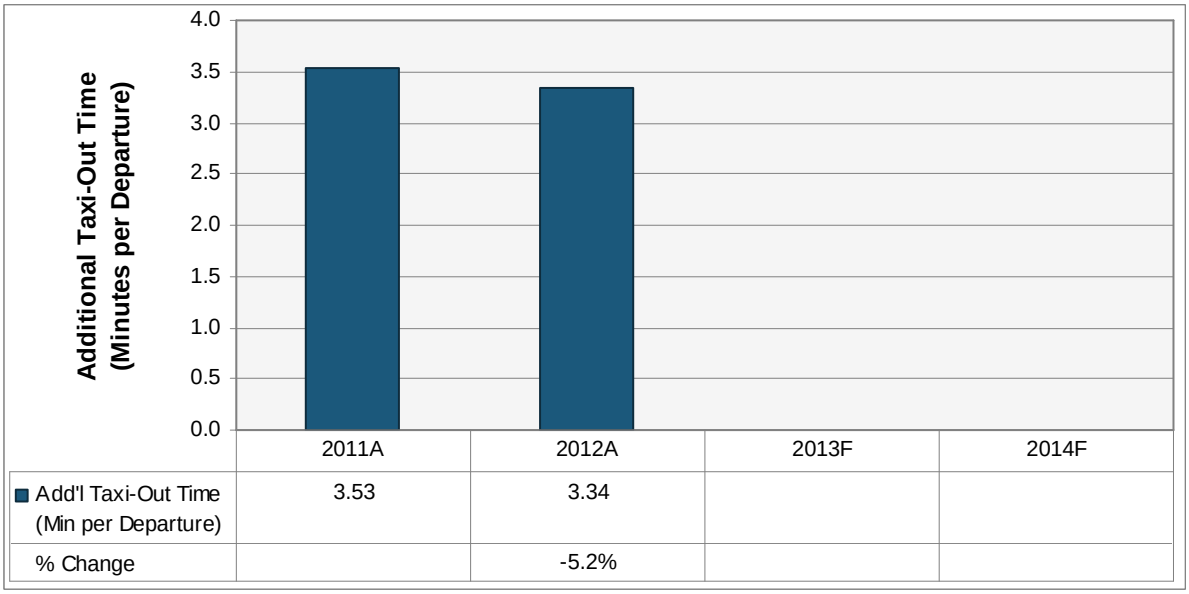


Figure 23: Additional taxi-out time 2011-2012

4.2.16 Although seasonal variations in additional taxi-out time are less pronounced than for additional ASMA time, additional taxi-out time tends to be higher in winter months (3.77 min/departure in December compared to 3.18 min/departure in August). Remote de-icing and snow removal operations in February and December 2012 may be one of the causes of this seasonal variation (Figure 24). However, in 2012 the lowest delay was experienced in November (3.03 min/departure), which represents a -16% decrease on the November 2011 delay level. With the exception of February and December, all months experienced a decrease in delay levels in 2012 compared to the same month in 2011.

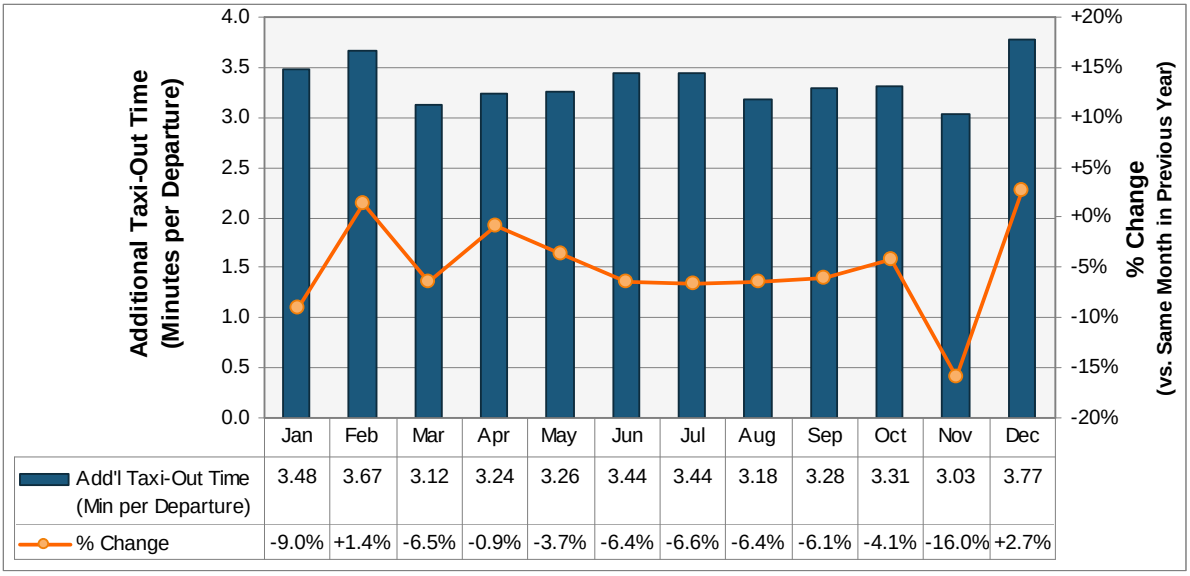


Figure 24: 2012 additional taxi-out time

4.2.17 Reflecting local circumstances, additional taxi-out times varied from 2.66 min/departure at London Luton to 8.30 min/departure at London Heathrow.

4.2.18 Performance Monitoring under (EU) 691/2010 is undertaken using the data flow defined in Annex IV of the regulation. The PRU has been tasked with the organisation and day-to-day management of the respective airport data flow.

4.2.19 At the time of writing, the technical processes and organisational measures to ensure regular airport performance monitoring have been established. Nevertheless, it must be noted that there remains some level of non-compliance with the reporting requirements (e.g. establishment of data flow, completeness of data provision, accuracy/consistency of data). Associated action plans are being reviewed and refined for future implementation, in close collaboration with the respective airport and/or authorities.

4.2.20 These action plans have resulted in improvements to the reporting situation in recent months (e.g. integration of German and Italian airports). In these cases the data validation is on-going to ensure a rapid transition into the regular monthly reporting and monitoring process.

4.2.21 As part of the review of the established data flow processes and procedures, and in support of Article 20 of the Regulation, a targeted data quality management review is currently underway, using the airport data flow as a test case. As a result, a quality assurance framework is under development and is currently being applied to the test case.

LOCAL LEVEL

4.2.22 Table 9 presents the SES performance indicators for airports clustered by traffic volume categories. It shows clearly how the largest airports (above 400,000 movements per year) experience high delays in arrival and departure flows.

	IFR Movements	> 400	300-400	200-300
ATFM Arrival Delay	Above 2 min/arr	**London Heathrow** (EGLL, 2.6 min/arr) **Frankfurt** (EDDF, 1.7 min/arr)		**Zurich** (LSZH, 2.5 min/arr)
	Between 1	**Amsterdam**	**Munich**	**Wien**

	and 2 min/arr	(EHAM, 1.4 min/arr)	(EDDM, 1.2 min/arr)	(LOWW, 1.1 min/arr) **Oslo Gardermoen** (ENGM, 1.4 min/arr)
Additional ASMA Time	Above 2 min/arr	**London Heathrow** (EGLL, 9.2 min/arr) **Frankfurt** (EDDF, 3.4 min/arr)		**Zurich** (LSZH, 3.2 min/arr) **Wien** (LOWW, 2.3 min/arr)
	Between 1 and 2 min/arr	**Amsterdam** (EHAM, 1.5 min/arr)	**Rome Fiumicino** (LIRF, 1.7 min/arr)	
Additional Taxi-Out Time	Above 4 min/dep	**London Heathrow** (EGLL, 8.3 min/dep) **Paris Charles de Gaulle** (LFPG, 4.4 min/dep)	**Rome Fiumicino** (LIRF, 7.3 min/dep) **Madrid** (LEMD, 4.5 min/dep)	**Barcelona** (LEBL, 4.7 min/dep)
	Between 3 and 4 min/dep	**Frankfurt** (EDDF, 3.9 min/dep) **Amsterdam** (EHAM, 3.0 min/dep)		**Zurich** (LSZH, 3.5 min/dep)

Table 9: Mapping of SES Performance Indicators across Traffic Volumes

4.2.23 Examining data at the performance plan level, Figure 25 shows the averages for the three performance indicators required by the IR (EU) 691/2010. These averages are weighted based on airport traffic volume. The performance plan level generally matches the State level, except for Belgium, France, Germany, Luxembourg and The Netherlands, which are grouped into FABEC, and Denmark and Sweden, which are grouped into DK-SE FAB.

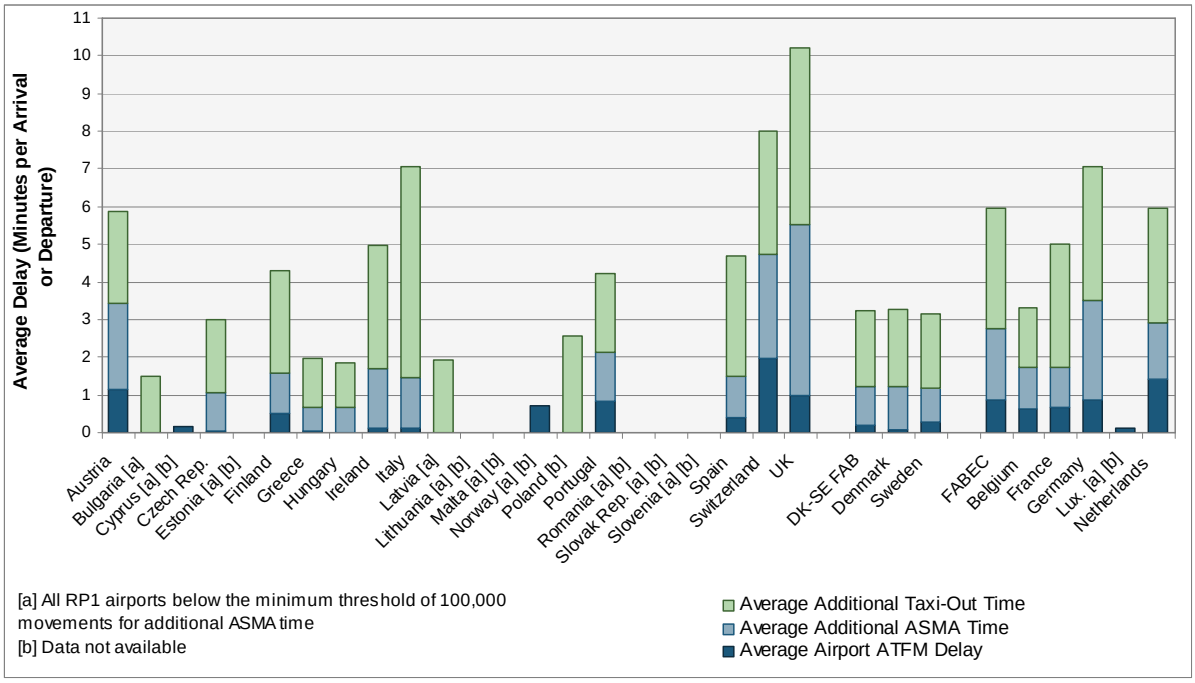


Figure 25: Airport capacity performance, State level, 2012

4.2.24 The data used to generate Figure 25 is provided below in Table 10.

State	Average Airport ATFM Delay (Min/Arr)	Average Additional ASMA Time (Min/Arr)	Average Additional Taxi-Out Time (Min/Dep)
Austria	1.1	2.3	2.4
Bulgaria	0.0	[a]	1.5
Cyprus	0.2	[a]	[b]
Czech Republic	0.0	1.0	2.0
Estonia	0.0	[a]	[b]
Finland	0.5	1.1	2.7
Greece	0.0	0.7	1.3
Hungary	0.0	0.7	1.2
Ireland	0.1	1.6	3.3
Italy	0.1	1.3	5.6
Latvia	0.0	[a]	1.9
Lithuania	0.0	[a]	[b]
Malta	0.0	[a]	[b]
Norway	0.7	[a.b]	[b]
Poland	0.0	[b]	2.5
Portugal	0.8	1.3	2.1
Romania	0.0	[a]	[b]
Slovak Republic	0.0	[a]	[b]
Slovenia	0.0	[a]	[b]
Spain	0.4	1.1	3.2
Switzerland	2.0	2.8	3.3
UK	1.0	4.5	4.7
DK-SE FAB	0.2	1.0	2.0
Denmark	0.1	1.1	2.1
Sweden	0.3	0.9	2.0
FABEC	0.9	1.9	3.2
Belgium	0.6	1.1	1.6
France	0.7	1.1	3.3
Germany	0.9	2.6	3.5
Luxembourg	0.1	[a]	[b]
Netherlands	1.4	1.5	3.0
[a]	All RP1 airports below the minimum threshold of 100,000 movements		
[b]	Data not available		

Table 10: Airport capacity indicators – Performance Plan Level

4.2.25 As summarised in Table 10 the aggregation and comparison of local ANS performance indicators at airports results in a loss of clarity and detail when presented at a performance plan level. Further appreciation of the underlying number of airports and their local characteristics (e.g. traffic volume, c.f. Table 9) should be considered when aggregated State/FAB results are compared to each other.

4.2.26 While the aggregation at performance plan level subsumes and balances local inefficiencies of the arrival flow in relatively small to moderate measures (c.f. ATFM Delays ranging mostly well below one minute), the prominence of additional taxi-out times is still clearly observable at that level. The threshold for the monitoring of the additional ASMA time indicator makes

the appraisal difficult at the performance plan level. It is therefore recommended to retain a breakdown of performance at airport level in the performance plans.

4.3 Recommendations on en-route capacity

4.3.1 Table 5 shows that there are significant differences between the periods of time that airspace is segregated or restricted from general air traffic and the periods of time that the airspace is actually used for the activity requiring such restriction: indicating a significant of latent capacity that could be available to airspace users, at no cost to the ANSP concerned.

- The PRB invites Member States, particularly those States experiencing capacity issues, to review their application of the FUA concept in accordance with the governing principles of FUA as contained in Article 3 of EC Regulation No. 2150/2005, with the aim of meeting the needs of all airspace users.
- The PRB invites Member States, particularly those States experiencing capacity issues, to identify how the flexible use of airspace can be applied to increase capacity, as detailed in section 5 of the Template for Performance Plans, Annex V, EU Regulation No 691/2010.
- The PRB invites the Network Manager to work with those Member States experiencing capacity issues to implement remedial capacity enhancements as soon as possible, with the aim of meeting the EU wide target for capacity in RP1.

4.4 Recommendations on airport capacity

4.4.1 Throughout the last years the airport data flow was implemented to monitor and assess ANS performance at airports (i.e. additional ASMA and taxi-out times). However, there remains some level on non-compliance with the reporting requirements (e.g. establishment of data flow, completeness of data provision, accuracy/consistency of data). The PRB invites Member States, particularly those States where data deficiencies have been identified, to strengthen the effort by EUROCONTROL PRU and collaboration by the airport reporting entity to establish and assure quality across the airport data flow or follow up on the timely implementation of associated remedial action plans, in support to Article 20 of the performance Regulation..

4.4.2 Performance monitoring at airports is based on a consistent and relational basis for each SES indicator for airports (e.g. same terminology, computation methodology). For the comparison of individual airports, however, local characteristics and parameters need to be considered. PRB invites Member States to consult EUROCONTROL PRU in establishing criteria for the breakdown and aggregation of local performance indicators on a national level.

5 Cost efficiency

5.1 Presentation of the en-route cost-efficiency KPI and targets

5.1.1 Under the cost efficiency KPA, EU-wide targets are set for the average determined unit rate for en-route ANS in 2012, 2013 and 2014 (Table 11). The aggregation of the individual national cost-efficiency targets for RP1 provides for a slightly lower figure for 2012 and higher figures for 2013 and 2014 (Table 12).

EU-wide targets for RP1 (EC Decision of 21 February 2011)	2012	2013	2014
Real en-route unit costs per Service Units - (in EUR2009)	57.88	55.87	53.92

Table 11: En-route cost efficiency targets for RP1 as per EC Decision on EU-wide targets

SES States - Data from RP1 National Performance Plans	2012P	2013P	2014P
Real en-route unit costs per Service Units - (in EUR2009)	57.75	56.70	54.85

Table 12: En-route cost efficiency targets for RP1 as per aggregation of national targets

5.2 Actual 2012 unit cost vs. DUR in adopted Performance Plans

5.2.1 The EU-wide actual real en-route unit cost per service unit in 2012 is €58.47, +1.2% higher than forecast in the adopted National Performance Plans (NPPs) (see Figure 26 below). This reflects lower than expected traffic volumes in 2012 by -4.5%, while the actual costs are lower by -3.3% than the determined costs adopted in the NPPs.

SES States - Data from RP1 national performance plans	2009A	2010A	2011F	2012P	2013P	2014P
Real en-route costs (determined costs 2012-2014) - (in EUR2009)	6 247 946 111	6 067 472 645	6 164 114 436	6 258 122 341	6 319 367 129	6 306 268 419
Total en-route Service Units	98 066 532	100 480 397	104 906 871	108 359 738	111 461 030	114 964 695
Real en-route unit costs per Service Units - (in EUR2009)	**63.71**	**60.38**	**58.76**	**57.75**	**56.70**	**54.85**

SES States - Actual data from June 2013 Reporting Tables	2009A	2010A	2011A	2012A	2012A vs NPP	in %
Real en-route costs - (in EUR2009)	6 247 946 111	6 069 730 763	5 971 987 063	6 052 565 799	-205 556 542	-3.3%
Total en-route Service Units	98 066 532	100 475 566	104 700 936	103 508 047	-4 851 691	-4.5%
Real en-route unit costs per Service Units - (in EUR2009)	**63.71**	**60.41**	**57.04**	**58.47**	**0.72**	**1.2%**

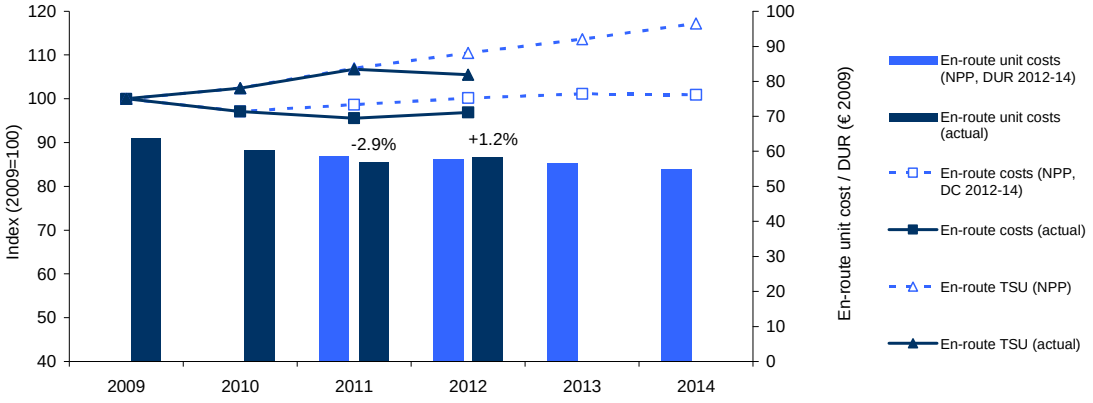


Figure 26: En-route unit costs in 2012 (actual vs. NPP)

5.2.2 In 2012, most States experienced lower than expected traffic volumes, with the exception of Bulgaria, Latvia, Malta, and Norway. These four States all have lower unit costs in 2012 than the DUR planned in their adopted NPPs. A further 11 States (Belgium/Luxembourg, Czech Republic, Denmark, France, Hungary, Ireland, Italy, Lithuania, Poland, Slovakia and Slovenia) have achieved reductions in their unit costs despite lower than planned traffic volumes (see Figure 27 below), with the largest reduction seen in Slovenia (€5.90 lower than in its adopted NPP).

5.2.3 The largest increase in unit cost is in Sweden (€9.32 higher than in the adopted NPP), followed by Germany (€4.89 higher than in the adopted NPP).

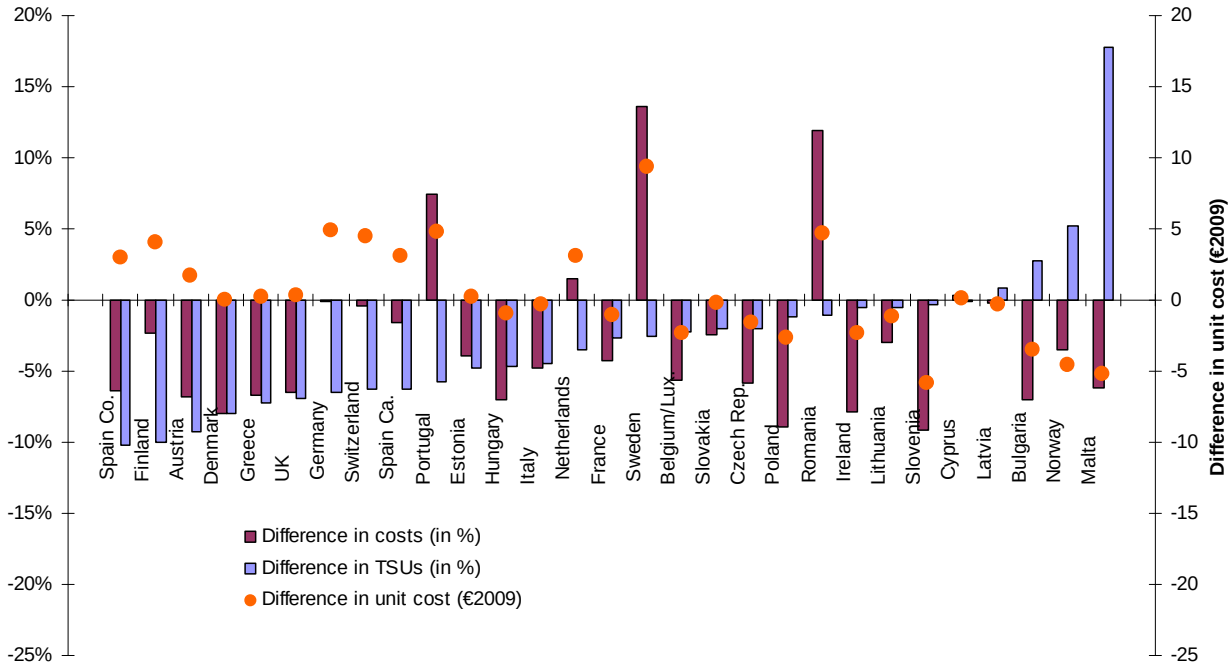


Figure 27: 2012 Actual unit costs and service units vs. NPP by State

5.3 Traffic actual vs. 2012 plan

5.3.1 In 2012, EU-wide traffic in TSUs was -4.5% lower than planned in the adopted NPPs (and-1.1% compared to 2011 actual TSUs), i.e. within the ±10% threshold. At National level, one State (Malta) has exceeded the +10% threshold (see Chapter 6 on Alert Thresholds), while two States (Finland and Spain) experienced a traffic decrease of almost 10%.

5.3.2 If the latest (May 2013) STATFOR traffic forecasts materialise in 2013 and in 2014, the traffic should remain within the ±10% threshold at EU-wide level (Figure 28). At National level, however, it appears that a few States could exceed the threshold in 2013 and 2014.

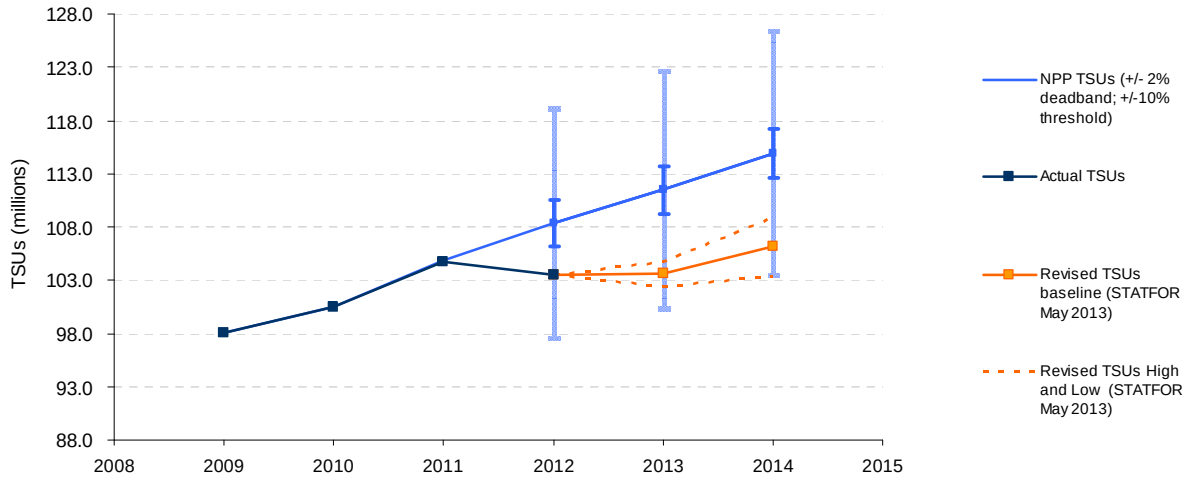


Figure 28: 2012 actual TSUs and STATFOR May 2013 forecasts compared to NPPs

5.3.3 2012 was the first year that all SES States/ANSPs moved away from the full recovery charging mechanism and adopted the "determined costs" method with specific risk-sharing arrangements aimed at incentivising ANSPs' economic performance.

5.3.4 The traffic risk sharing arrangements built in the SES Charging Regulation foresee that additional or lost revenue of the ANSPs (in respect of determined costs) due to the difference in traffic between the actual TSUs and the forecast TSUs from the NPP are shared between the ANSPs (as illustrated in Figure 29 below) and the airspace users, as follows:

a) For a difference in TSUs falling within the dead band of ± 2%, the additional or lost revenue in respect of ANSP determined costs is fully retained by the ANSP concerned;

b) For a difference in TSUs falling outside the threshold of ± 10%, the additional (or lost) revenue in respect of ANSP determined costs is fully reimbursed (charged) to the airspace users;

c) For a difference in TSUs falling between the dead band of ± 2% and the threshold of ± 10%, the additional (or lost) revenue in respect of ANSP determined costs is shared between the ANSPs (30%) and the airspace users (70%).

5.3.5 The determined costs of the other entities (States/NSAs, METSPs) are not be submitted to traffic risk- sharing and are fully reimbursed (charged) to the airspace users, irrespective of traffic evolution.

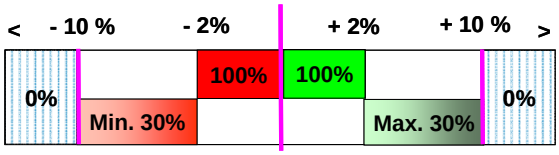


Figure 29: Traffic risk sharing mechanism for the ANSPs

5.3.6 As a result of the traffic risk sharing mechanism, the net loss of revenues due to the difference in traffic in 2012 (304.6 M€2009) is shared between States/ANSPs and airspace users. Overall, States/ANSPs are bearing 42% of the loss (127.5 M€2009) and airspace users 58% (176.1 M€2009, of which 125.5 M€2009 relating to costs subject to traffic risk sharing and 50.7 M€2009 relating to costs not subject to traffic risk sharing).

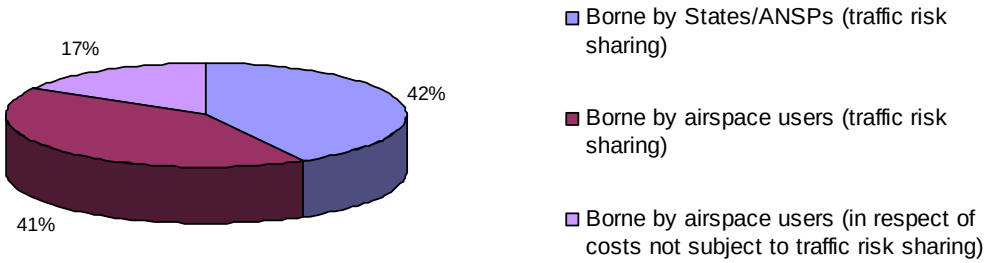


Figure 30: Outcome of 2012 traffic risk sharing arrangements

5.4 Actual 2012 en-route costs vs. costs in adopted Performance Plans

5.4.1 It is important to note that in order to ensure consistency with the determined costs data provided in the adopted NPPs and to allow for Union wide consolidation, actual costs are expressed in real terms (2009 prices).

5.4.2 Total actual en-route costs in 2012 are -205.6 M€2009 lower than expected in the adopted NPPs. Figure 27 above shows that in response to the lower than expected traffic levels, 24 of the 29 States/ANSPs were able to reduce their actual costs compared to the determined costs adopted in their NPPs.

5.4.3 Figure 31 shows the distribution of this difference (-205.6 M€2009) between actual costs and the adopted NPPs in 2012, categorised by nature, and by entity.

5.4.4 When categorised by nature, variations suggest that around 70% (-144.3 M€2009) of the cost savings achieved in 2012 relate to structural measures (in the 'staff costs' and 'other operating costs' categories) that may also affect the level of en-route costs in 2013 and 2014 and further into RP2.

5.4.5 Depreciation costs are also significantly lower than planned in the NPPs (-62.1 M€2009). It is understood from the 2012 NSA monitoring reports that this is mainly due to the postponement of capital expenditures (capex) to future years. This reflects in some cases an adjustment to the lower traffic volumes than expected for 2012, but also temporary delays which are due to technical issues (see Volume 3 - Report on Capital Expenditure 2012). At this stage, it is not clear whether some investment plans presented in the NPPs could have been overestimated. In the context of determined costs, the unit rates charged to airspace users include determined depreciation costs and cost of capital and, if the corresponding equipment/investments are not effectively implemented, they do not yield the expected benefits for airspace users. It is therefore important that NSAs ensure that airspace users are not paying again in RP2 for the part of the capex already charged in RP1.

5.4.6 When categorised by entity, the bulk of the reduction (-169.5 M2009) is attributable to ANSPs (-165.1 M2009 to the main en-route ATSPs and -4.4 M2009 for the other ANSPs). By "main en-route ATSP" is it generally meant the ATSP subject to traffic risk sharing arrangements as foreseen by the Charging Regulation. A further -39.9 M2009 of savings were achieved by MET service providers. Costs for the States/NSAs (including EUROCONTROL Agency costs) show a marginal increase of +3.9 M2009, compared to plans (reflecting a decrease in the EUROCONTROL costs and an increase in NSA costs).

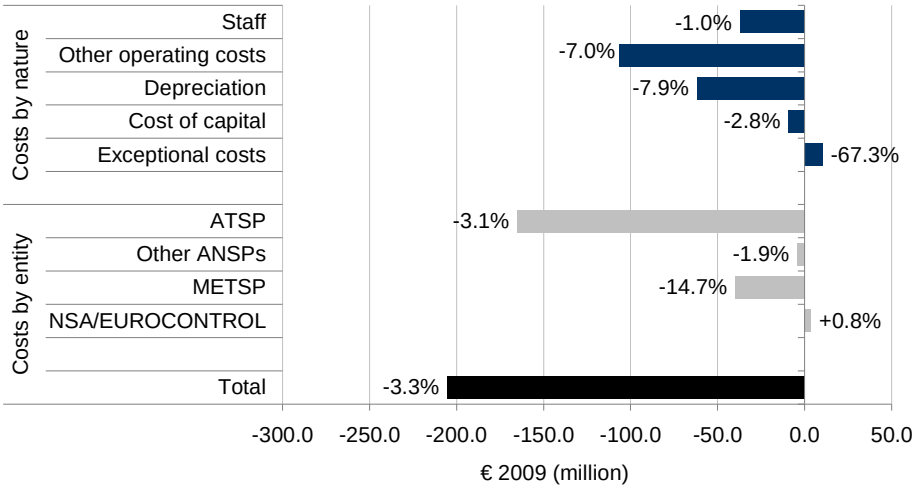


Figure 31: Breakdown of 2012 actual en-route costs compared to NPP (by nature and by entity)

5.4.7 The cost sharing mechanism built in the SES Regulations foresees that the difference between the determined costs set in the adopted NPPs and the actual costs for the year shall be retained by the States/ANSPs. Hence the difference between the determined costs and the actual costs for 2012 (205.6 M€2009) shall be retained by the States/ANSPs as a gain.

5.4.8 SES regulations also foresee that some costs shall be exempt from this cost sharing mechanism with regard to cost items for which States/ANSPs concerned have taken reasonable and identifiable steps to manage but which may be deemed to be outside their control. These costs will be eligible for carry-over to the following reference period(s), if deemed allowed by the European Commission after verification on the basis of the NSA report establishing and justifying these exemptions.

5.4.9 States have reported "costs exempt from cost-sharing" for a total of 39.6 M€2009 in respect of 2012 to be recovered from users in the next RPs (see Table 13 below). These costs shall be further documented and justified by the NSAs in a dedicated report. The European Commission will then have 6 months to assess the NSA's findings and decide if the Member State(s) concerned shall be allowed to apply the exemption in part or in whole according to its findings (as per Charging Regulation 391/2013 article 14. 2 (f)).

Costs exempted from cost sharing (by factor/item)	2012 ('000€2009) Estimate
Pension	51 649
Interest rates on loans	-3 724
National taxation law	408
New cost item required by law	-3 440
International agreements	-5 300
Costs exempted from cost sharing (by entity)	**2012 ('000€2009) Estimate**
ATSP	46 060
Other ANSP	563
METSP	-192
NSA/EUROCONTROL	-6 839
Total costs exempted from cost sharing to be recovered from (+)/ reimbursed to (-) users if eligible after EC verification	**39 591**

Table 13 Costs exempt from cost sharing reported by the States for 2012

5.4.10 Most of the reported "cost exempt from cost-sharing" relate to pension costs affecting the ATSP entity. It should also be noted that some of the reported "cost exempt from cost-sharing" are negative and expected to be reimbursed to airspace users.

5.5 ATSP net gain for the 2012 en-route activity

5.5.1 The (main) en-route State's ATSP is the most significant contributor to the State's en-route costs (typically around 90% of the total cost base) and is the only (or main) entity subject to the costs and traffic risk sharing mechanisms foreseen by the Charging Regulation. Indeed, 2012 marks the end of the full cost recovery mechanism and SES ATSPs are subject to such risk sharing arrangements which have direct implications on their profitability (profit margin and ex-post return on equity - RoE) and financial strength. In this context, a new analysis has been developed focusing on the ATSPs results for the en-route activity performed in 2012.

5.5.2 A number of steps are needed to calculate the net ATSP gain or loss on en-route activity. First, it is needed to carefully consider the impact of the cost sharing and traffic risk sharing arrangements and additional gains/penalties resulting from financial incentives linked to capacity and/or environment where applicable. This allows for computing a net gain/loss for the ATSP with respect to the en-route activity in the year 2012. It is important to emphasise that the economic/financial analysis focuses on the ATSP results entitled to the activity in the year 2012. The analysis does not consider the cash flow position and liquidity balance at the end of the year which are impacted by the charging mechanism whereby the eligible under-recoveries (for traffic, etc.) are to be recovered in year N+2 or later.

5.5.3 Second, to estimate the ex-post profit margin with respect to ATSP results entitled to the activity in the year 2012 (in Section 5.6 below), it is required to isolate the element of profits which was imbedded in the computation of the determined cost of capital as adopted in the NPP. Due to unavailability of some key figures, the profitability analysis developed below is based on some assumptions (in particular for the share of equity and debt used to compute the weighted average cost of capital). The provision of more detailed information on the computation of the cost of capital in the NSA Annual Monitoring Reports and in States NPPs for RP2 would certainly contribute to improve the monitoring analysis carried out by the PRB.

5.5.4 The detailed analysis of the ATSPs results for the en-route activity performed in 2012 shows that, at EU-wide level, the (main) ATSPs of the SES States have generated a net gain for the activity of +90.3 M€2009 (see bottom of Figure 32 below), provided that the exemptions from cost sharing are deemed allowed by the European Commission (see §5.4.7 to 5.4.9 above). Without taking account of the exemptions reported by the States for cost-sharing, the net gain of the main ATSPs would be reduced to +44.2 M€2009.

5.5.5 The net gain referred to in the above paragraph results from the combination of three distinct elements:

1) a gain resulting from the cost-sharing mechanism of +204.3 M€2009, corresponding to the difference between actual 2012 costs and the determined costs from the adopted NPPs for the (main) ATSPs of +158.2 M€2009, and reported costs exempt from cost sharing of +46.1 M€2009 (see §5.4.9 above);

2) a net loss resulting from the traffic risk sharing mechanism of -127.3 M€2009 for the (main) ATSPs;

3) a gain resulting from the financial incentive mechanism for the capacity KPI, which are applied to two ATSPs in RP1 (ENAV Italy and NATS UK) for +13.3 M€2009.

Cost sharing ('000€2009)	2012 A
Determined costs for the ATSP (NPP)	5 254 073
Actual costs for the ATSP	5 095 827
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	158 245
Amounts excluded from cost sharing to be recovered from (+) reimbursed to (-) users	46 060
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	**204 305**

Traffic risk sharing ('000€2009)	2012 A
Difference in total service units (actual vs NPP)	-4.48%
Determined costs after deduction of costs for exempted VFR flights	5 166 768
ATSP gain (traffic between 0 and +2% higher than NPP)	3 486
ATSP gain (traffic between +2% and +10% higher than NPP)	1 313
ATSP loss (traffic between 0 and -2% below NPP)	-82 367
ATSP loss (traffic between -2% and -10% below NPP)	-49 706
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	**-127 275**

Incentives ('000€2009)	2012 A
ATSP bonus (+) / penallty (-)	13 271
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives	**13 271**

Net ATSP gain(+)/loss(-) on en-route activity	90 301

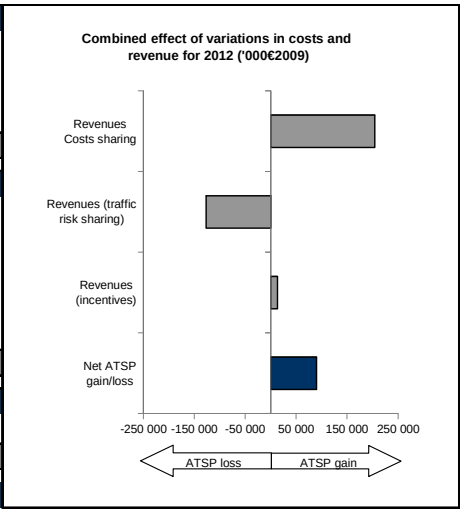


Figure 32: Net gain/loss on 2012 en-route activity for the (main) ATSPs

5.6 ATSPs actual 2012 profit margins vs. Performance Plans

5.6.1 Ex-ante, the part of the 2012 determined en-route cost of capital relating to the RoE planned by the ATSPs is considered to represent their planned profit ("fair" remuneration of the equity capital). Based on the information reported by the States, this embedded profit has been estimated at 224.9 M€2009 for the 28 (main) ATSPs and the underpinning assumptions are described in Figure 33 (column 2012P) below: namely, an ex-ante planned asset base of 6.3 B€2009, of which on average 57% is financed through equity at a (pre-tax) RoE rate of 6.3%.

5.6.2 Ex-post, the estimated actual profit for 2012 (see column 2012A in Figure 33 below) is computed by adding two distinct elements:

1) the part of the profit embedded in the cost of capital (based on the ex-ante RoE and the reported actual cost of capital, actual asset base, as well as the (estimated) share financed through equity capital), i.e. 238.0 M€2009, and

2) the net gain/loss generated in respect of the en-route activity in 2012 as the result of the risk sharing arrangements detailed in Section 5.5 above, i.e. +90.3 M€2009.

5.6.3 Altogether, this yields at system level a profitability of some 328.3 M€2009 for the en-route activity in 2012. On this basis, the estimated profit margin for the (main) ATSPs at EU-wide level increased from a planned (weighted average) +4.3% of the en-route activity in the NPPs

to +6.3% (or +5.5% without the exemptions from cost sharing - see §5.4.9 above). At system level, this corresponds to a (weighted average) ex-ante RoE of 6.6% to an ex-post actual RoE of 9.0% (or 7.7% without the exemptions from cost sharing).

ATSP estimated profit margin ('000€2009)	2012 P	2012 A	2013 P	2013 A	2014 P	2014 A
Total asset base	6 309 082	6 156 123	6 331 977		6 258 382	
Estimated proportion of financing through equity (in %)	57%	59%	57%		57%	
Estimated proportion of financing through equity (in value)	3 583 069	3 655 494	3 595 686		3 560 497	
Estimated proportion of financing through debt (in %)	43%	41%	43%		43%	
Estimated proportion of financing through debt (in value)	2 726 013	2 500 629	2 736 291		2 697 885	
Cost of capital	330 434	329 589	334 049		326 228	
Average interest on debt	3.9%	3.7%	3.8%		3.8%	
Interest on debt	105 702	91 544	104 951		102 668	
Ex-ante RoE	6.3%	6.5%	6.4%		6.3%	
Estimated profit embedded in the cost of capital for en-route	224 920	238 030	229 027		223 822	
Net ATSP gain(+)/loss(-) on en-route activity	-	90 301	-		-	
Estimated profit/loss for the en-route activity	**224 920**	**328 331**	**229 027**		**223 822**	
Revenue/costs for the en-route activity	**5 254 073**	**5 186 128**	**5 254 195**		**5 238 715**	
Estimated profit margin in percent of en-route revenue/costs	**4.3%**	**6.3%**	**4.4%**		**4.3%**	
Estimated ex-post RoE	**6.3%**	**9.0%**	**6.4%**		**6.3%**	

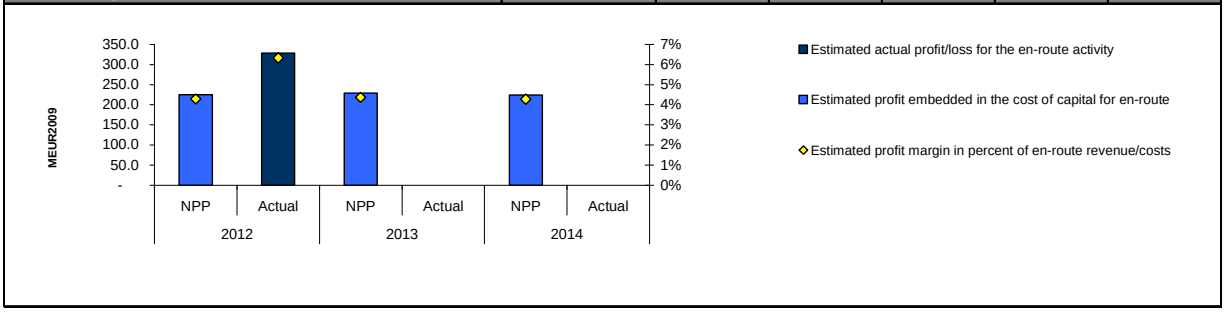


Figure 33: Estimated profit margin for the 2012 en-route activity for the (main) ATSPs at system level

5.6.4 This is an important result since it suggests that, at system level for the year 2012, ATSPs succeeded in retaining their (ex-ante) profit margin and even increase it in a context of significant traffic decline.

5.6.5 Inevitably, at individual ATSP level, the situation differs across the States, as shown in Figure 34 below, depending on the level of profit embedded as part of the determined costs and the level of the net loss (if any) resulting from the cost and traffic risk sharing arrangements.

5.6.6 Figure 34 shows that 20 out of the 28 (main) ATSPs have succeeded in increasing their profit margin in 2012 compared to the NPPs (the case of NAV Portugal* is specific and detailed in §0 below), two ATSPs show an actual estimated profit margin close to zero, Skyguide and Finavia, (the case of LFV* is also specific and dealt with in §5.6.9 below).

5.6.7 Figure 34 also shows that three ATSPs have incurred losses and show an actual estimated negative profit margin, DFS, LVNL and ROMATSA:

- For DFS, the profit embedded in the cost of capital was not sufficient to cover the losses generated by higher actual costs than planned and losses incurred from the traffic risk sharing mechanism;
- For LVNL*, as this ATSP has no equity, hence no return on equity and no ex-ante profit embedded in the cost of capital, the loss incurred from the traffic risk sharing mechanism is fully retained by the ATSP. Moreover, the small retained difference between actual costs and determined costs from the NPP would become an additional loss if the costs exempt from cost sharing reported for LVNL were not found eligible after EC verification (see in §5.6.9 below). For both DFS and LVNL, the loss incurred in 2012 could negatively impact their financial strength, especially if the situation does not improve in the following years;
- For ROMATSA, the situation is different, as the observed estimated loss is fully related to an increase in the provisions for employee benefits, which do not represent a cost per se in

respect of the activities in 2012. Without the effects of these increased provisions, the actual estimated profit margin would be +11.4%, i.e. an increased estimated profitability compared to that planned in the NPP.

5.6.8 It is important to emphasize that a detailed analysis at State/Charging zone level and for each (main) ATSP is provided in the companion Level 2 document.

5.6.9 It is also important to stress that for the purpose of this analysis the estimated actual profit margins shown in Figure 34 take account of the costs exempt from cost sharing reported for the ATSPs. As explained in §5.4.7 to 5.4.9 above, these costs will become eligible for carry-over to the following reference period(s) only if deemed allowed after EC verification. Should these costs not be eligible, the profitability of some ATSPs would be different to that presented in Figure 34. This is particularly true for the ATSPs shown with an asterisk in the graph, i.e. NAV Portugal*, LFV* and LVNL*, which would end up with negative profit margins of -15.1%,-16.3% and -5.8% respectively without taking account of the costs exempt from cost sharing.

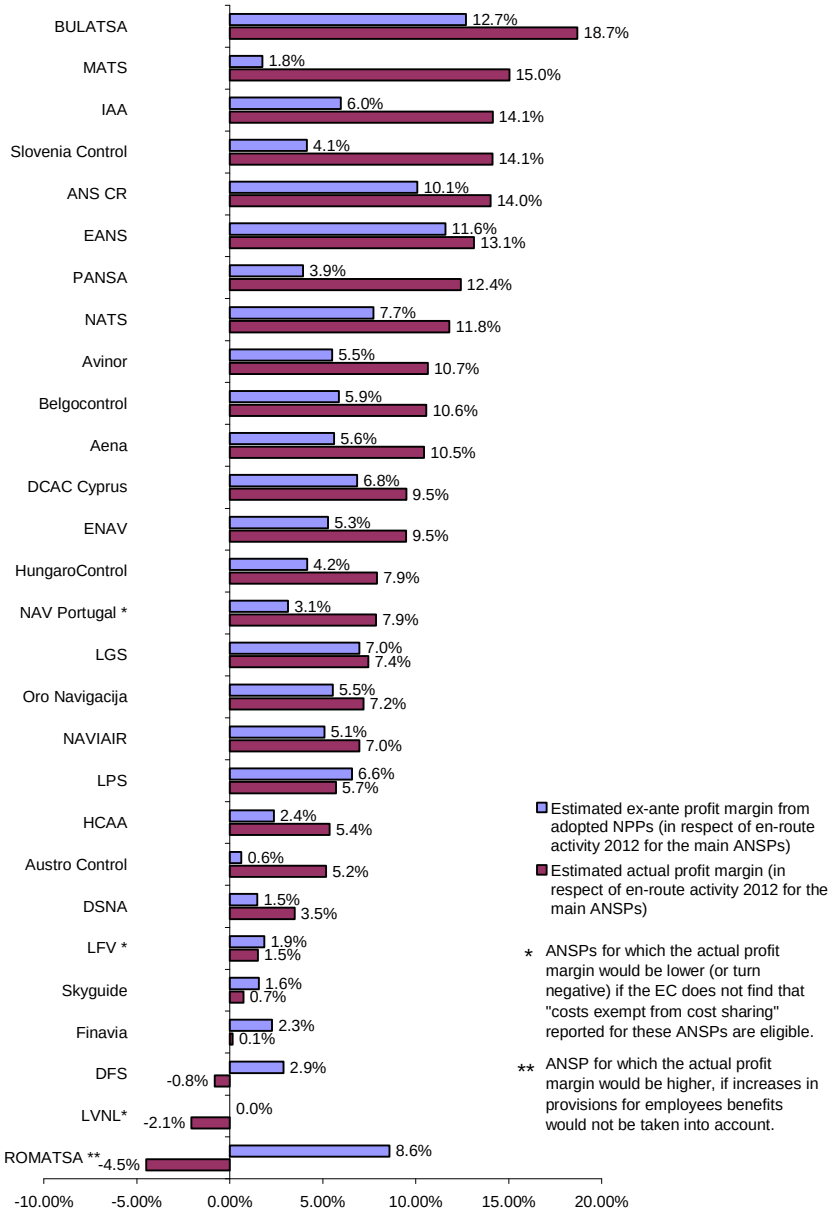


Figure 34: Estimated profit margin for the 2012 en-route activity for the main ATSPs at individual level

5.7 Presentation of the terminal ANS cost-efficiency PI

5.7.1 Under the cost efficiency KPA, terminal ANS costs and unit rates for RP1 are to be monitored. The aggregation of the terminal ANS costs from the NPPs is shown in Table 14 below. Due to the non uniform application of the formula for calculating the terminal unit rates until 2015, it is not possible to provide an aggregation or consolidation of a EU-wide unit rate for terminal ANS services.

SES States - Data from RP1 national performance plan	2012	2013	2014
Real terminal ANS costs - (in EUR2009)	1 477 597 315	1 471 558 427	1 477 262 348

Table 14: Terminal ANS cost efficiency performance indicator for RP1

5.8 Actual 2012 terminal ANS costs vs. forecast in adopted Performance Plans

SES States - Data from RP1 national performance plan	2012	2013	2014
Real terminal ANS costs - (in EUR2009)	1 477 597 315	1 471 558 427	1 477 262 348

SES States - Actual data from June 2013 Reporting Tables	2012A	2012A vs NPP	in %
Real terminal ANS costs - (in EUR2009)	1 394 464 487	-83 132 828	-5.6%

Table 15: 2012 Terminal ANS actual costs vs. NPP

5.8.1 EU-wide terminal ANS costs in 2012 were -5.6% lower than forecast in the adopted NPPs (1,394 M€2009 compared to 1,478 M€2009).

5.8.2 This was driven by large savings achieved in the UK (actual cost was -18.8 M€2009 lower than forecast in NPP), France (-17.9 M€2009), Spain (12.9 M€2009 lower) and Italy (-11.7 M€2009 lower). A further 15 States achieved smaller savings and terminal ANS costs were higher than expected in 9 States (Figure 35).

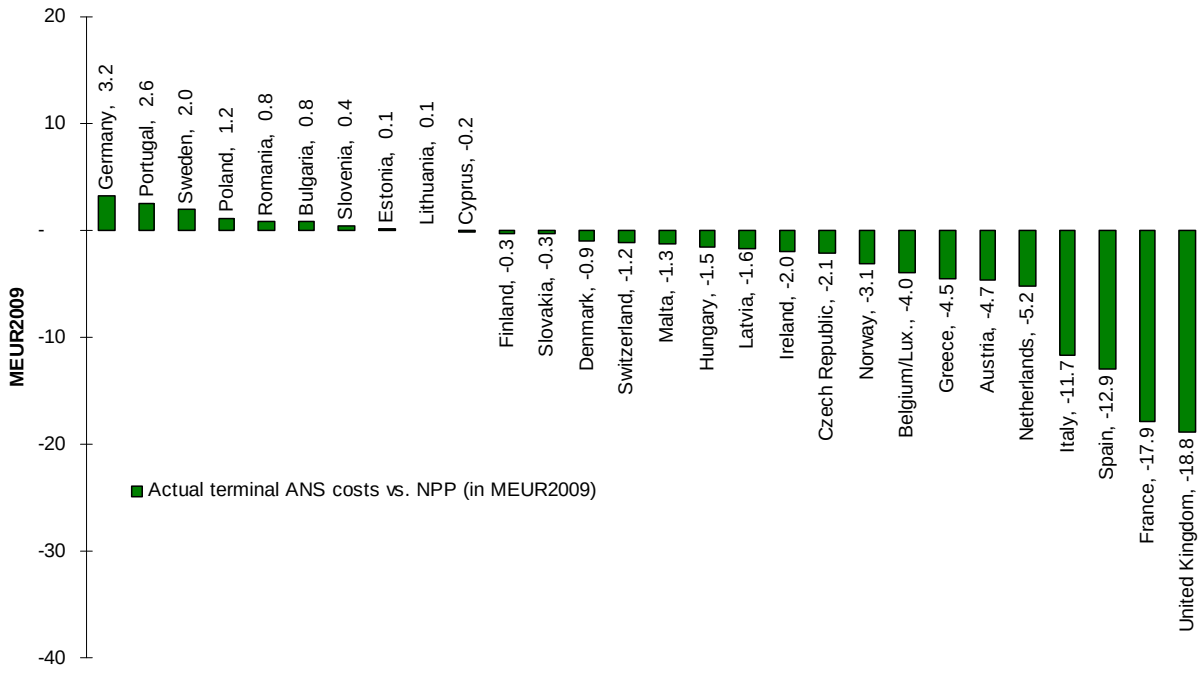


Figure 35: 2012 Terminal ANS actual costs vs. NPP at State level

5.9 Actual 2012 gate-to-gate ANS costs vs. forecast in adopted Performance Plans

SES States - Data from RP1 national performance plan	2012P	2013P	2014P
Real en-route costs (determined costs 2012-2014) - (in EUR2009)	6 258 122 341	6 319 367 129	6 306 268 419
Real terminal ANS costs - (in EUR2009)	1 477 597 315	1 471 558 427	1 477 262 348
Real gate-to-gate ANS costs - (in EUR2009)	**7 735 719 656**	**7 790 925 556**	**7 783 530 767**
Share of en-route costs in gate-to-gate ANS costs	**80.9%**	**81.1%**	**81.0%**

SES States - Actual data from June 2013 Reporting Tables	2012A	2012A vs NPP	In %
Real en-route costs - (in EUR2009)	6 052 565 799	-205 556 542	-3.3%
Real terminal ANS costs - (in EUR2009)	1 394 464 487	-83 132 828	-5.6%
Real gate-to-gate ANS costs - (in EUR2009)	**7 447 030 286**	**-288 689 370**	**-3.7%**
Share of en-route costs in gate-to-gate ANS costs	**81.3%**	**0.4%**	

Table 16: 2012 Gate-to-gate ANS actual costs vs. NPP

5.9.1 Total EU-wide gate-to-gate costs in 2012 were -3.7% lower than the costs presented in the adopted NPPs (€7,447M compared to €7,736M in 2009 prices). En-route costs account for 81% of gate-to-gate costs in the actual reported costs, as forecast in the NPPs.

5.9.2 In other words, at system level, for the year 2012 there was no sign of an increasing share of terminal ANS costs given that these costs are not subject to the determined costs method (except for France).

5.10 Recommendations on cost-efficiency

5.10.1 2012 marks the end of the full cost recovery mechanism and SES ATSPs are subject to risk sharing arrangements which have direct implications on their profitability (profit margin and ex-post return on equity - RoE) and financial strength. If STATFOR forecasts (May 2013) materialise, some ATSPs will incur further losses of revenues on the en-route activity. In this context, it will be important to closely monitor the evolution of this situation and to understand the impact of these losses of revenues on their financial strength.

5.10.2 In order to assess the impact of the risk sharing arrangements on the ATSP profitability (profit margin and ex-post return on equity - RoE) and financial strength, it is necessary to avail of the key figures relating to underlying assumptions for the calculation of the cost of capital relating to equity. Due to the unavailability of these figures for some ATSPs, the profitability analysis developed by the PRB is based on assumptions (in particular for the share of equity and debt used to compute the weighted average cost of capital). The provision of more detailed information on the computation of the cost of capital in Annual Monitoring Reports and in the Performance Plans for RP2 would contribute to improve the monitoring analysis carried out by the PRB in the future.

5.10.3 It is understood from the 2012 NSA monitoring reports that a considerable part of the capital expenditures (capex) planned for 2012 in the Performance Plans has been postponed to future years. In the context of determined costs, the unit rates charged to airspace users include determined depreciation costs and cost of capital and, if the corresponding equipment/investments are not effectively implemented, they do not yield the expected benefits for airspace users. It is therefore important that NSAs ensure that airspace users are not paying again in RP2 for the part of the capex already charged in RP1.

6 Alert thresholds

6.1 Union-wide level

6.1.1 Article 18 of the performance Regulation (Regulation (EU) No 691/2010) defines specific mechanisms to handle exceptional situations during Reference Periods. These "alert mechanisms" can be triggered during Reference Periods at both Union-wide level and local level in cases where new, unforeseeable circumstances occur that are both insurmountable and outside the control of the Member States, or when alert threshold(s) are reached at EU level.

6.1.2 If these cases occur, the following steps will be taken at Union-wide level: the Commission shall review the situation in consultation with the Member States through the SSC and provide proposals for appropriate actions within three months, which may include the revision of the Union-wide performance targets and as a consequence revision of the national or FAB performance targets.

6.1.3 Two alert thresholds are defined in Commission Decision 2011/121/EU establishing Union-wide targets for RP1:

- a deviation over a calendar year by at least 10% of actual traffic expressed in en-route service units compared to a planned figure defined in the Commission Decision (108,776,000 in 2012) ("traffic alert threshold", applicable to all key performance indicators);
- a deviation over a calendar year by at least 10% of actual costs compared to determined costs with reference determined costs forecasted at Union-wide level in the Commission Decision (€6,296M in 2009 prices) ("cost alert threshold", applicable to the cost-efficiency indicator).

6.1.4 The PRB has assessed the 2012 traffic data and has concluded that the traffic alert threshold of ±10% has not been reached at Union-wide level. Actual en-route Service Units in 2012 were 103,507,785, i.e. -4.8% lower than the planned 2012 value in Article 3(1) of the Commission Decision (Figure 36).

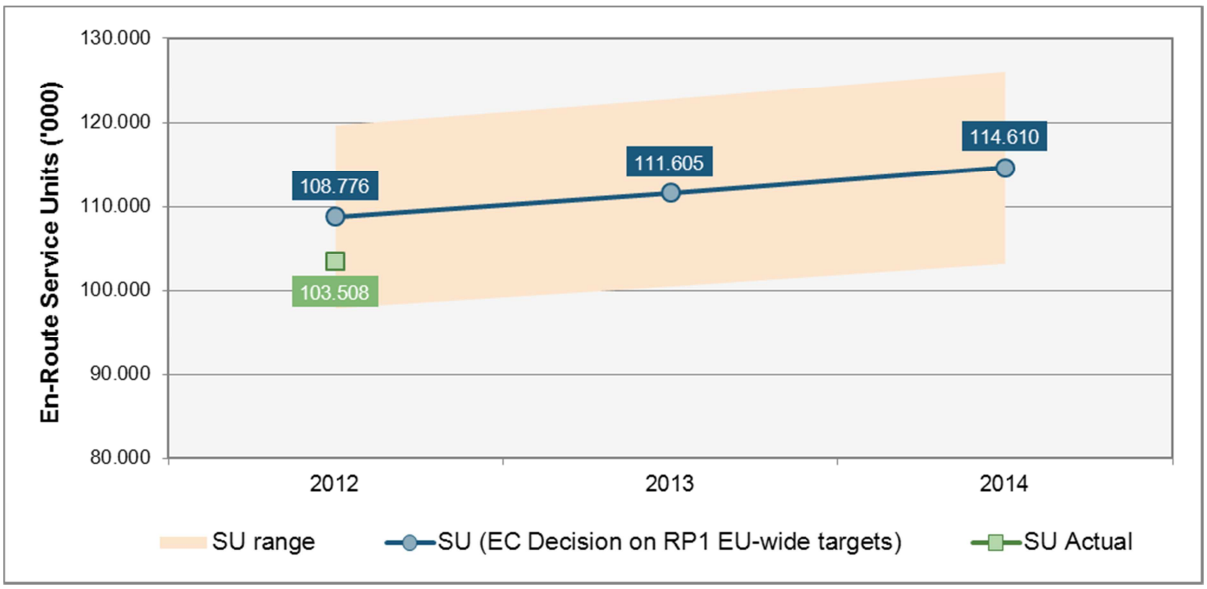


Figure 36: En-route service units at EU wide level

6.1.5 The PRB has assessed the 2012 preliminary cost data reported by each Member State and has concluded that the cost alert threshold of ±10% has not been reached at Union-wide level. Actual en-route costs in 2012 were €6,053M in 2009 prices, i.e. -3.9% lower than the 2012 value in Article 3(1) of the Commission Decision (Figure 37).

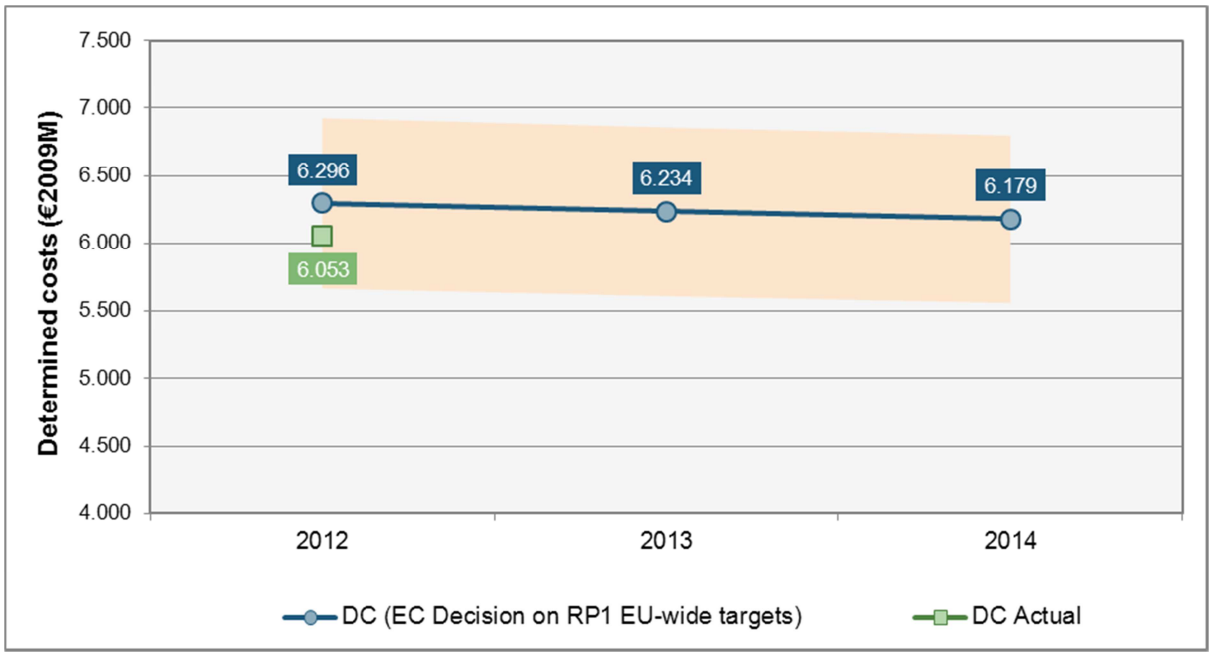


Figure 37: En-route determined costs at EU wide level

6.1.6 Therefore, **neither** of the alert thresholds at Union-wide level were reached in 2012.

6.2 Local level

6.2.1 According to Article 18(3), States may decide to apply different alert thresholds than the Union-wide at local level. In this case, they shall describe and justify them in their performance plan.

6.2.2 So far, no States have reported specific alert thresholds therefore the same thresholds (±10%) apply at national (or FAB) level, as compared with the traffic and cost forecasts contained in each performance plan.

6.2.3 The PRB has assessed 2012 traffic at a national level. Figure 38 presents the proportional difference between actual and planned Service Units for each State in 2012.

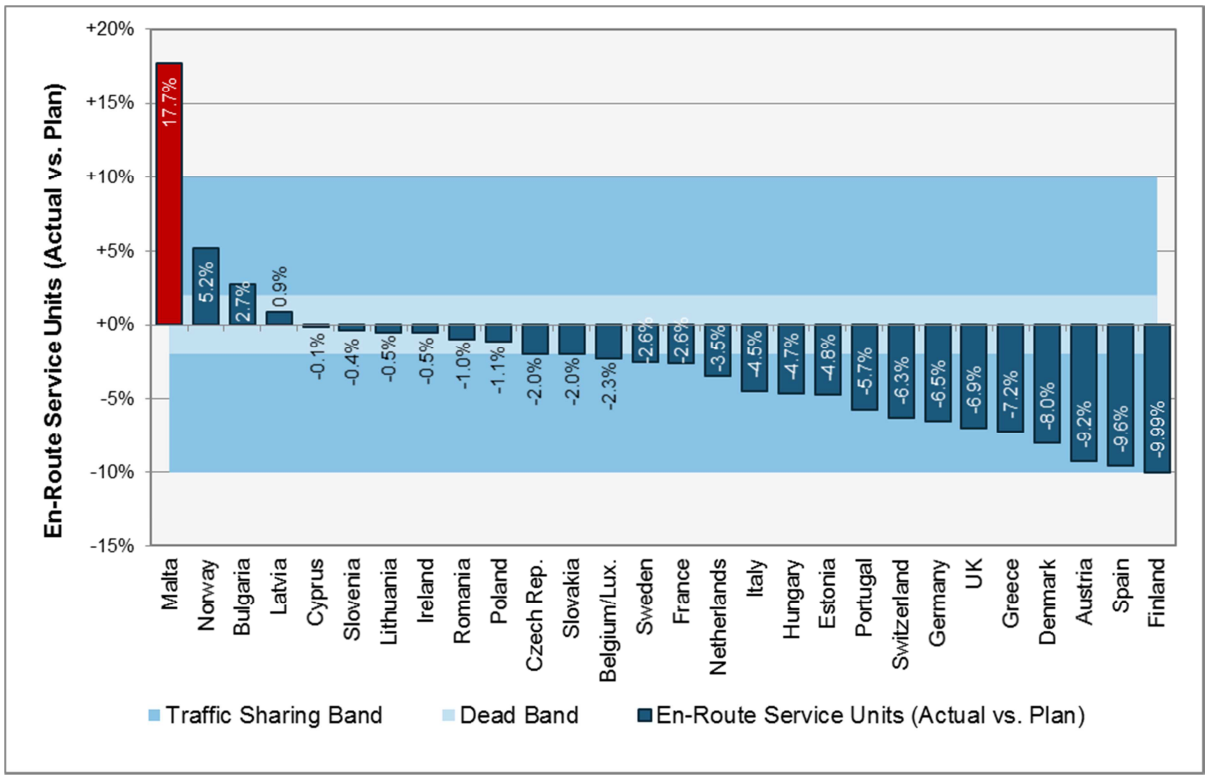


Figure 38: En-route Service Units by State (Actual vs. Plan)

6.2.4 Figure 38 shows that Malta (+17.7%) has reached the traffic alert threshold in 2012, and that Finland (-9.9%) and Spain (-9.6%) are very close to the traffic alert threshold.

6.2.5 With respect to the traffic and cost-efficiency indicators, it has to be noted that Spain consists of two separate charging zones. While at national level the traffic alert threshold was not reached (-9.6%), data shows a deviation of traffic compared to the plan for Spain Continental of -10.2%. Based on the wording of the performance Regulation, the Commission considers at this stage that the provisions of Article 18(2) cannot be applied, however it is in dialogue with Spain regarding this situation.

6.2.6 Following from Article 18(2) of the performance Regulation and taking the above considerations into account, the NSA of Malta has been invited to review the traffic situation by liaising with the Commission. In view of the traffic volatility in Malta's airspace, Malta has informed the Commission that it did not plan to propose a revised performance plan.

6.2.7 Similarly, the PRB has assessed the 2012 determined costs at a national level. Figure 39 presents the proportional difference between actual and planned Determined Costs for each State in 2012 (expressed in €2009).

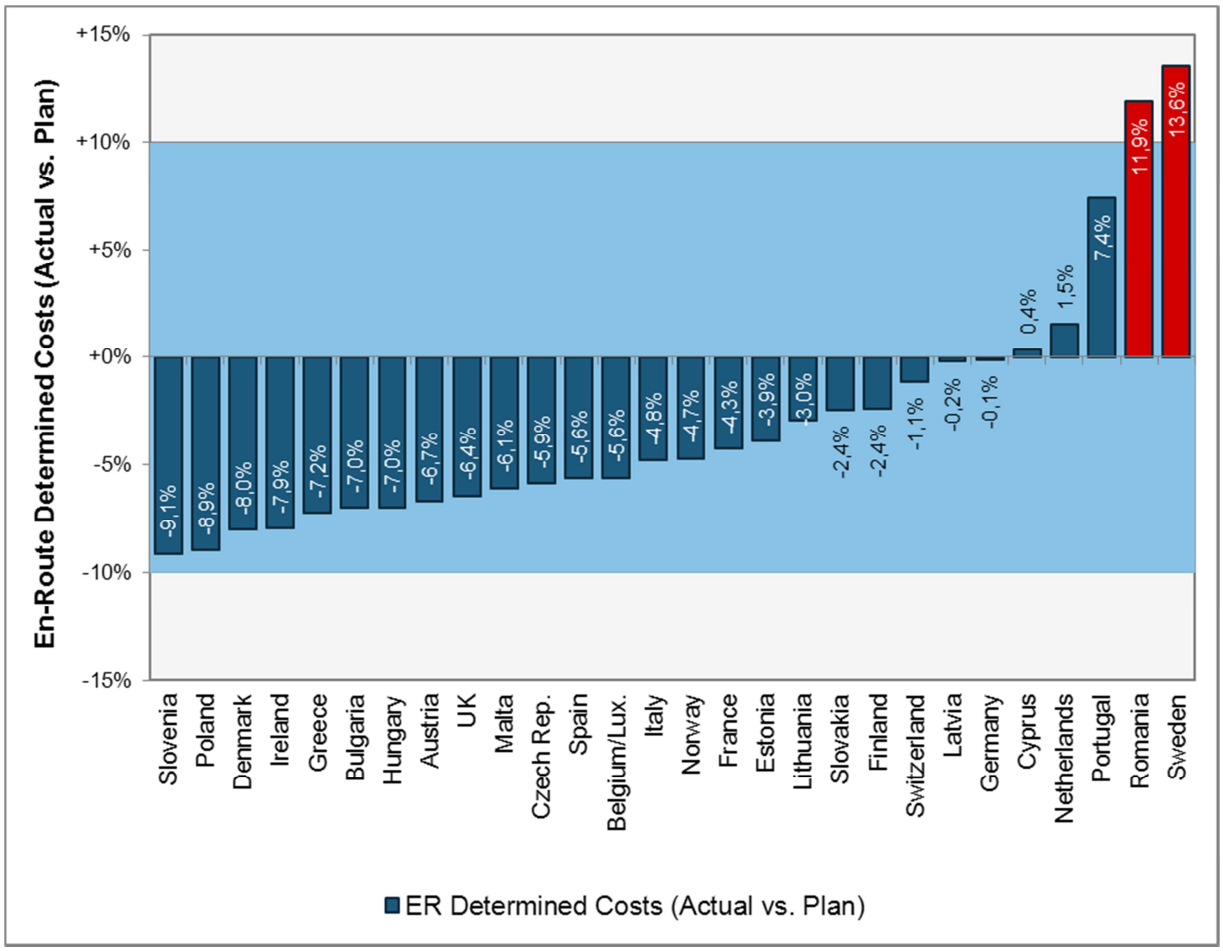


Figure 39: En-route Determined costs by State (Actual vs. Plan)

6.2.8 Both Sweden and Romania have exceeded the 10% threshold in 2012 for the following reasons:

- **Sweden:** Higher pension related costs which are reported as costs exempt from cost sharing.
- **Romania:** Exceptional costs related to the increase in a provision for employment benefits which:
  - are not pension related costs; and
  - are not reported as costs exempt from cost sharing.

6.2.9 For cost-efficiency, the PRB notes that the ±10% traffic alert threshold corresponds to the outer bands of the traffic risk sharing mechanism defined in Article 11a of the charging Regulation (Commission Regulation (EC) No 1794/2006). Therefore, if traffic is below -10% (or respectively above +10%), all losses exceeding -10% (or respectively all gains exceeding +10%) are able to be recovered from (or shall be returned to) airspace users through an adjustment of the chargeable unit rate in n+2 (i.e. 2014).

7 Conclusions

7.1 Overall performance in 2012

7.1.1 This monitoring report has reviewed performance in the first year of the first reference period (RP1) under the new performance scheme. Union-wide traffic volumes decreased in 2012 and were lower than forecast in the adopted NPPs. Despite this, targets have been met and performance in the year has demonstrated that the ANS system has been flexible and has successfully adapted to the traffic downturn.

7.1.2 There were no fatal accidents with an ANS contribution in 2012. Horizontal en-route flight efficiency improved in 2012, and en-route ATFM delays were -46% lower than in 2011. Actual ANS costs in 2012 were lower than forecast in the adopted NPPs, as States reduced their costs in response to the decrease in traffic.

7.1.3 At a Union-wide level, neither of the two the alert thresholds defined in Commission Decision 2011/121/EU have been reached. At a local level, the traffic threshold has been exceeded only by Malta, and the cost threshold has been exceeded only by Sweden and Romania.

7.2 PRB Recommendations

7.2.1 Based on the experience gathered in assembling this first report, the PRB recommends the following:

Safety

- The EoSM scores achieved by the individual States show that 41% of States are scoring below 50. This is considered too low. The verified results of the EoSM questionnaires at State level clearly show that implementation of safety management principles at State level are below implementation levels of ANSPs. This raises concerns as to how States perform both their oversight and safety management tasks and responsibilities. All States are therefore urged to apply additional effort to achieve higher levels of safety management.
- The EU averages for application of RAT severity methodology (for SMIs, RIs and ATM-S occurrences) show that after the first year of reporting for RP1 less than a third of States applied the methodology for SMIs and RIs, and less than half for ATM-S events. Many CAA/NSA entities have indicated that they lack either sufficient information to complete the RAT Overall score or the knowledge/capability to enable such scoring and reporting, or that they lack both elements. Therefore, member States are encouraged to continue additional efforts to enable further enhancements in reporting and application of RAT methodology by seeking, planning and applying training on this matter.

Environment

- The PRB invites the Member States to review the impact of allocating or activating individual restricted or segregated areas on either the available ATC capacity, or on the availability of route options within the relevant airspace.
- The PRB invites the European Commission to clarify that the reporting requirement for the “effective use of civil military airspace structures” performance indicator relates exclusively to all restricted or segregated areas which the Member States have identified as having an impact on available ATC capacity, or on available route options within the relevant airspace.

Capacity

- Throughout the last years the airport data flow was implemented to monitor and assess ANS performance at airports (i.e. additional ASMA and taxi-out times). However, there remains some level on non-compliance with the reporting requirements (e.g. establishment

of data flow, completeness of data provision, accuracy/consistency of data). The PRB invites Member States, particularly those States where data deficiencies have been identified, to strengthen the effort by EUROCONTROL PRU and collaboration by the airport reporting entity to establish and assure quality across the airport data flow or follow up on the timely implementation of associated remedial action plans, in support to Article 20 of the performance Regulation..

- Performance monitoring at airports is based on a consistent and relational basis for each SES indicator for airports (e.g. same terminology, computation methodology). For the comparison of individual airports, however, local characteristics and parameters need to be considered. PRB invites Member States to consult EUROCONTROL PRU in establishing criteria for the breakdown and aggregation of local performance indicators on a national level.
- The PRB invites Member States, particularly those States experiencing capacity issues, to review their application of the FUA concept in accordance with the governing principles of FUA as contained in Article 3 of EC Regulation No. 2150/2005, with the aim of meeting the needs of all airspace users.
- The PRB invites Member States, particularly those States experiencing capacity issues, to identify how the flexible use of airspace can be applied to increase capacity, as detailed in section 5 of the Template for Performance Plans, Annex V, EU Regulation No 691/2010.
- The PRB invites the Network Manager to work with those Member States experiencing capacity issues to implement remedial capacity enhancements as soon as possible, with the aim of meeting the EU wide target for capacity in RP1.

Cost efficiency

- 2012 marks the end of the full cost recovery mechanism and SES ATSPs are subject to risk sharing arrangements which have direct implications on their profitability (profit margin and ex-post return on equity - RoE) and financial strength. If STATFOR forecasts (May 2013) materialise, some ATSPs will incur further losses of revenues on the en-route activity. In this context, it will be important to closely monitor the evolution of this situation and to understand the impact of these losses of revenues on their financial strength.
- In order to assess the impact of the risk sharing arrangements on the ATSP profitability (profit margin and ex-post return on equity - RoE) and financial strength, it is necessary to avail of the key figures relating to underlying assumptions for the calculation of the cost of capital relating to equity. Due to the unavailability of these figures for some ATSPs, the profitability analysis developed by the PRB is based on assumptions (in particular for the share of equity and debt used to compute the weighted average cost of capital). The provision of more detailed information on the computation of the cost of capital in Annual Monitoring Reports and in the Performance Plans for RP2 would contribute to improve the monitoring analysis carried out by the PRB in the future.
- It is understood from the 2012 NSA monitoring reports that a considerable part of the capital expenditures (capex) planned for 2012 in the Performance Plans has been postponed to future years. In the context of determined costs, the unit rates charged to airspace users include determined depreciation costs and cost of capital and, if the corresponding equipment/investments are not effectively implemented, they do not yield the expected benefits for airspace users. It is therefore important that NSAs ensure that airspace users are not paying again in RP2 for the part of the capex already charged in RP1.

References

i PRB online monitoring dashboard: http://prudata.webfactional.com/Dashboard/eur_view_2012.html

ii Commission Regulation (EC) No 691/2010 of 29 July 2010, laying down a performance scheme for air navigation services and network functions, OJ L 201, 3.8.2010

iii PRB online monitoring dashboard: http://prudata.webfactional.com/Dashboard/eur_view_2012.html

iv Commission Regulation (EU) No 677/2011 of 7 July 2011 laying down detailed rules for the implementation of air traffic management (ATM) network functions and amending Regulation (EU) No 691/2010, OJ L 185, 15.7.2011, p.1

v See http///ec.europea.eu/transport/air/airports/airports_en.htm

vi Directive EC 2003/42 of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation

vii This average is based on data from 26 airports (Amsterdam, Athens, Barcelona, Birmingham, Brussels, Budapest Ferihegy, Copenhagen Kastrup, Frankfurt, Geneva, Helsinki Vantaa, Las Palmas, London Heathrow, London Stansted, Lyon Sartolas, Madrid Barajas, Malaga, Manchester, Milan Malpensa, Palma de Mallorca, Paris Charles-de-Gaulle, Paris Orly, Prague Ruzyne, Rome Fiumicino, Stockholm Arlanda, Vienna, and Zurich).

viii This average is based on data received from 44 airports (Alicante, Amsterdam, Athens, Basel/Mulhouse, Birmingham, Bristol, Brussels, Budapest Ferihegy, Copenhagen Kastrup, Dublin, Edinburgh, Frankfurt, Geneva, Glasgow, Helsinki Vantaa, Ibiza, Las Palmas, London City, London Heathrow, London Luton, London Stansted, Lyon Sartolas, Madrid Barajas, Malaga, Manchester, Napoli Capodichino, Nuremburg, Palma de Mallorca, Paris Charles-de-Gaulle, Paris Orly, Porto, Prague Ruzyne, Riga, Rome Fiumicino, Sevilla, Sofia, Stockholm Arlanda, Tenerife Norte, Tenerife Sur, Valencia, Venice Tessera, Vienna, Warsaw Frederic Chopin, and Zurich).