Performance Review Body
designated by
the European Commission

EUROCONTROL

EASA
European Aviation Safety Agency

# PRB Annual monitoring report 2014

## Volume 4 - Safety

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# Volume 4 – Safety

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# 1 Review Process of Performance Monitoring Reports

This Chapter describes the process used by the Performance Review Body (PRB), supported by the Performance Review Unit (PRU), and the European Aviation Safety Agency (EASA) to assess and review the National/FAB Performance Monitoring Reports (PMRs) from a safety perspective, as well as to provide feedback on safety performance, measured by Safety Performance Indicators (SPIs).

Review in this report uses data from the States subject to the provisions of the SES Performance Scheme (RP1 SES States). Therefore, it covers the 27 EU Member States, Norway and Switzerland.

## 1.1 Background

The performance Regulations (EU) No 691/2010 and No 390/2013 establish a new mechanism to improve safety performance of national supervisory authorities (NSAs), air navigation services providers (ANSPs) and network functions through target setting and continuous monitoring at national/FAB and Union-wide level. Currently the Regulation defines a number of SPIs, which shall be monitored at both European and national/FAB levels and used for the safety performance assessment during the first Reference Period (RP1).

These are:

- the Effectiveness of Safety Management (EoSM) for ANSPs and NSAs;
- the application of the severity classification based on the Risk Analysis Tool (RAT) methodology to the reporting of occurrences, as a minimum, Separation Minima Infringements, Runway Incursions and ATM-specific occurrences at all Air Traffic Control Centres and airports; and
- the reporting by States and their air navigation service providers of the level of presence and corresponding level of absence of Just Culture (JC).

The States are required to submit their performance monitoring reports to the European Commission (EC) by 1st of June each year. During the summer, these reports, together with results of SPIs monitoring for 2014 are assessed by the PRB (supported by PRU) and EASA. The States are required to submit/populate EoSM and JC questionnaires by 1st February of each year, while information on the RAT methodology application should be submitted by 21st April.

The output of this safety review together with identified risks will be submitted to the EC and shared within EASA.

## 1.2 Objectives of the PMR Safety Review

The review of PMRs in relation with the safety Key Performance Area (KPA) consists of an assessment of the safety aspects of the performance monitoring reports, in particular the reporting on performance indicators.

The general objective is to review and report on achieved safety performance of the NSAs and ANSPs to ensure an effective monitoring of the safety performance of ANS/ATM.

The review focuses on two distinct areas: those elements, which are addressed in the safety–related sections of the Performance Reports and those elements received through measurement of SPIs reported to and collected by EASA in February 2015.

In addition, this review of the PMRs includes adequately substantiated comments and recommendations to be followed by States.

## 1.3 General Organisation of the Review Process

The assessment of the PMRs is conducted by the PRU, in coordination with EASA. Verification activities were performed by EASA for EoSM and JC, whilst application of the RAT methodology was verified by the EUROCONTROL Directorate Pan-European Single Sky - Support to States and Regional Initiatives unit (DPS/SSR).

## 1.4 Verification Activities

### Verification process of Effectiveness of Safety Management

#### BACKGROUND

The EoSM SPI measures, at a State level, the capability of States to manage the State Safety Programme (SSP) and, at a service provision level, the service provider's capability to manage an effective Safety Management System (SMS). The starting point was the ICAO State Safety Programme (SSP) and SMS framework while additional components and elements have been added to better reflect the European context.

The EoSM indicator is measured by calculating scores based on the verified responses to questionnaires respectively completed by the State/competent authorities (normally the NSA) and the ANSPs. This is done in accordance with Acceptable Means of Compliance (AMC) and Guidance Material (GM) for the Implementation and Measurement of Safety Key Performance Indicators (EASA Decision. ED Decision 2014/035/R[1]).

#### VERIFICATION

The results of the States' EoSM questionnaires were cross-checked with the results of the EASA standardisation inspections ("thorough verification" - TV), or for those States not inspected yet through desktop reviews complemented with requests for clarification or additional information from the NSA as required ("light verification" - LV)[2]. The TV was used for States where a standardisation inspection has been conducted and more than one month has elapsed between EASA's Findings Classification Committee (FCC) and the start of the verification process. The LV involved comparing the questionnaire responses with other sources of information (e.g. National Performance Plans for RP1, audit reports, Single European Sky Implementation reports or State Safety Plans) and assessing the responses for internal consistency. Nevertheless, as already anticipated in previous Monitoring Reports, the light verification procedure is being phased out as EASA is conducting more standardisation inspections of the competent authorities. As such, this year only three authorities have been subject to the desktop assessment. All the rest have been reviewed using the results from the audits.

The coordination between EASA and the competent authority/authorities is done through the National Coordinator appointed by the State in accordance with Article 6 of Commission Regulation (EC) No 628/2013. The National Coordinator is responsible for coordination within the State authorities and for coordination with the ANSPs in order to provide EASA with the responses to the questionnaires (both competent authority and ANSP, aggregated where required).

#### CHANGES COMPARED TO THE PREVIOUS YEAR

The following changes have been implemented with the aim of improving the verification mechanism:

- The EASA's opinion is that the SKPI RP1 reporting system would be improved and would be more transparent by providing feedback to the States on the previous year filled questionnaires. Therefore, as of the 2nd year of the RP1, the States that have been thoroughly verified receive feedback at the end of their verification. The feedback is sent to the SKPI RP1 Focal Point, who may coincide to be the National Coordinator for the ATM/ANS Standardisation visit or not. It is up to the State to

establish the necessary internal mechanisms to link the EoSM replies assessed as "overrated" with the non-conformities identified in the course of the audit. By using this feedback mechanism, EASA is confident that the States will gain maturity on safety aspects.

- Updated methodology: This year the assessment has focused on whether the authorities have been able to meet the EoSM Level 'C' or not. This approach has been taken considering the RP2 and the need to ensure the Union-wide target is met (Level 'C' for authorities/States).

Note that direct comparison of last year's results (2014) with results of 2012 and 2013 was not possible due to changes to the EoSM AMC/GM (and subsequent questionnaires) introduced for the third year of RP1 (i.e. revision of EoSM questions and guidance material – see EASA ED Decision 2014/035/R). The S(K)PIs were refined, based on the experience of the first two years of the reference period (RP1), and improved guidance to the States was provided, especially in light of the development of their Performance Plans for the second reference period (RP2).

The changes to the AMC/GM for the S(K)PIs (and corresponding guidance material) have been already implemented in the third year of the RP1. These changes are expected to provide also more clarity and to reduce the burden to the stakeholders when measuring and verifying the S(K)PIs.

### Verification process for Just Culture

#### BACKGROUND

The Just Culture SKPI aims at measuring the level of presence and corresponding level of absence of Just Culture at State and at ANSP level. The main objective of the indicator and of the questionnaires is to identify possible obstacles and impediments to the application of Just Culture at State and ANSP level. In that sense, the questions were elaborated taking into account elements specific to the State and to the ANSP.

The questionnaires for both the State and the ANSP level were divided into sections where Just Culture elements are relevant, with an additional sub-division into key elements for each section. The three main areas are:

- policy and its implementation;
- legal/judiciary; and
- occurrence reporting and investigation.

For Year 3 of RP1, the modified State and ANSP questionnaires included in the revised AMC/GM (EASA ED Decision 2014/035/R) were applicable to the monitoring of the 2014 performance. As for the first two years, the questions were to be answered by "yes" or "no", and States and ANSPs were again encouraged to provide additional information and justification to their responses. This is in particular (but not only) important when answering "no" in their respective questionnaire (in the column "Justification and remarks") as it can provide elements to better describe the actual level of presence or corresponding level of absence of Just Culture in a given State or ANSP.

In addition, it should be highlighted once more, that although the AMC/GM indicate that a positive reply gives an indication of a Just Culture context, while a negative reply indicates potential deficit/obstacles in Just Culture implementation, the key element which allows for the measurement of an effective level of Just Culture is not in the counting of the "yes" and "no" responses but in the explanation and justification provided by the State and the ANSP.

#### VERIFICATION

The process and methodology for the verification of the information provided by States and ANSPs relating to the SKPI Just Culture was the same one used for the verification of RP1 – Years 1 and 2 Just Culture data.

Both the State and ANSP responses were fully reviewed, as a sampling of key questions would not provide sufficient information for the assessment of the level of Just Culture present in the relevant State or ANSP.

#### CHANGES COMPARED TO THE PREVIOUS YEAR

The feedback provided on the information submitted by the States and ANSPs deviates from the approach of the first two years, which focused on identifying 'clusters' or groups of States and ANSPs providing similar responses to specific questions. These 'clusters' allowed for the publication of feedback on the level of Just Culture in States and ANSPs and possible identification of areas to improve.

This year's approach is to group the States and ANSPs in their declared Functional Airspace Blocks (FABs). The intention is not to provide a FAB-level assessment per se but to examine how the information provided by each individual State and ANSP corresponds to or provides an indication of the approach taken at FAB level to implement an effective Just Culture environment and in anticipation of RP2 monitoring and its requirements. The indication of the FABs is therefore a way to identify and group the States and ANSPs rather than an analysis of the FABs themselves. For consistency with the previous years the assessment follows the structure of the questionnaire, namely sections and related subdivisions:

- Policy and its implementation: covering policy elements, definition of roles and responsibilities, training.
- Legal and Judiciary: covering primary legislation, judicial procedure and specific aviation legislation, formal agreement.
- Occurrence reporting and investigation.

### Verification of RAT methodology application

#### BACKGROUND

The application of the severity classification using the RAT methodology is measured on the individual occurrence level as "YES/NO" value of application of the RAT methodology for severity classifications of all Separation Minima Infringements (SMIs), Runway Incursions (RIs) and ATM Specific Occurrences (ATM-S) at ATS Centres and airports.

The indicator is expressed in terms of the percentage (%) of occurrences for which severity has been assessed using the RAT methodology in relation with the respective scope of the RAT derived severity assessment: ATM Ground and ATM Overall.

The EASA AMC 8 - *SKPI RAT methodology — Monitoring mechanism,* recommends that States use existing mechanisms for reporting the application of the Risk Analysis Tool (RAT) methodology application (e.g. Annual Summary Template (AST) or the European Central Repository (ECR)). It is noted that all States with the exception of Estonia have reported their application of the RAT methodology via the AST, which has been specifically adapted for this purpose.

The European Co-ordination centre for Accident and Incident Reporting Systems (ECCAIRS) database does allow for the reporting of the RAT methodology, however, a detailed change proposal is being prepared in cooperation with EASA and EC/JRC to enhance the monitoring of RAT methodology application in ECCAIRS.

**VERIFICATION**

As the AST reporting mechanism is the main reporting mechanism used for reporting of RAT methodology application, the EUROCONTROL DPS/SSR has performed the following activities in order to measure performance of this SPI during 2015:

- Collected and processed the RAT derived severity score for each reported occurrence via the AST mechanism;
- Validated the correctness of the processed data with the national AST Focal Points to ensure the accuracy of the aggregated values;
- Advised the AST Focal Points to liaise at national level with the entities in charge with the preparation of the PMRs to facilitate the consolidated RAT reporting by the State;
- In case differences are still identified between the RAT score (reported via the AST mechanism) and the PMRs, actions were taken with the AST Focal Points to address the issues.

## 1.5 Union-wide safety occurrences analysis

The safety occurrences (lagging performance measurements) were analysed using the EASA worldwide safety occurrence database in addition to those of EUROCONTROL. This additional database brings added value to the performance review of safety, as it gives a better understanding of ANS safety related risks and it enhances review of safety data quality.

Currently, the best choice for European safety performance monitoring is to rely on the EASA database for the analysis of accidents and serious incidents and to rely on EUROCONTROL AST database for the analysis of ATM incidents. The quality and completeness of the databases will continue to be monitored and this choice might change in the future. The PRB would like to thank EASA and EUROCONTROL DPS/SSR for their support in this work, and especially EASA for providing access to their safety occurrence database.

In summary, the review of ANS-related accidents and incidents is based on:

- Accident and serious incidents from the EASA database[3] (2005 - 2014); and
- Incidents data reported to EUROCONTROL via the AST mechanism (2005 - 2014 preliminary).

*Note that final investigation reports for some accidents and incidents may be delayed more than two years, particularly when the investigation is complex. This may have an impact on the update of some graphics in future publications. In addition, the scope of the review may be changed in future reports depending on the added value for reviewing the ANS safety performance and on the improvement in data granularity and data quality.*

The scope of the review in this report is indicated in Table 1.

| | Analysis scope | Type | Category | Weight |
|---|---|---|---|---|
| **Accident (EASA DB)** | ANS related[4]<br>ANS contribution[5] | Commercial Air Transport (CAT)<br>General Aviation (GA) | Fixed wing<br>Helicopters | >2250 Kg |
| **Serious Incidents (EASA DB)** | ANS related<br>ANS contribution | CAT | Fixed wing | >2250 Kg |
| **Incidents (EUROCONTROL AST)** | ATM related | All | All | No limitation |

**Table 1: Scope of the review in this report**

# 2 Union-wide Performance Report

This Chapter describes the Union-wide review of 2014 safety performance measured by both leading (EoSM, RAT methodology application and JC) and lagging indicators (occurrences statistics) for States subject to the Performance Scheme. At the same time it provides, where it is meaningful, a comparison to the first two years of RP1.

## 2.1 Effectiveness of Safety Management

All 29 States and 37 (out of 38) ANSPs filled in the self-assessment questionnaires used for the measurement of the EoSM SPI in accordance with Acceptable Means of Compliance (AMC) and Guidance Material (GM) for the Implementation and Measurement of Safety Key Performance Indicators (EASA Decision 2011/017R, amended by ED Decision 2014/035/R). In accordance with the AMC, the responses of the 28 States (out of 29) have been verified by EASA while the responses of the ANSPs have been verified by the State Competent authorities.

Note: *Submission of the Italy EoSM questionnaire was made several months after the official closing date for submission of the results and after the verification and processing of all other data had been completed. As a consequence the 2014 Italy EoSM State results could not be verified during the 2014 review cycle. Note that EoSM self-assessment scores for Italy are however available on the PRB Dashboard and also presented in this report.*

The following sections provide the analysis of the EoSM scores provided by the States and ANSPs, including a more detailed analysis of EoSM Minimum Level achieved per each Component, (on both State and ANSP level). Note that the EoSM self-assessment scores, provided by States, were exposed to EASA verification, which means that based on EASA review/audits findings it was possible to perform analysis/comparison of State responses with EASA findings during an inspection (for each EoSM question), with an aim to provide confidence whether Level C is met or not. Results of this verification exercise on State level can be found in the PRB Annual Monitoring Report - Volume 2.

As mentioned in Section 1.4, direct comparison of last year's results (2014) with the results from 2012 and 2013 should be taken with caution, due to the revision of the EoSM questionnaires introduced for the third year of RP1.Outcomes of 2014 exercise, as indicated on Figure 1, appear to show slow but continuous improvement in the implementation of safety management at both State and ANSP level in the course of the first reference period (RP1). The benefit of making the update at this stage is that the results provide a baseline for comparison during RP2.

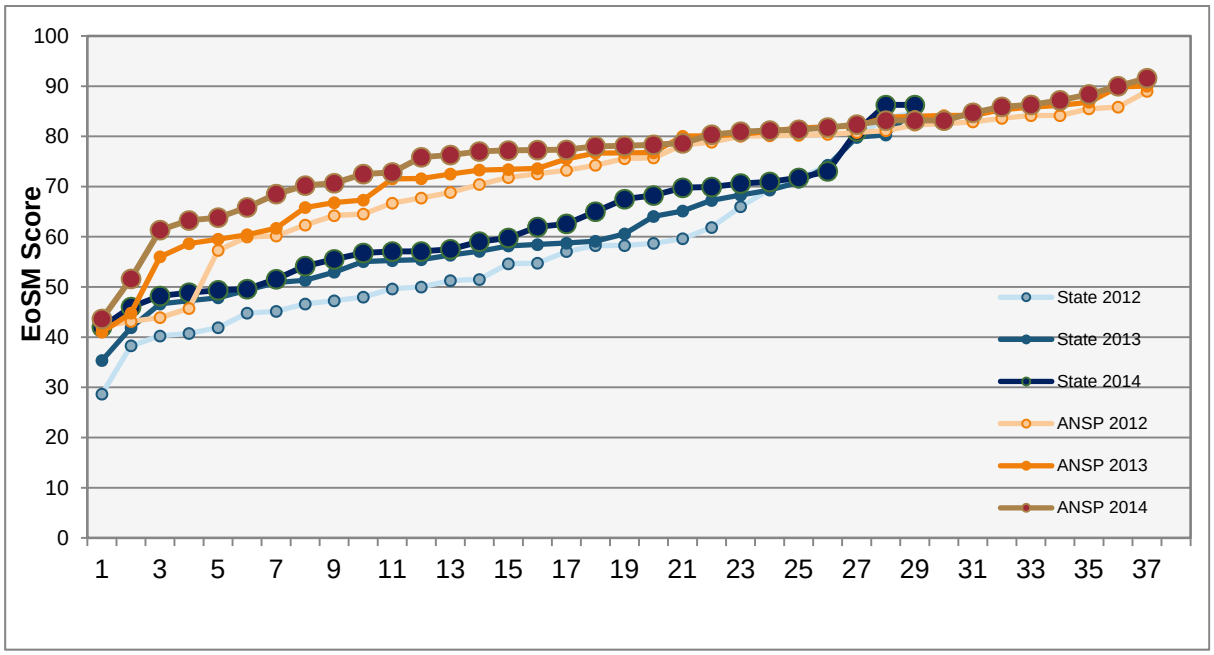


**Figure 1: Effectiveness of Safety Management for States and ANSPs in RP1**

Figure 3 and Figure 3 show the EoSM scores by the States (self-assessment) and ANSP in 2014.

The minimum effectiveness Score provided by the individual States in 2014, is 42 with five (5) of the States scoring below 50. This is an improvement if compared to the 2013 score (six State scored below 50). The maximum effectiveness score at State level in 2014 is 86 (Figure 2).

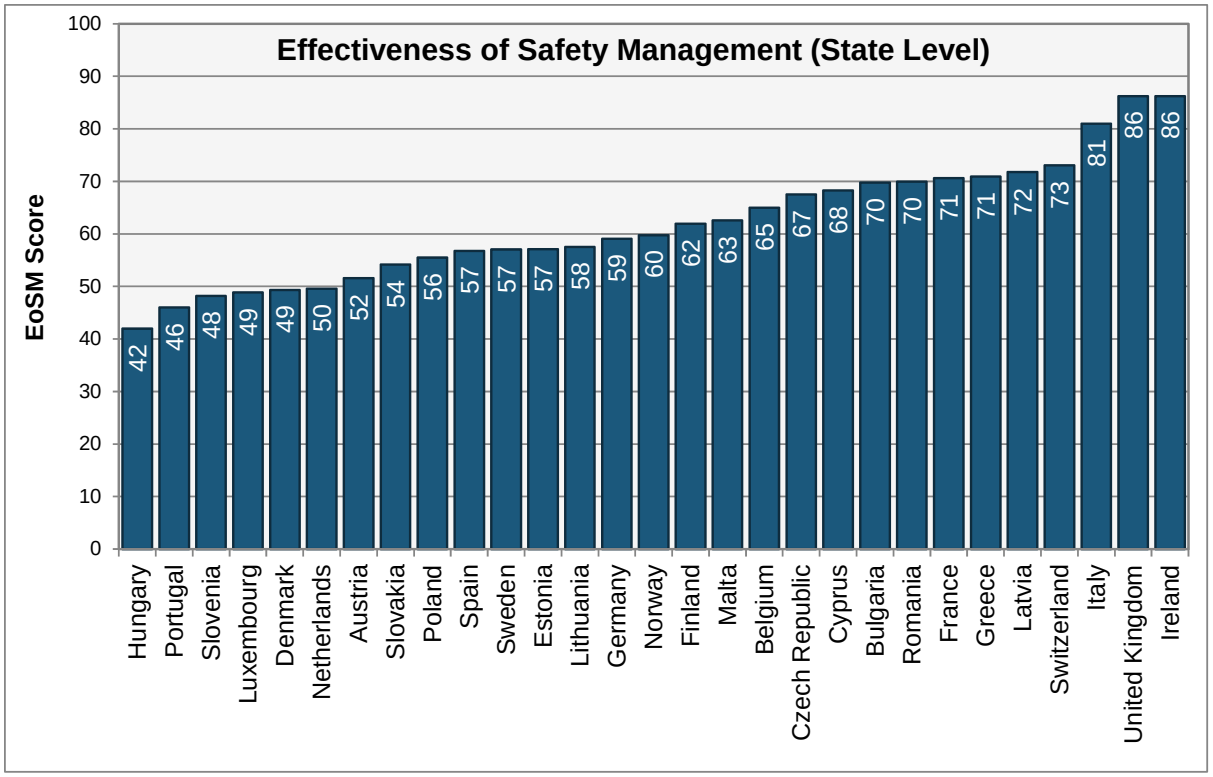


**Figure 2: 2014 Effectiveness of Safety Management for States (self-assessment)**

The minimum effectiveness Score, by the individual ANSPs in 2013, is 44 with only one (1) ANSP scoring below 50. The maximum effectiveness score at ANSP level in 2014 is 92 (Figure 3).

Note: *One ANSP has not reported in 2014: NAV Portugal (Portugal).*

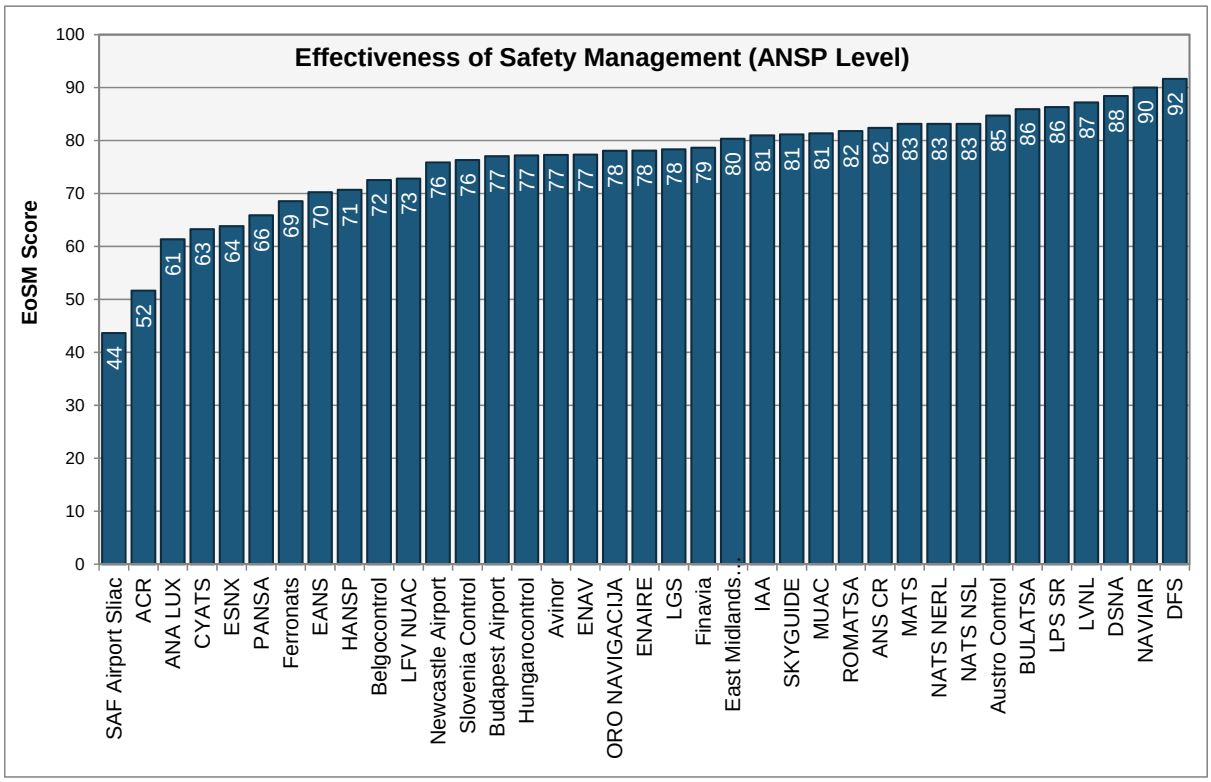


**Figure 3: 2014 Effectiveness of Safety Management for ANSPs**

### State Level - overall

As advocated during RP2 development, it is important to look at the results of EoSM both in terms of EoSM overall Maturity Score and in terms of Maturity Level.

The Overall Maturity Score gives a high level overview of the organisation's SMS. It shows whether overall the State or service provider are mostly managing performance or it is still in the process of implementing the mandatory regulations and achieving the minimum standards of maturity. However, this score may hide particular problems in certain areas since the methodology averages the scores by Management Objective and there is a significant smoothing effect.

In order to identify whether the State or service provider still has a significant problem in at least one area, the level view is more appropriate. Therefore, by combining the two, a more complete picture can be build (for example, high level and high score would prove a consistent approach to all objectives, while a relatively high score but a low level indicates that certain objectives are left behind, concentrating on others).

For this reason, in preparation of RP2, which foresees introduction of the second metric for EoSM indicator (based on which the RP2 EoSM target is currently calculated) Figure 4 shows 2014 EoSM results (based on self-assessment) for all States, presented as EoSM scores (blue bars) vs. EoSM minimum Maturity Level achieved (on the second axis – black dots).

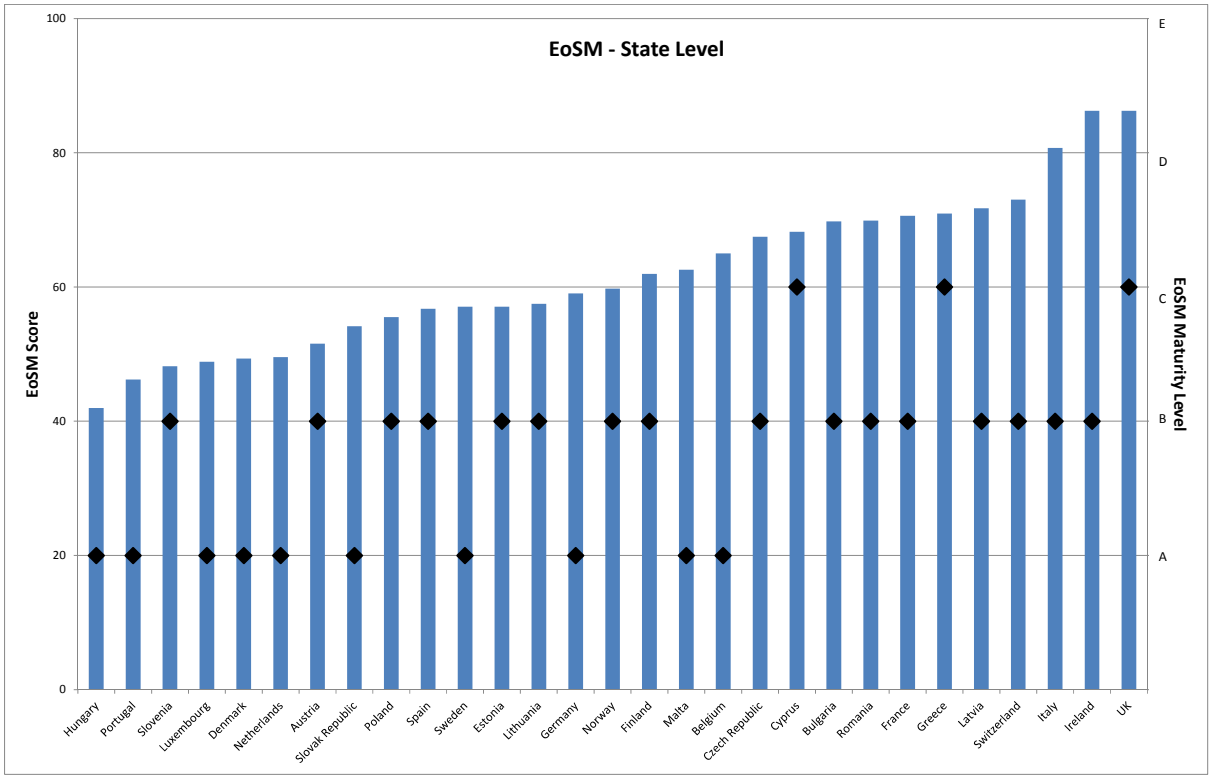


**Figure 4: Effectiveness of Safety Management – Maturity Score vs Level (State level)**

Figure 4 supports the observation that some core elements of the efficient Safety Oversight system are still missing in many States (based on results of self-assessment). These elements will be closely monitored by EASA, as only States which have mature safety oversight systems, will be able to realise the benefits associated with safety management principles, and achieve further improvements in safety performance overall.

Analysis of the overall EoSM Minimum Maturity Level Achieved (based on self-assessment) further shows that only 3 States are already at Level C (Figure 4). Even if Component 5 – *Safety Culture*, is excluded from analysis (as the most difficult one to verify) the situation does not change very much. There are still approximately 80% of States below 2019 RP2 safety target level (Figure 5).

Maturity Levels are defined as:

- Level A “Initiating” — processes are usually ad hoc and chaotic;
- Level B “Planning/Initial Implementation” — activities, processes and services are managed;
- Level C “Implementing” — defined and standard processes are used for managing;
- Level D “Managing & Measuring” — objectives are used to manage processes and performance is measured;
- Level E “Continuous Improvement” — continuous improvement of processes and process performance.

*(for detailed information see EASA AMC)*

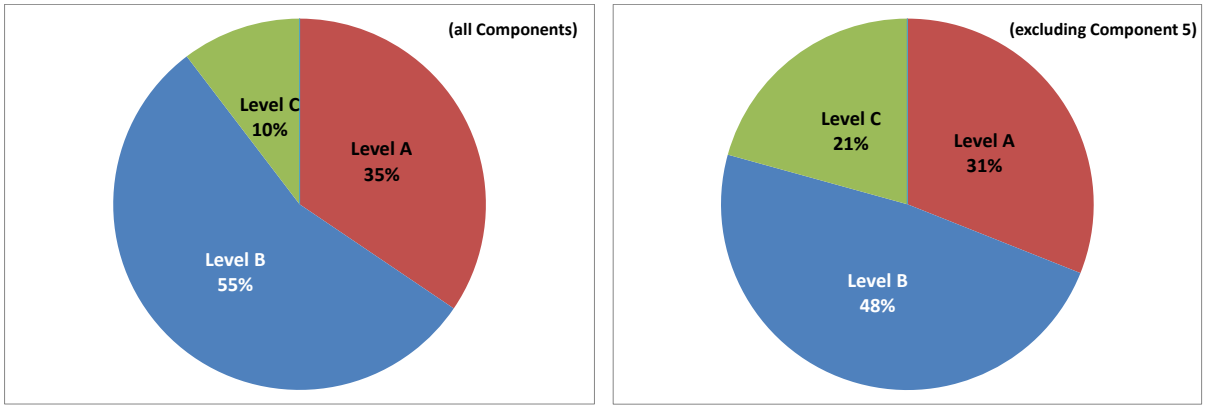


**Figure 5: 2014 Effectiveness of Safety Management - Minimum Level Achieved (States)**

### EASA verification

As explained in Section 1.4 "Verification Activities", the results of the States' EoSM questionnaires were cross-checked with the results of the EASA standardisation inspections ("thorough verification"), or for those States not inspected yet through desktop reviews complemented with requests for clarification or additional information from the authority as required ("light verification").

Below is the list of "light" (LV) and "thorough" (TV) verified States (within the scope of Performance Scheme in RP1) in 2014:

- LV: Latvia, Norway, and Slovenia.
- TV: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Hungary, Lithuania, Luxembourg, Malta, Netherlands, Poland Portugal, Romania, Slovakia, Spain, Sweden, Switzerland, United Kingdom,

*Note: Due to the late submission of the 2014 questionnaire EoSM Italy's State results could not be verified by EASA as the work of the verifying and processing of all other data had been completed.*

Overall, EASA audits reaffirm the message that establishing strong safety oversight systems is a necessary first step to ensure the successful transition to improved safety management. Hence, safety strategies must have the ability to consider the varying maturity levels of State's safety oversight systems. States that have not yet effectively implemented the eight critical elements of a safety oversight system must first resolve these deficiencies and develop a sound foundation upon which to build their State Safety Programmes (SSPs). Only those States having mature safety oversight systems will be able to realise the benefits associated with safety management principles, and achieve further improvements in safety performance overall.

The following sections contain the analysis of the State level EoSM per each Component based on the EASA confidence level – comparison of State responses with EASA findings during an inspection for each EoSM question, with an aim to provide confidence whether Level C is met or not.

Note that more detailed results of EASA review for Components 1 to 4, for each State, are available in Volume 2.

***EASA Confidence Level is based on:***

- comparison of State EoSM responses with EASA findings during an inspection for each question, with an aim to provide confidence regarding Level C is met or not.

***Legend*** for all following figures***:***

- **Blue bars** indicate the minimum Maturity Level achieved per Component,
- **Red dots** on the second axis the EASA Confidence level (red dots).

### State Level – assessment per Component

Analysis of Component 1 - *State safety policy and objectives,* shows that the majority of the States achieve a high EASA confidence level for this Component, which can indicate that this Component will not be of major concern in terms of meeting the RP2 target of Level C (Figure 6). Nevertheless, EASA's verification also identifies 14 States that have overestimated their scores, in terms of whether they are meeting Level C or not. In most of these cases overestimation is related to only one or two question, however, three States are identified as potential concern as their implementation levels for this Component are overestimated for five or more questions (out of 16). These are Cyprus, Estonia and Romania.

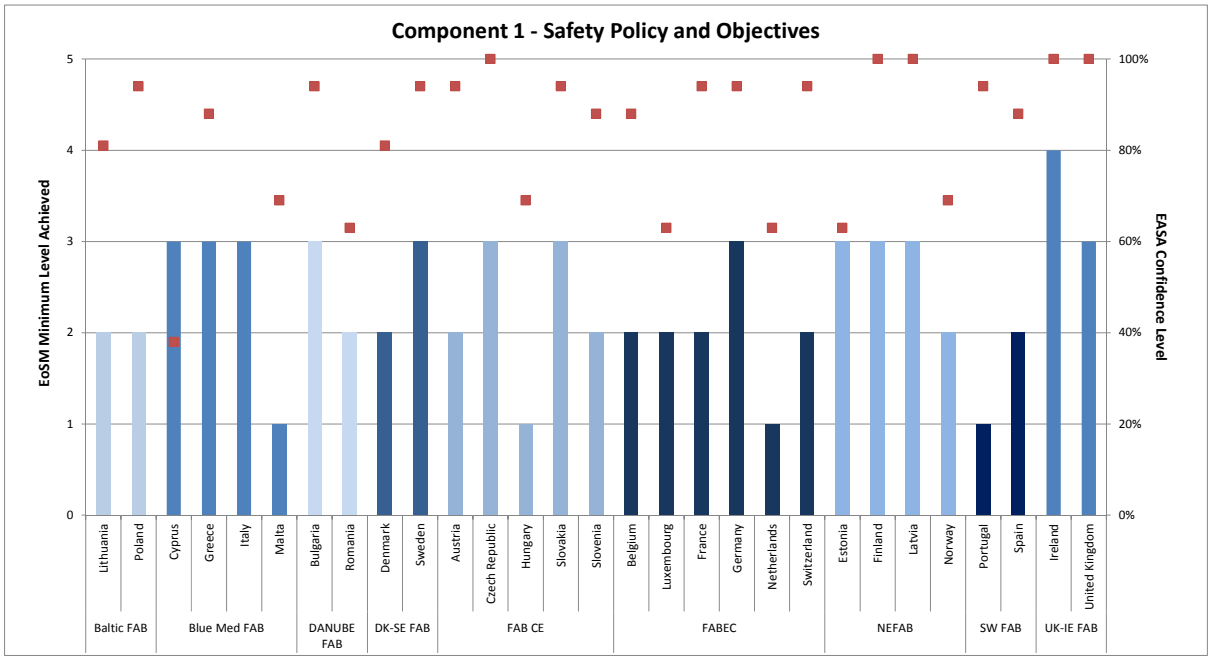


**Figure 6: Effectiveness of Safety Management – Safety Policy and Objectives (State level)**

In view of RP2, and additional effort needed to reach EoSM target by end of 2019, this Component will probably be one of the easy ones for many States. For eight (8) out of 13 States that already achieve the minimum Maturity Level at Level C or above (based on self-assessment), the EASA confidence level is high, meaning that those are already meeting RP2 targets for this Component. In addition, nine (9) more States, that are currently at Minimum Maturity Level B (based on self-assessment) have EASA Confidence level (whether they are reaching Level C or not) above 80%. This indicates that these nine States will probably require only reasonable additional effort to reach RP2 target assigned to this EoSM Component.

Analysis of Component 2 - *Safety Risk Management* shows that ten (10) States achieve an EASA confidence level at or below 50% (Figure 7). For six (6) of those this is a concern, as

this means that self-assessed EoSM implementation levels of this safety management Component have not been assessed properly – i.e. they have been overestimated in terms of whether they are meeting Level C or not. These are: Bulgaria, Cyprus, Estonia, Germany, Greece, and Hungary.

In view of RP2, all 12 States that have Minimum Maturity Level of Component 2 – *Safety Risk Management*, at Level C or above (based on self-assessment), were given full EASA Confidence that they are already reaching RP2 target for this EoSM Component.

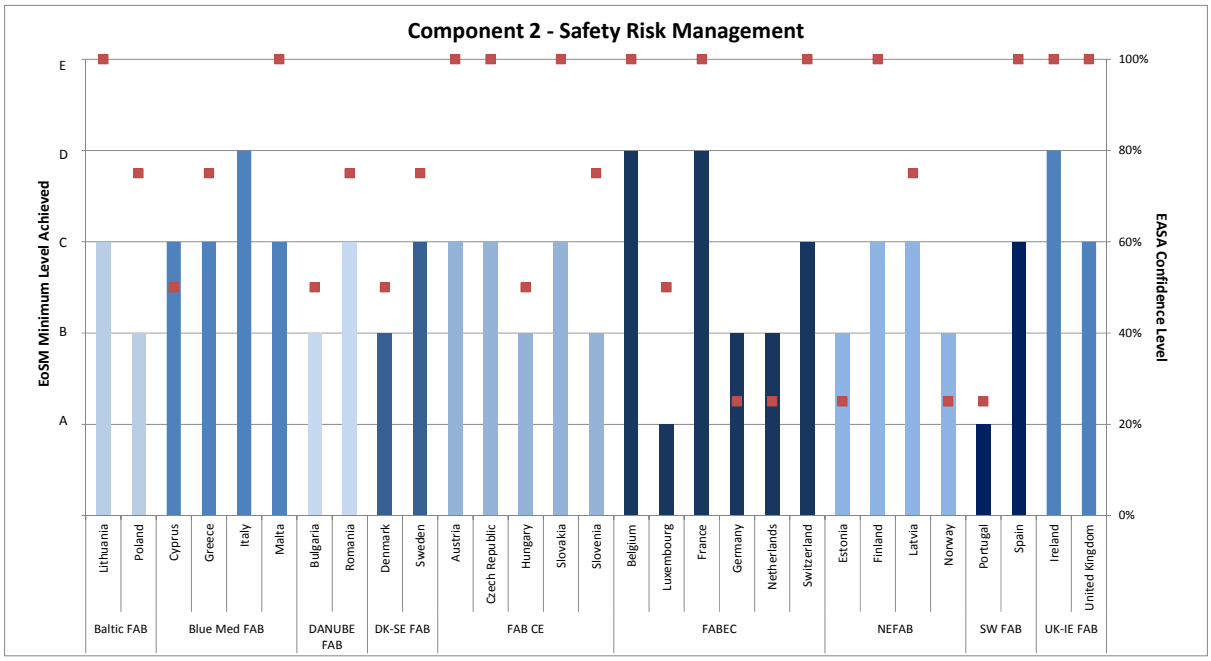


**Figure 7: Effectiveness of Safety Management – Safety Risk Management (State level)**

Analysis of Component 3 - *Safety Assurance* shows that only four (4) States achieve an EASA confidence level at or below 50% (Figure 8). The overall high EASA confidence levels, for this Component, indicate that this Component will not be major concern in terms of meeting Level C target. Nevertheless, the EASA verification also identifies 11 States that have overestimated and one (1) that potentially underestimated their scores (Denmark). In most of the cases overestimation is related to only one or two question, however, four States are identified as potential concern as their implementation levels for this Component, in terms of whether they are meeting Level C or not, are overestimated for three or more questions (out of nine verified questions). These are Bulgaria, Estonia, Hungary, and Sweden.

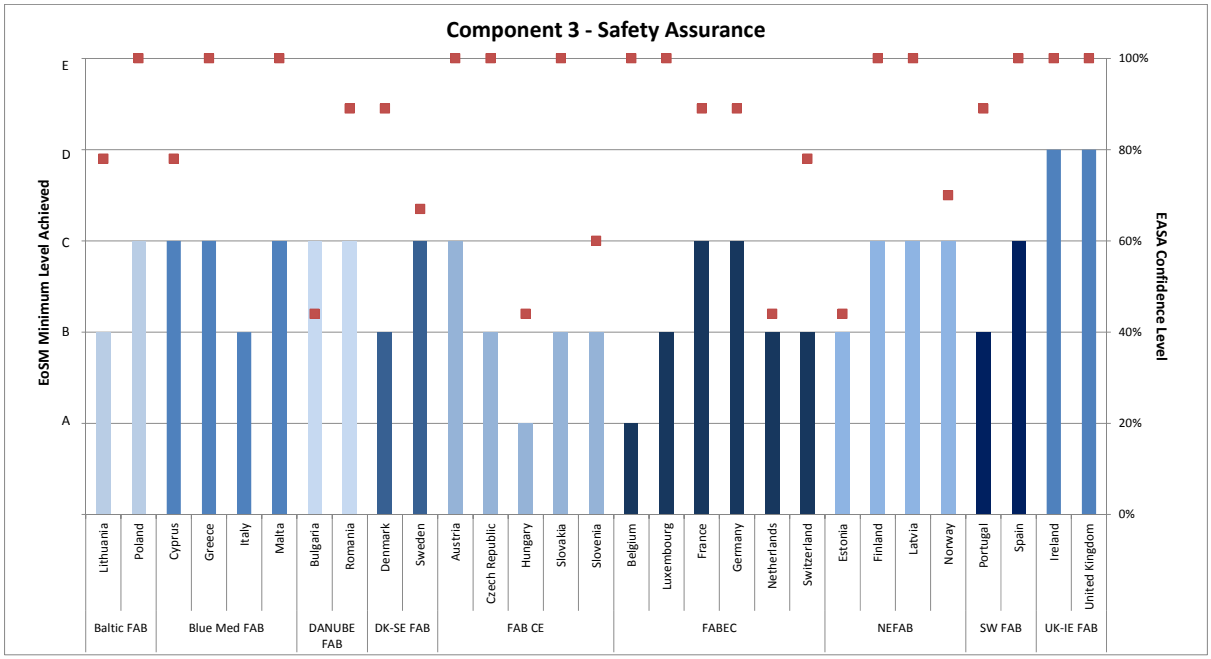


**Figure 8: Effectiveness of Safety Management – Safety Assurance (State level)**

In view of RP2, and additional effort needed to reach the RP2 EoSM target by end of 2019, 12 out of 16 States that already have Minimum Maturity Level at Level C or above (based on self-assessment), achieve in addition an EASA Confidence level above 80%. Meaning that they are already meeting RP2 targets for Component 3 – *Safety Assurance*. In addition, four (4) more States, that are currently at Minimum Maturity Level B or A (based on self-assessment) achieve an EASA Confidence level (whether they are reaching Level C or not) above 85%. This indicates that these four States will probably require only reasonable additional effort to reach RP2 target assigned to this EoSM Component.

*Note: In Component 3 – Safety Assurance the answer to question 1.8 "The State is implementing a just culture climate" is excluded from the State summaries (in Volume 2) and assessment, as its reliable verification could not be performed by EASA at the moment.*

Analysis of Component 4 - *Safety Promotion* shows that 13 States achieve an EASA confidence level at or below 50% (Figure 9). For some States this is a concern, as this means that self-assessed EoSM implementation levels of this safety management Component have not been assessed properly – i.e. they have been overestimated in terms of whether they are meeting Level C or not. The EASA verification identifies eight (8) States that have overestimated and one (1) that potentially underestimated their scores (Sweden). As Component 4 consists of only four questions all identified States with low confidence levels represent a potential concern.

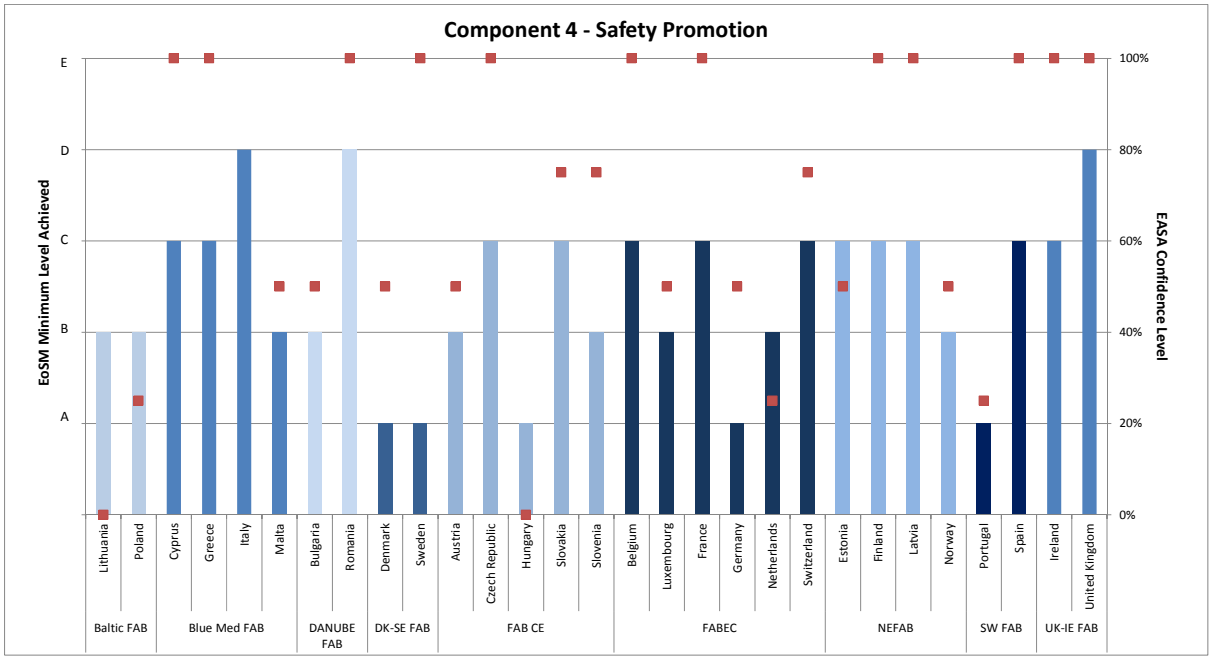


**Figure 9: Effectiveness of Safety Management – Safety Promotion (State level)**

In view of RP2, and the additional effort needed to reach EoSM target by end of 2019, 11 out of 15 States that already have Minimum Maturity Level at Level C or above (based on self-assessment), achieve an EASA Confidence level above 80%. This means that they are already meeting RP2 targets for Component 4 – *Safety Promotion*. In addition, one (1) more State, that is currently at Minimum Maturity Level A (based on self-assessment) achieves an EASA Confidence level (whether they are reaching Level C or not) at 100%. This suggest that this State will probably require only small additional effort to reach RP2 target assigned to this EoSM Component (Sweden).

Verification of Component 5 – *Safety Culture* was difficult to perform during the EASA inspections as these soft cultural issues, such as whether safety culture is established and measured within entities, require clear definitions and/or regulatory basis against which the audit is performed. Therefore, it was decided to exclude Component 5 from the EASA verification exercise and to accept at this stage, with caution, self-assessed scores on *Safety Culture* issues provided by States.

### State Level – FAB assessment

The following assessment of EoSM results, submitted by the States, deviates from the approach of the first two years. In addition to EASA verification results (i.e. confidence level), this year's approach has been to group the States in their declared Functional Airspace Blocks (FABs). The intention was not to provide a FAB-level assessment per se but to examine how the information provided by each individual State corresponds to or provides an indication of the approach taken at FAB level to implement an effective safety management, and possibly to indicate areas that need further attention and work. The indication of the FABs is therefore a way to identify and group the States rather than an analysis of the FABs themselves.

Therefore, in summary, the assessments below aim to identify the EoSM elements that need further attention (especially in light of forthcoming arrangements in RP2 and the introduction of safety targets for EoSM) using data provided by individual States, part of the same FAB. The assessment is based on the information provided by the States in their responses to the

questionnaires and, as indicated previously in Section 1, on EASA verification results provided by an on-site inspection (i.e. Confidence Level – confidence whether Level C is met or not).

Note: *Detailed feedback regarding 2014 EoSM results of EASA verification is available to the States via EASA feedback mechanism (see Section 1.4).*

### Baltic FAB

Based on the EASA verification results of the current performance it seems that the Baltic FAB States, in general, have adequately assessed their EoSM performance. Nevertheless, some responses in Component 4 – *Safety Promotion* were found to be over-rated. Therefore, the necessary improvement at present seems to be related to internal and external training, communication and dissemination of safety information. Other than the *Safety Culture* EoSM objectives, it is important to highlight that some of the Level 'B' scores can be only solved with time and State's commitment to reach Level 'C' implies sound reforms of the regulations (e.g. empowerment to the CA/NSA) and State's involvement (e.g. information to the general public on the overall ATM safety-related performance through routine publication).

| 2014 EoSM performance | | Safety Policy | Risk Management | Safety Assurance | Safety Promotion | Safety Culture |
|---|---|---|---|---|---|---|
| **Baltic FAB** | Lithuania | B | C | B | B | B |
| | Poland | B | B | C | B | B |
| | *FAB minimum level* | *B* | *B* | *B* | *B* | *B* |

**Figure 10: 2014 Effectiveness of Safety Management – Baltic FAB (State level)**

### BlueMed FAB

The current EoSM performance at State level of one out of four FAB States (Malta) is at the minimum Level 'A' for one of the Components, due to missing some core elements for an efficient Safety Oversight system. Based on the EASA verification results of the current performance it seems that the Blue Med FAB States, in general, have overrated their EoSM performance. The aspects to improve at the moment seem to be the areas related to implementation of the EU safety legislative and regulatory framework and alignment of the national framework. Some of the States self-scored *Safety Culture* very high (e.g. implementation and measuring); however, the replies did not correspond to what safety culture means. Therefore, these scores probably cannot be taken as reliable.

| 2014 EoSM performance | | Safety Policy | Risk Management | Safety Assurance | Safety Promotion | Safety Culture |
|---|---|---|---|---|---|---|
| **BlueMed FAB** | Cyprus | C | C | C | C | C |
| | Greece | C | C | C | C | D |
| | Italy | C | D | B | D | B |
| | Malta | A | C | C | B | C |
| | *FAB minimum level* | *A* | *C* | *B* | *B* | *B* |

**Figure 11: 2014 Effectiveness of Safety Management – BlueMed FAB (State level)**

### DANUBE FAB

Based on the EASA verification, there is a concern and possible indication that some State scores, of DANUBE FAB, might be overrated and that the reported improvements do not correspond to the situation. Overrated replies exist in all four Components (1-4). The Components needing most improvement are *State Safety Policy and Objectives* and *Safety Assurance*.

| 2014 EoSM performance | | Safety Policy | Risk Management | Safety Assurance | Safety Promotion | Safety Culture |
|---|---|---|---|---|---|---|
| **DANUBE FAB** | Bulgaria | C | B | C | B | B |
| | Romania | B | C | C | D | B |
| | *FAB minimum level* | *B* | *B* | *C* | *B* | *B* |

**Figure 12: 2014 Effectiveness of Safety Management – DANUBE FAB (State level)**

### DK-SE FAB

Both States have self-scored *Safety Promotion* (related to promotion of awareness of safety information and communication and dissemination of safety-related information amongst the NSA's within a State) at Level A, the lowest. However, based on the EASA verification, it seems that some State scores, of Danish-Swedish FAB, still do not correspond to the true status (some of the scores were found overrated whereas others were underestimated). Overall, the aspects to improve relate to *State Safety Policy* and *Objectives and Safety Assurance*.

| 2014 EoSM performance | | Safety Policy | Risk Management | Safety Assurance | Safety Promotion | Safety Culture |
|---|---|---|---|---|---|---|
| DK-SE FAB | Denmark | B | B | B | A | B |
| | Sweden | C | C | C | A | A |
| | *FAB minimum level* | *B* | *B* | *B* | *A* | *A* |

**Figure 13: 2014 Effectiveness of Safety Management – DK-SE FAB (State level)**

## FAB CE

The declared current EoSM performance on the State level of two out of six FAB States (Hungary and Slovakia) is at the minimum Level A for some Components (not only related to existence and implementation of Safety Culture, but due to missing some core elements of the efficient Safety Oversight system). Based on EASA verification, it seems that some State scores, of FAB CE, still do not correspond to the true status (some of the scores were found overrated). Overall, the aspects to improve at the moment, seem to be the area of *Safety Promotion*. One State has two other Components to improve: *State Safety Policy and Objectives* and *Safety Assurance*.

Note that EASA observations of the results of Slovenia are based on light verification.

| 2014 EoSM performance | | Safety Policy | Risk Management | Safety Assurance | Safety Promotion | Safety Culture |
|---|---|---|---|---|---|---|
| FAB CE | Austria | B | C | C | B | B |
| | Croatia | B | C | B | B | B |
| | Czech Republic | C | C | B | C | C |
| | Hungary | A | B | A | A | A |
| | Slovakia | C | C | B | C | A |
| | Slovenia | B | B | B | B | B |
| | *FAB minimum level* | *A* | *B* | *A* | *A* | *A* |

**Figure 14: 2014 Effectiveness of Safety Management – FAB CE (State level)**

## FAB EC

The declared current EoSM performance on the State level of four out of six FABEC States is at the minimum Level A for some Components; the number of states in this FAB and the variation in which areas have higher or lower levels of implementation means that the FAB minimum levels are lower than might otherwise be expected. The EASA verification process found that State responses corresponded accurately with audit results. Two States (Luxembourg and the Netherlands) require improvements in *State Safety Policy and*

*Objectives* and *Safety Assurance*. Two States (Germany and Luxembourg) need improvements on *Safety Risk Management*. One State (the Netherlands) could benefit from improvements to the component of *Safety Assurance*. All three of these States (Germany, Luxembourg and the Netherlands) have been identified as having some missing elements in Component 4 – *Safety Promotion*.

| 2014 EoSM performance | | Safety Policy | Risk Management | Safety Assurance | Safety Promotion | Safety Culture |
|---|---|---|---|---|---|---|
| **FAB EC** | Belgium | B | D | A | C | B |
| | France | B | D | C | C | B |
| | Germany | C | B | C | A | C |
| | Luxembourg | B | A | B | B | B |
| | The Netherlands | A | B | B | B | C |
| | Switzerland | B | C | B | C | C |
| | *FAB minimum level* | *A* | *A* | *A* | *A* | *B* |

**Figure 15: 2014 Effectiveness of Safety Management – FAB EC (State level)**

**NEFAB**

The declared current EoSM performance at State level of two out of four NEFAB States is at the Level 'B' (not only related to existence and implementation of Safety Culture, but due to missing some core elements of an efficient Safety Oversight system). However, based on EASA verification, it seems that some State scores within NEFAB still do not correspond to the true status (some of the scores were found overrated whereas others were underestimated). The Components to improve at the moment seem to be *State Safety Policy and Objectives* and *Safety Risk Management*.

Note that EASA observations of the results of Norway and Latvia are based on light verification.

| 2014 EoSM performance | | Safety Policy | Risk Management | Safety Assurance | Safety Promotion | Safety Culture |
|---|---|---|---|---|---|---|
| **NEFAB** | Estonia | C | B | B | C | B |
| | Finland | C | C | C | C | B |
| | Latvia | C | C | C | C | B |
| | Norway | B | B | C | B | B |
| | *FAB minimum level* | *B* | *B* | *B* | *B* | *B* |

**Figure 16: 2014 Effectiveness of Safety Management – NEFAB (State level)**

### SW FAB

The declared current EoSM performance on the State level of one of the SW FAB States (Portugal) is at the minimum Level A for some Components (not only related to existence and implementation of Safety Culture, but due to missing some elements of the efficient Safety Oversight system). In addition, based on the EASA verification results, it was found that some of the elements scored as Level 'C' or 'D' were overrated and did not correspond to what was found during the audit. The aspects to improve at the moment, for one State, seem to be the area of *Safety Risk Management* and *Safety Promotion*.

| 2014 EoSM performance | | Safety Policy | Risk Management | Safety Assurance | Safety Promotion | Safety Culture |
|---|---|---|---|---|---|---|
| **SW FAB** | Portugal | A | A | B | A | B |
| | Spain | B | C | C | C | B |
| | *FAB minimum level* | *A* | *A* | *B* | *A* | *B* |

**Figure 17: 2014 Effectiveness of Safety Management – SW FAB (State level)**

### UK-IR FAB

All, except one of the scores, given by both States meet or exceed the Level C in the EoSM questionnaire. Based on the EASA verification, the scores, overall, correspond to the real situation and can be considered as reliable.

Having said that, it is worth noting that the reason for Safety Culture FAB minimum Level 'B' is due to only one question: Q 5.2 'measurement of safety culture', in which Ireland has provided a straightforward answer (no measurement in place yet).

| 2014 EoSM performance | | Safety Policy | Risk Management | Safety Assurance | Safety Promotion | Safety Culture |
|---|---|---|---|---|---|---|
| **UK-IR FAB** | Ireland | D | D | D | C | B |
| | United Kingdom | C | C | D | D | C |
| | *FAB minimum level* | *C* | *C* | *D* | *C* | *B* |

**Figure 18: 2014 Effectiveness of Safety Management – UK-IR FAB (State level)**

### ANSP level - overall

Figure 19 shows 2014 EoSM scores, verified by their States (blue bars), for all ANSPs that have reported (37 out of 38). Figure also indicates (on the second axis – black dots) the minimum Maturity Level achieved by the ANSPs in 2014.

Results of Minimum Maturity Level Achieved show that 29 ANSPs (out of 37 that have reported) are at / or above Level C, meaning that safety management implementation levels are currently still better than for the States.

***Legend:***

- **Blue bars** indicate the Maturity Score ,
- **Black dots** on the second axis indicate Maturity Level

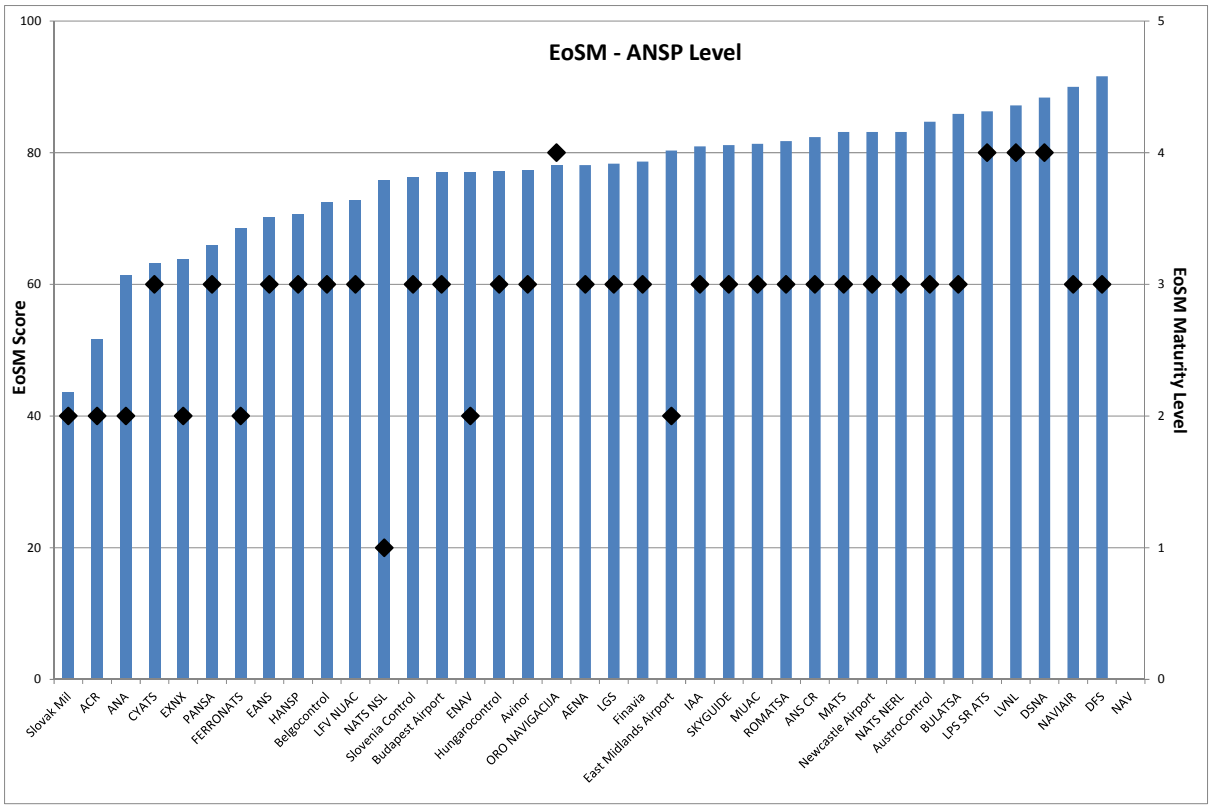


**Figure 19: Effectiveness of Safety Management – Maturity Score vs Level (ANSP level)**

### ANSP Level – assessment per Component

Further analysis of Maturity Levels per each Component (Figure 20) show visible improvement in all Components over the course of RP1 (bars represent total number of questions at certain level for all management objectives / safety areas and for all ANSPs).

Also, a more detailed analysis of ANSP verified scores (self-assessment scores were succumbed to the State verification) per each EoSM Component is provided in following sections.

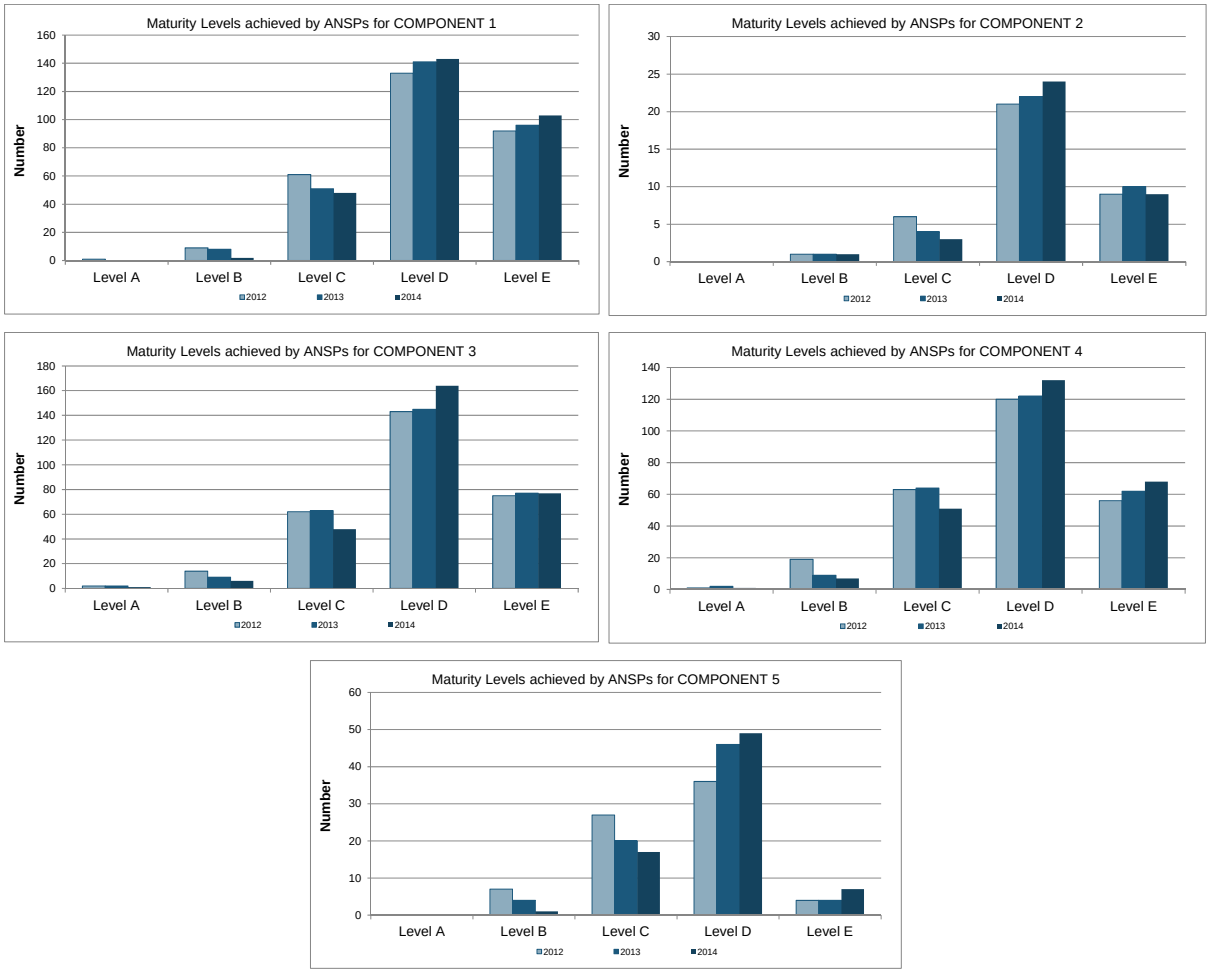


**Figure 20: RP1 Maturity Levels per Component (ANSP level)**

Analysis of Component 1 - *ANSP Safety Policy and Objectives,* shows that the majority of ANSPs have high implementation levels for this Component, with 16 of them already at Level D "*Managing & Measuring*" – which indicates that safety processes are managed and performance is already measured (Figure 21). Another 19 ANSPs are at implementation Level C.

In view of RP2, and the additional effort needed to reach the EoSM target by end of 2019, Component 1 will probably be one of the easy ones for many ANSPs. The majority of the ANSPs, that are currently at Minimum Level C, will need improvement in only one or two areas of Component 1 to reach Level D. This provides assurance that these ANSPs will probably require only reasonable additional effort to reach the RP2 target assigned to this EoSM Component.

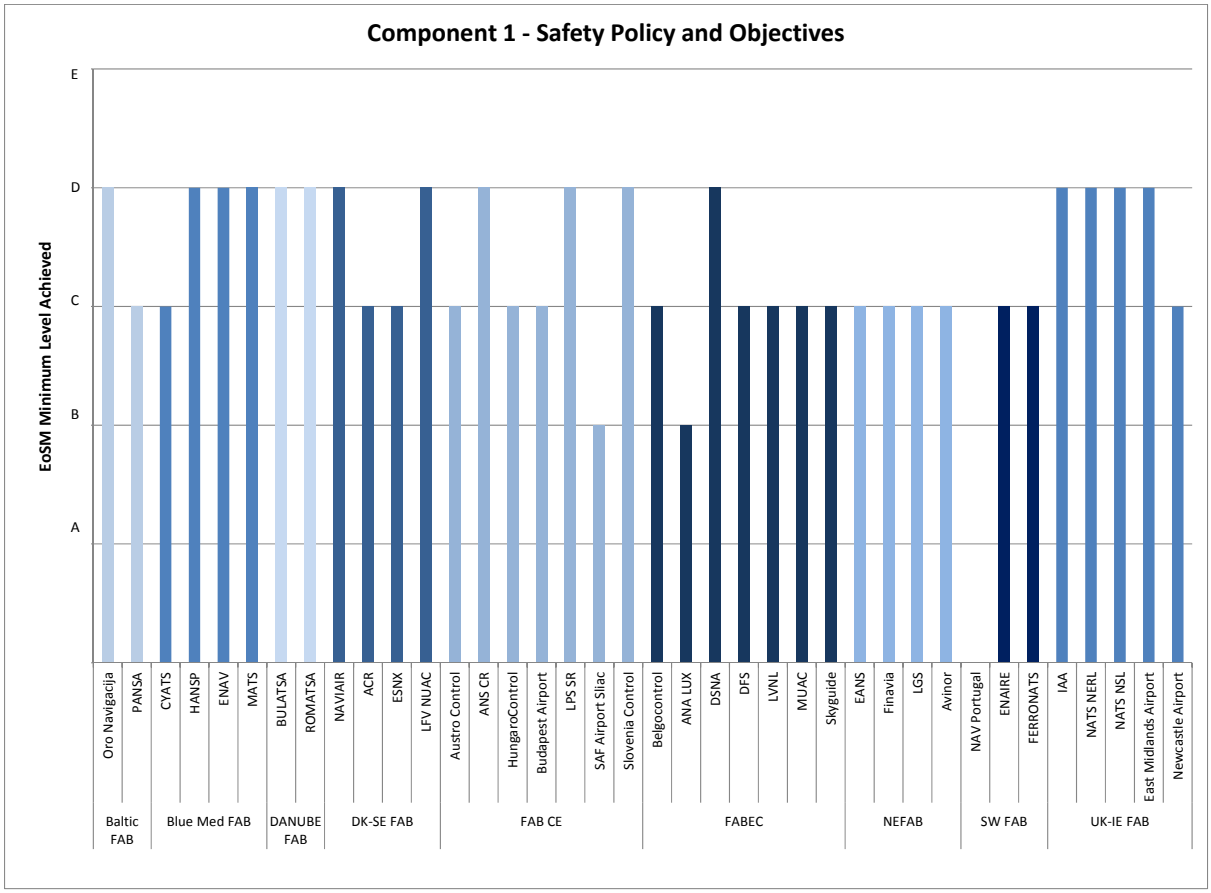


**Figure 21: Effectiveness of Safety Management – Safety Policy and Objectives (ANSP level)**

Analysis of Component 2 - *ANSP Safety Risk Management,* shows that the majority of the ANSPs have very high implementation levels for this Component. Only 4 ANSPs (out of 37 that reported in 2014) are below Level D "*Managing & Measuring*" – which indicates that safety processes, which ensure the management of safety risks, are already developed, managed, maintained and measured (Figure 22).

In view of RP2, and any additional effort needed to reach the EoSM target by end of 2019, this Component will probably require the least of effort. Out of four (4) ANSPs that are currently at Minimum Level C, only two (2) will be within the scope of RP2. Those two will need improvement in only one area of Component 2 to reach Level D. This provides assurance that reaching the RP2 target assigned to this EoSM Component will be achievable for all ANSPs.

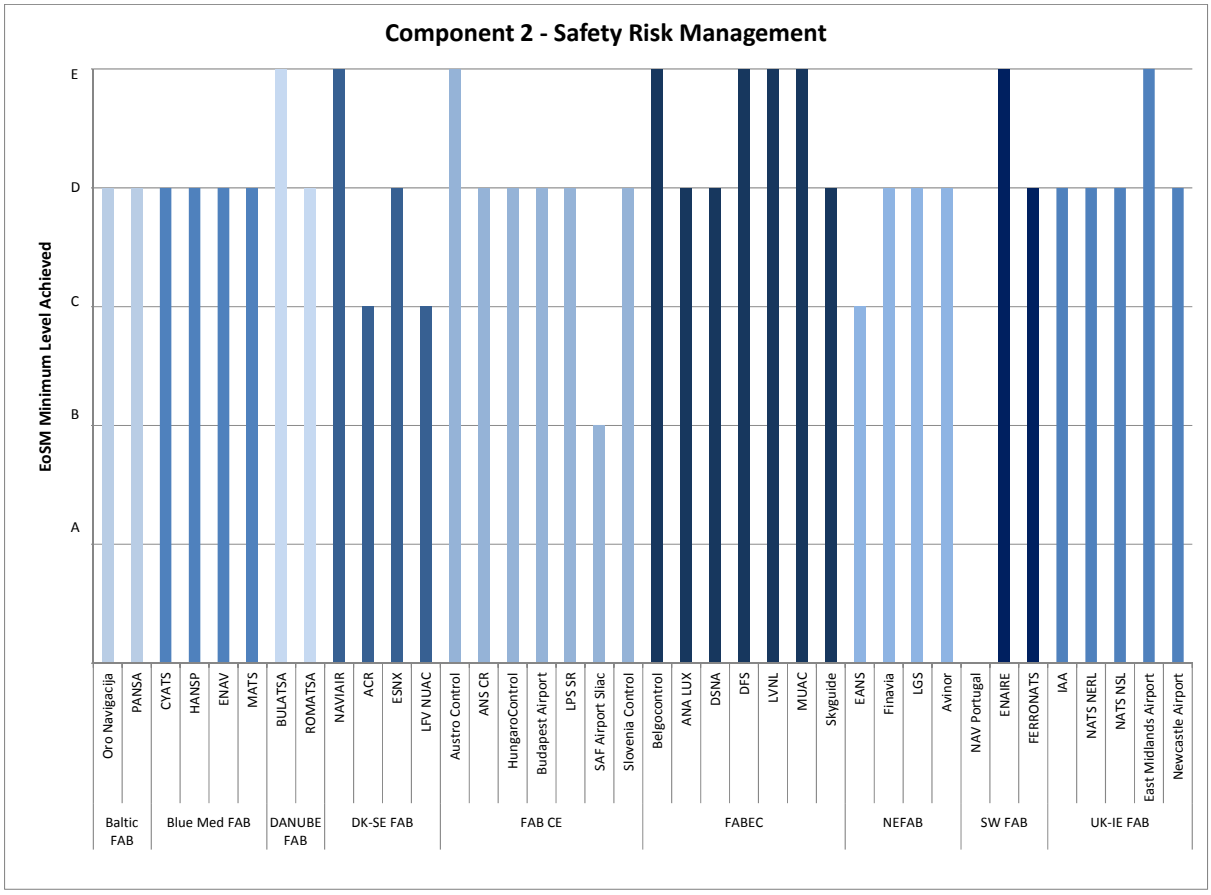


**Figure 22: Effectiveness of Safety Management – Safety Risk Management (ANSP level)**

The analysis of Component 3 - *ANSP Safety Assurance,* shows that the majority of ANSPs have high implementation levels for this Component, with 15 of them already at Level D "*Managing & Measuring*" – which indicates that safety processes are managed and performance is already measured (Figure 23). An additional 17 ANSPs are at implementation Level C "*Implementing*" which displays that standard processes are used for managing, however formal performance measurement has not been implemented yet.

In view of RP2, and any additional effort needed to reach the EoSM target by end of 2019, this Component will probably require the same amount of effort as Component 1. The majority of the ANSPs that are currently at Minimum Level C, will need improvement in only one or two areas of Component 3 to reach Level D. Overall, the majority of these ANSPs need additional work in the area of Continuous improvement of the SMS, related to the establishment of a formal process to systematically identify safety improvements. This provides assurance that these ANSPs will probably require only reasonable additional effort to reach RP2 target assigned to this EoSM Component.

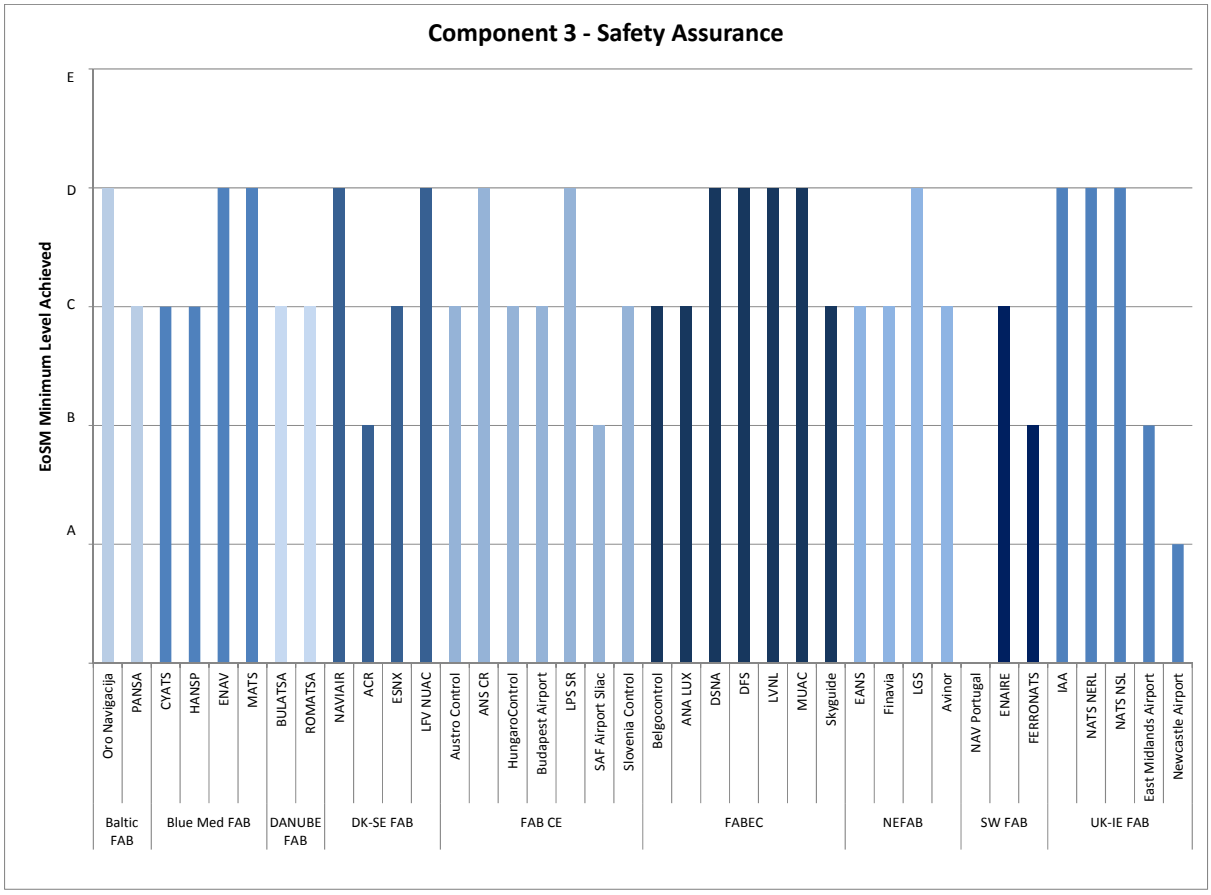


**Figure 23: Effectiveness of Safety Management – Safety Assurance (ANSP level)**

The analysis of Component 4 - *ANSP Safety Promotion,* shows that 13 ANSPs achieve an implementation level for this Component at Level D "*Managing & Measuring*" – which indicates that safety processes related to training and education and safety communication are managed and performance is already measured (Figure 24). Twenty (20) ANSPs are at implementation Level C "*Implementing*", which displays that standard processes are used for managing, however formal performance measurement has not been implemented yet.

In view of RP2, and any additional effort needed to reach the EoSM target by end of 2019, this Component will probably be one of the easy ones for many ANSPs. The majority of the ANSPs that are currently at Minimum Level C will need improvement in only one or two areas of Component 1 to reach Level D. Overall, the majority of these ANSPs need additional work in the area of Safety communication, mainly related to the establishment of formal means for safety promotion and safety communication. This provides assurance that these ANSPs will probably require only reasonable additional effort to reach the RP2 target assigned to this EoSM Component.

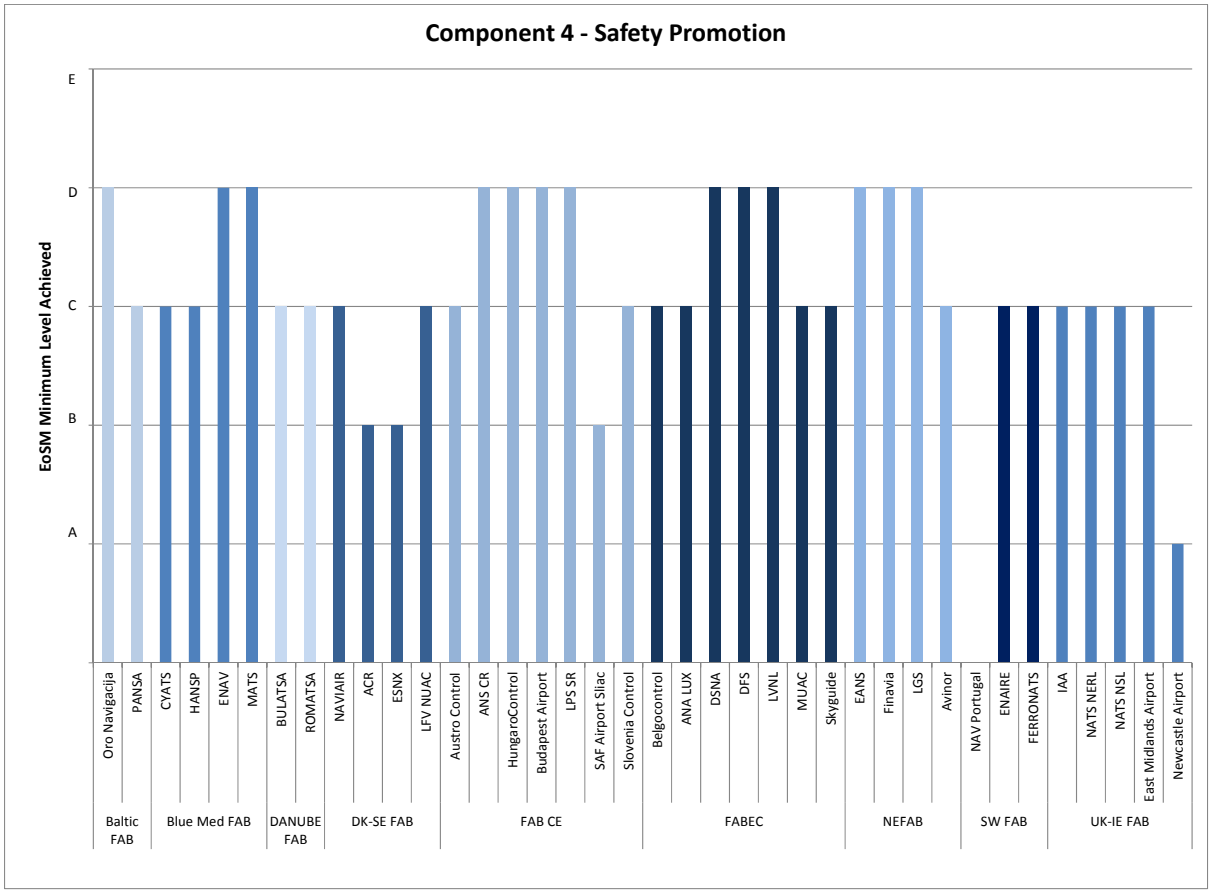


**Figure 24: Effectiveness of Safety Management – Safety Promotion (ANSP level)**

The analysis of Component 5 - *ANSP Safety Culture,* shows that 21 ANSPs achieve an implementation level for this Component at Level D "*Managing & Measuring*" – which indicates that safety culture is well established, processes for promotion are managed and performance is already measured (Figure 25). Additional 15 ANSPs are at implementation Level C "*Implementing*" which display that standard processes are used for managing, however formal safety culture performance measurement has not been implemented yet.

In view of RP2, based on current results, it seems that only one (1) ANSP is below 2019 EoSM target for this Component. Moreover, this ANSP is outside the scope of RP2, meaning that all ANSPs are already at the RP2 target Level C for this EoSM Component.

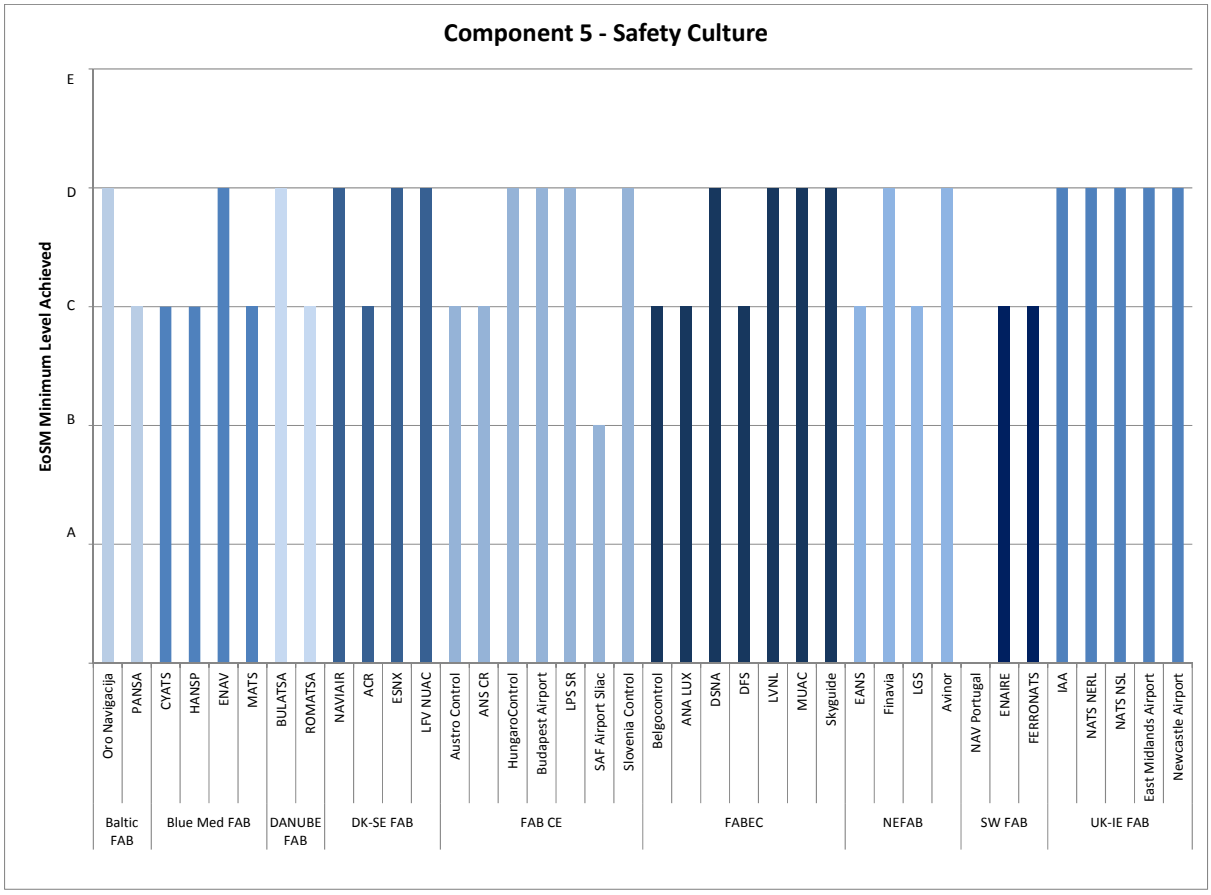


**Figure 25: Effectiveness of Safety Management – Safety Culture (ANSP level)**

### ANSP level – FAB assessment

Similarly as for the States analysis, a more detailed ANSP analysis has been conducted per FAB. This should not be considered as a FAB-level assessment per se, but as a process to indicate areas that need further attention and work within each FAB. The indication of the FABs is therefore a way to identify and group the ANSPs rather than an analysis of the FABs themselves.

Therefore, in summary, the assessments below aim to report on data provided by individual ANSPs, part of the same FAB, in order to identify the EoSM elements that need further intention, especially in light of coming arrangements in RP2 and introduction of safety targets for EoSM on FAB level.

The assessment is based on the information provided by the ANSPs (verified by their States) in their responses to the questionnaires.

### Baltic FAB

Based on 2014 results of the current safety management performance it seems that the Baltic FAB ANSPs, in general, are on the right track to reach the RP2 EoSM target.

In view of RP2, and any additional effort needed to reach EoSM target by end of 2019, one Baltic ANSP will need improvements in three of out five Components to reach the RP2 EoSM targets. Therefore, specific FAB coordination and ANSP effort should be focussed on the areas of coordination of emergency response planning and management of related interfaces within *Safety Policy*; safety communication related to establishment of formal

means for safety promotion and safety communication within *Safety Promotion*; and overall implementation and measurement of *Safety Culture*.

Overall, the Baltic FAB ANSPs will probably require only reasonable additional effort to reach the RP2 target assigned to these EoSM Components.

| 2014 EoSM performance | | Safety Policy | Risk Management | Safety Assurance | Safety Promotion | Safety Culture |
|---|---|---|---|---|---|---|
| **Baltic FAB** | Lithuania | D | D | D | D | D |
| | Poland | C | D | C | C | C |
| | *FAB minimum level* | *C* | *D* | *C* | *C* | *C* |

**Figure 26: 2014 Effectiveness of Safety Management – Baltic FAB (ANSP level)**

### BlueMed FAB

Based on the 2014 results of the current safety management performance it seems that the BlueMed FAB ANSPs, in general, are on the right track to reach the RP2 EoSM target.

In view of RP2, and any additional effort needed to reach the EoSM target by end of 2019, two BlueMed ANSPs will need improvement in several Components. Therefore, specific FAB coordination and ANSP effort should be focussed on several areas of *Safety Policy*; safety communication related to establishment of formal means for safety promotion and safety communication within *Safety Promotion*; and issues related to continuous improvement of the SMS within *Safety Assurance*.

Overall, the Bluemed FAB ANSPs will require sensible additional effort to reach RP2 target assigned to these EoSM Components.

| 2014 EoSM performance | | Safety Policy | Risk Management | Safety Assurance | Safety Promotion | Safety Culture |
|---|---|---|---|---|---|---|
| **BlueMed FAB** | Cyprus | C | D | C | C | C |
| | Greece | D | D | C | C | C |
| | Italy | D | D | D | D | D |
| | Malta | D | D | D | D | C |
| | *FAB minimum level* | *C* | *D* | *C* | *C* | *C* |

**Figure 27: 2014 Effectiveness of Safety Management – BlueMed FAB (ANSP level)**

**DANUBE FAB**

Based on the 2014 results of the current safety management performance it seems that the Danube FAB ANSPs, in general, are on the right track to reach the RP2 EoSM target.

In view of RP2, and any additional effort needed to reach the EoSM target by end of 2019, both Danube ANSPs will need improvement in two out of five Components to reach RP2 EoSM targets. Therefore, specific FAB coordination and ANSP effort should be focussed on the areas of safety communication related to establishment of formal means for safety promotion and safety communication within *Safety Promotion*; and with regards to certain issues related to continuous improvement of the SMS within *Safety Assurance*.

Overall, Danube FAB ANSPs will probably require only reasonable additional effort to reach RP2 target assigned to these EoSM Components.

| 2014 EoSM performance | | Safety Policy | Risk Management | Safety Assurance | Safety Promotion | Safety Culture |
|---|---|---|---|---|---|---|
| **DANUBE FAB** | Bulgaria | D | E | C | C | D |
| | Romania | D | D | C | C | C |
| | *FAB minimum level* | *D* | *D* | *C* | *C* | *C* |

**Figure 28: 2014 Effectiveness of Safety Management – DANUBE FAB (ANSP level)**

**DK-SE FAB**

Based on the 2014 results of the current safety management performance it seems that the Danish Swedish FAB ANSPs (the ones within the scope of RP2), in general, are on the right track to reach RP2 EoSM target.

In view of RP2, and any additional effort needed to reach the EoSM target by end of 2019, the DK-SE ANSPs will need improvement in two of out five Components to reach the RP2 EoSM targets. Therefore, specific FAB coordination and ANSP effort should be focussed on the areas of *Safety Risk Management*; and safety communication related to establishment of formal means for safety promotion and safety communication within *Safety Promotion*.

Overall, DK-SE FAB ANSPs will probably require only reasonable additional effort to reach RP2 target assigned to these EoSM Components.

| 2014 EoSM performance | | Safety Policy | Risk Management | Safety Assurance | Safety Promotion | Safety Culture |
|---|---|---|---|---|---|---|
| **DK-SE FAB** | Denmark | D | E | D | C | D |
| | Sweden LFV | D | C | D | C | D |
| | *FAB minimum level* | *D* | *C* | *D* | *C* | *D* |

**Figure 29: 2014 Effectiveness of Safety Management – DK-SE FAB (ANSP level)**

### FAB CE

Based on the 2014 results of the current safety management performance it seems that the FAB CE ANSPs, in general, are on the right track to reach the RP2 EoSM target.

In view of RP2, and any additional effort needed to reach the EoSM target by end of 2019, both Danube ANSPs will need improvement in three out of five Components to reach the RP2 EoSM targets. Therefore, specific FAB coordination and ANSP effort should be focussed on the few areas of *Safety Policy*; safety communication related to establishment of formal means for safety promotion and safety communication within *Safety Promotion*; and certain issues related to continuous improvement of the SMS within *Safety Assurance*.

Overall, FAB CE ANSPs will probably require only reasonable additional effort to reach RP2 target assigned to these EoSM Components.

| 2014 EoSM performance | | Safety Policy | Risk Management | Safety Assurance | Safety Promotion | Safety Culture |
|---|---|---|---|---|---|---|
| **FAB CE** | Austria | C | E | C | C | C |
| | Croatia | D | D | C | C | C |
| | Czech Republic | D | D | D | D | C |
| | Hungary | C | D | C | D | D |
| | Slovakia | D | D | D | D | D |
| | Slovenia | D | D | C | C | D |
| | *FAB minimum level* | *C* | *D* | *C* | *C* | *C* |

**Figure 30: 2014 Effectiveness of Safety Management – FAB CE (ANSP level)**

### FAB EC

Based on the 2014 results of the current safety management performance it seems that the FAB EC ANSPs, in general, are on the right track to reach the RP2 EoSM target.

In view of RP2, and any additional effort needed to reach the EoSM target by end of 2019, the FAB EC ANSPs will need improvement in three out of five Components to reach the RP2 EoSM targets. Therefore, specific FAB coordination and ANSP effort should be especially focussed on the areas of *Safety Policy*; safety communication related to establishment of formal means for safety promotion and safety communication within *Safety Promotion*; and certain issues related to continuous improvement of the SMS within *Safety Assurance*.

Overall, FAB EC ANSPs will probably require only reasonable additional effort to reach RP2 target assigned to these EoSM Components.

| 2014 EoSM performance | | Safety Policy | Risk Management | Safety Assurance | Safety Promotion | Safety Culture |
|---|---|---|---|---|---|---|
| FAB EC | Belgium | C | E | C | C | C |
| | France | D | D | D | D | D |
| | Germany | C | E | D | D | C |
| | Luxembourg | B | D | C | C | C |
| | The Netherlands | C | E | D | D | D |
| | MUAC | C | E | D | C | D |
| | Switzerland | C | D | C | C | D |
| | *FAB minimum level* | *B* | *D* | *C* | *C* | *C* |

**Figure 31: 2014 Effectiveness of Safety Management – FAB EC (ANSP level)**

**NEFAB**

Based on the 2014 results of the current safety management performance it seems that the NEFAB ANSPs, in general, are on the right track to reach the RP2 EoSM target.

In view of RP2, and any additional effort needed to reach EoSM target by end of 2019, NEFAB ANSPs will need improvement in four of out five Components to reach RP2 EoSM targets. Therefore, specific FAB coordination and ANSP effort should be focussed on several areas of *Safety Policy*; the area of *Safety Risk Management*; related to certain issues of continuous improvement of the SMS within *Safety Assurance;* and safety communication related to establishment of formal means for safety promotion and safety communication within *Safety Promotion*.

Overall, NEFAB ANSPs will probably require only reasonable additional effort to reach RP2 target assigned to these EoSM Components.

| 2014 EoSM performance | | Safety Policy | Risk Management | Safety Assurance | Safety Promotion | Safety Culture |
|---|---|---|---|---|---|---|
| NEFAB | Estonia | C | C | C | D | C |
| | Finland | C | D | C | D | D |
| | Latvia | C | D | D | D | C |
| | Norway | C | D | C | C | D |
| | *FAB minimum level* | *C* | *C* | *C* | *C* | *C* |

**Figure 32: 2014 Effectiveness of Safety Management – NEFAB (ANSP level)**

### SW FAB

*Note: Due to the missing EoSM 2014 results for the Portuguese ANSP, analysis on the FAB level was not possible.*

| 2014 EoSM performance | | Safety Policy | Risk Management | Safety Assurance | Safety Promotion | Safety Culture |
|---|---|---|---|---|---|---|
| **SW FAB** | Portugal | N/A | N/A | N/A | N/A | N/A |
| | Spain ENAIRE | C | E | C | C | C |
| | Spain FERRONATS | C | D | B | C | C |
| | *FAB minimum level* | *N/A* | *N/A* | *N/A* | *N/A* | *N/A* |

**Figure 33: 2014 Effectiveness of Safety Management – SW FAB (ANSP level)**

### UK-IR FAB

Based on the 2014 results of the current safety management performance it seems that the UK-Ireland FAB ANSPs (the ones within the scope of RP2), in general, are on the right track to reach the RP2 EoSM target.

In view of RP2, and any additional effort needed to reach the EoSM target by end of 2019, UK-IR ANSPs will need improvement in only one out of five Components to reach the RP2 EoSM targets. Therefore, specific FAB coordination and ANSP effort should focus on the areas of *Safety Promotion* related to training and education and safety communication.

Overall, UK-IR FAB ANSPs will probably require only reasonable additional effort to reach RP2 target assigned to these EoSM Components.

| 2014 EoSM performance | | Safety Policy | Risk Management | Safety Assurance | Safety Promotion | Safety Culture |
|---|---|---|---|---|---|---|
| **UK-IR FAB** | Ireland | D | D | D | C | D |
| | UK NATS NERL | D | D | D | C | D |
| | *FAB minimum level* | *D* | *D* | *D* | *C* | *D* |

**Figure 34: 2014 Effectiveness of Safety Management – UK-IR FAB (ANSP level)**

## 2.2 Application of RAT methodology

In accordance with Commission Regulation (EU) No 691/2010, States are required to report the proportion of SMIs, RIs and ATM-S for which severity classification was assessed using the RAT methodology.

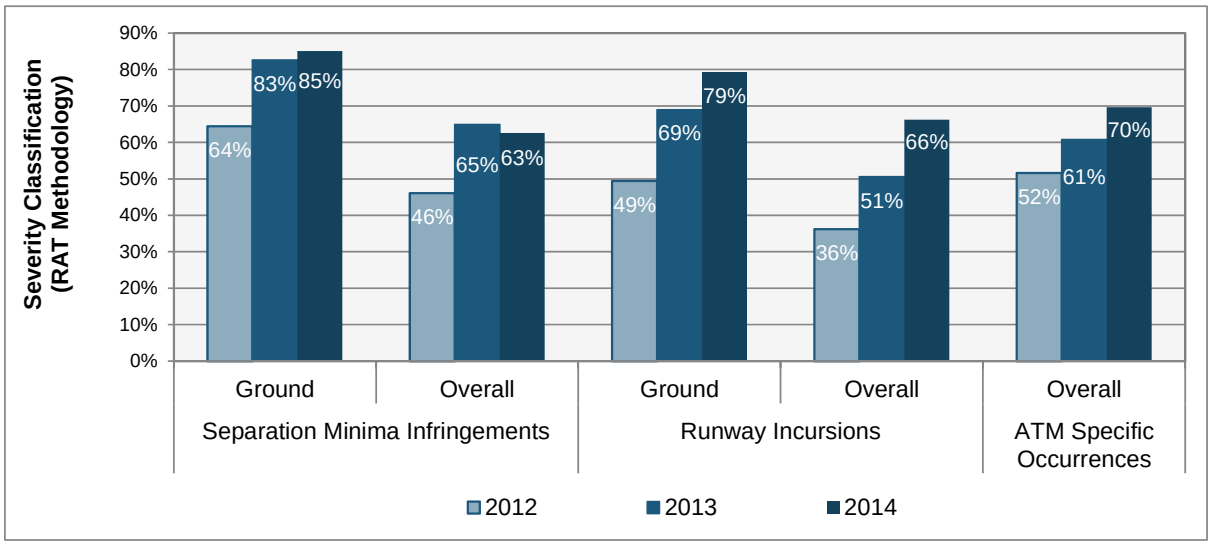


**Figure 35: 2014 EU averages for severity assessment using RAT methodology**

The EU averages for the application of RAT severity methodology for RIs and ATM-S show overall improvement in the final year of RP1. On the other hand, severity classification of SMIs shows a slight drop in 2014. Overall, all three occurrence types are severity classified in approximately 60% of the cases on a State level (ATM Overall).

Note: *For the calculation of the Union-wide average, where no occurrences of a specific type have been reported, these were not included in the calculation of an average.*

Similarly to previous years, the EUROCONTROL safety analysis team (DPS/SSR) has supported a number of States to put in place the necessary arrangements at national level for the successful implementation of the RAT methodology in accordance with the provisions of the performance Regulation. Similar activities are planned in the future to better prepare the relevant States to meet the targets considered for the next reference period (RP2), both for the severity for ATM Ground and ATM Overall.

In addition, EASA has conducted an additional survey with States in order to get a better view of what is the current implementation level for the RAT methodology and who is using it (Accident Investigation Boards, Competent Authorities and certified ANSPs). Furthermore, States were asked to indicate for which type of occurrence investigation they have applied the RAT methodology.

All 29 Performance Scheme States and 38 ANSPs have responded to this survey. Table 2 shows usage of RAT application for each organisation separately. Table 3 shows how many occurrences were assessed using the RAT methodology within all reporting ANSPs.

| | AIB | Competent Authority | ANSP |
|---|---|---|---|
| **Number of organisations using RAT methodology** | 6 | 13 | 29 |
| **%** | 21 | 45 | 100 |

**Table 2: Number of organisations using RAT methodology**

| | RI | SMI | ATM STE |
|---|---|---|---|
| **Number of ANSPs using RAT methodology** | 36 | 36 | 32 |
| **% of ANSPs using RAT methodology** | 95 | 95 | 84 |

**Table 3: Number of ANSPs using RAT methodology**

## 2.3 Just Culture

This assessment is based on the responses given to the questionnaires on Just Culture as defined under Regulation (EC) N° 691/2010. The questionnaires for both States and ANSPs were divided into three areas:

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

Under each area, the questions vary from the State to the ANSP questionnaire. The aim of review was to identify certain tendencies and approaches in place in the context of measuring the presence and corresponding level of absence of Just Culture.

All 29 States and 37 (out of 38) ANSPs filled in the self-assessment questionnaires used for the measurement of the JC SPI in accordance with EASA (AMC/GM for the Implementation and Measurement of Safety Key Performance Indicators - EASA ED Decision 2014/035/R). In accordance with the AMC the responses have been verified by EASA, based on the methodology described above (Section 1.4).

Note: *Submission of Italy's Just Culture questionnaire was made several months after the official closing date. As a consequence, the 2014 JC State results for Italy could not be verified by EASA. Note that self-perceived JC Scores for Italy (State level) are however available on the PRB Dashboard. In addition, one ANSP has not submitted their response for 2014: NAV Portugal (Portugal).*

As mentioned in Section 1, the assessments below aim to report on data provided by individual States and ANSPs, part of the same FAB, in order to identify the JC elements which are already in place. The assessment is solely based on the information provided by the States and ANSPs in their responses to the questionnaires and has not been verified by an on-site inspection.

### Baltic FAB States assessment

#### *Policy and its implementation*

Policy elements

Within the Baltic FAB, the States have different levels in the implementation of Just Culture Policy. One State has included Just Culture principles and its State policy on Just Culture in several legal acts, except a clear definition of what is considered as 'unacceptable behaviour'. One State has no specific Just Culture Policy, but a recognition and understanding of Just Culture principles.

Roles and responsibilities in the safety investigation process within the State

Within the Baltic FAB, the States have identified the roles and responsibilities of the different State authorities and the service providers in handling safety information, and defined in aviation laws.

In addition, through this definition of roles and responsibilities all of the State ensures that the safety analysis and investigation is independent from the judicial authority.

Training of CAA staff

Within the Baltic FAB, there are generally no requirements to include specific Just Culture courses in the training of staff working in the competent authority. However, in one State, Just Culture elements are included in the general safety training provided to competent authority staff. As regards the training requirements in Just Culture for State safety investigators, there are no requirements in place.

### *Legal and Judiciary*

Primary legislation

Within the Baltic FAB, the States ensure the protection of safety information and of persons providing such information. In one State, there is a specific protection afforded under national law. In addition, in both States, subject-matter experts are involved in cases of prosecutions linked to aviation incidents/accidents.

Formal agreement

Within Baltic FAB, all of the States have put in place legal arrangements to ensure there is a framework for cooperation and exchange of relevant safety information between the aviation authorities, the police and judicial authorities in cases of aviation incidents.

### *Occurrence reporting*

Occurrence reporting and investigation

Within Baltic FAB, all of the States provide regular statistical feedback on safety reports received through annual Safety Reports in most cases produced jointly by the competent authority and the relevant safety investigation body. One State has indicated that the report is publicly available on-line.

## Baltic FAB ANSPs assessment

### *Policy and its implementation*

Just Culture Policy elements

Within Baltic FAB, one ANSP has endorsed a Just Culture Policy at ANSP level and has provisions in place to provide legal support to staff prosecuted as a result of an occurrence, whereas the other ANSP has neither an explicit Just Culture Policy, nor does it provide legal support to ANSP staff.

Independence of safety investigators and access to data

Within Baltic FAB, all ANSPs have internal procedures in place which guarantee the independence of safety investigators. In addition, all ANSPs ensure that full access to relevant data for investigators is given and confidentiality is kept.

Training of ANSP staff and safety investigators

Within Baltic FAB, all ANSPs have regular Just Culture training of ANSP staff on Just Culture principles ensured by their respective Safety Management System or safety awareness training programmes, but also through periodical management meetings and briefings.

As regards the training requirements in Just Culture for ANSP safety investigators, one ANSPs has requirements defined in safety investigators' job description.

### *Legal and Judiciary*

Agreement between ANSP and judicial /police authorities

Within Baltic FAB, one ANSP indicated to have an agreement in place between the ANSP and the police and judicial authorities to ensure protection of reported safety information and involved individuals. The other ANSP, due to legal restrictions, has internal rules of recording, storage, and use of related information in place which describe the mechanism on how safety information are reported to the respective authorities.

Agreed process between ANSP and NAA

Within Baltic FAB, one ANSP has an agreed process in place between the ANSPs and the NAAs on how to deal with incident matters laid down either in their SMS manuals or internal procedures.

### *Occurrence reporting*

Occurrence reporting process and ANSP staff

Within Baltic FAB, only one ANSP has an internal procedure/reporting system in place to ensure that the identity of the personnel involved in occurrences is protected under provisions of the Safety Management System manual or other internal ANSP procedures. However, all ANSPs have indicated that staff subject to investigations have access to the information related to the investigation (in one ANSP only in special cases) and that staff is informed of the progress of an investigation as part of the investigation process. All ANSPs provide regular feedback on the results of the occurrence investigation to all staff, in most cases through periodical internal newsletter or meetings.

Feedback on occurrences to the public

Within Baltic FAB, only one ANSP provides statistical data which is published via the CAA in annual reports and made available to the public on-line. In addition, it has an automated reporting system is in place.

## BlueMED States assessment

Note: *Submission of the Italy Just Culture questionnaire was made several months after the official closing date for submission of the results and after the verification and processing of all other data had been completed. As a consequence the 2014 Italy results could not be verified during the 2014 review cycle. Note that Just Culture self-assessment scores for Italy are however available on the PRB Dashboard.*

### *Policy and its implementation*

Policy elements

Within BlueMED, all States have indicated that the Just Culture principles and the State policy on Just Culture is included either within the State Safety Programme or the provisions of the national Aviation Act.

Roles and responsibilities in the safety investigation process within the State

Within BlueMED, all States have identified in different national legal acts (MoCs or Aviation Act) the roles and responsibilities of the different State authorities and the service providers in handling safety information. In addition, the independence of the safety analysis and investigation process from the judicial authority is ensured within all BlueMED States.

Training of CAA staff

Within BlueMED, most States do not have specific Just Culture courses in the training of staff working in the competent authority, with one exception where the training is including in the training programme 2015. As regards the training requirements in Just Culture for State

safety investigators, most States have the requirements for national safety investigators defined in policy manuals and procedures. Where there are no requirements, State safety investigators have nevertheless been trained on Just Culture principles.

### *Legal and Judiciary*

Primary legislation

Within BlueMED, all States have provisions under national law for the protection of safety information and more generally data protection principles have been transposed into national law. In addition, in most States, the involvement of subject-matter experts in cases of prosecutions linked to aviation incidents/accidents is foreseen.

Formal agreement

Within BlueMED, most of the States have arrangements at working level in place to ensure there is a framework for cooperation and exchange relevant safety information between the aviation authorities, the police and judicial authorities in cases of aviation incidents, except one for which an arrangement will be concluded in 2015.

### *Occurrence reporting*

Occurrence reporting and investigation

Within BlueMED, one State provides regular statistical feedback on safety reports received through annual Safety Reports and one State plans to provide regular statistical feedback from 2015 onwards.

## BlueMED ANSPs assessment

### *Policy and its implementation*

Just Culture Policy elements

Within BlueMED, all ANSPs have either endorsed a Just Culture Policy at ANSP level or have indicated that there is a good understanding and practice of Just Culture principles. Most ANSPs have indicated to provide legal support to staff prosecuted as a result of an occurrence as laid down in their Just Culture Policies.

Independence of safety investigators and access to data

Within BlueMED, most ANSPs have internal provisions in place which guarantee the independence of safety investigators. In one ANSP, the independence of investigators, nominated from among the safety team, is guaranteed to the largest possible extent by making sure that they were not on duty when the occurrence happened. In addition, all ANSPs ensure that full access to relevant data for investigators is given and confidentiality is kept.

Training of ANSP staff and safety investigators

Within BlueMED, most ANSPs have regular Just Culture training of ANSP staff as sometimes laid down in the respective Training Programmes, but also through regular briefings.

As regards the training requirements in Just Culture for ANSP safety investigators, all ANSPs have defined requirements in place, most of them in their Safety Management System procedures.

### *Legal and Judiciary*

Agreement between ANSP and judicial /police authorities

Within BlueMED, none of the ANSPs have an agreement in place between the ANSP and the police and judicial authorities to ensure protection of reported safety information and involved individuals.

Agreed process between ANSP and NAA

Within BlueMED, all ANSPs have indicated that there is an agreed process between the ANSPs and the NAAs on how to deal with incident matters laid down either in their SMS manuals or internal procedures.

### *Occurrence reporting*

Occurrence reporting process and ANSP staff

Within BlueMED, all ANSPs have internal procedures/reporting system to ensure that the identity of the personnel involved in occurrences is protected under provisions of the Safety Management System manual or other internal ANSP procedures. In addition, all ANSPs have indicated that staff subject to investigations have access to the information related to the investigation, whereas some of the ANSPs also inform staff on the progress of an investigation as part of the investigation process. All ANSPs provide regular feedback on the results of the occurrence investigation to all staff, in most cases through periodical feedback sessions or training activities.

Feedback on occurrences to the public

Within BlueMED, all ANSPs provide statistical data which is published in annual reports and made available to the public. In addition, in some of the ANSPs an automated reporting system is in place.

## DANUBE States assessment

### *Policy and its implementation*

Policy elements

Within DANUBE, one State has indicated that the Just Culture principles are included in the State Safety Programme, whereas one State has the Just Culture explicitly contained in its State Safety Policy; the other one stated that there is no explicit JC policy at State level but a recognition and understanding of JC principles.

Roles and responsibilities in the safety investigation process within the State

Within DANUBE, all States have identified in different national legal acts the roles and responsibilities of the different State authorities and the service providers in handling safety information. In addition, the independence of the safety analysis and investigation process from the judicial authority is ensured within all DANUBE States. In one state necessary improvements have already been announced.

Training of CAA staff

Within DANUBE, the States either have specific requirements and Just Culture courses in the training of staff working in the competent authority or at least Just Culture elements are included in the training programmes. As regards the training requirements in Just Culture for State safety investigators, the States have no requirement in place, but it is in one State included in the training programme.

### *Legal and Judiciary*

Primary legislation

Within DANUBE, the States have provisions under national law for the protection of safety information. However, there is no specific protection afforded under national law and the freedom of information acts do not provide for exemptions for safety information. Yet, in one State, the involvement of subject-matter experts in cases of prosecutions linked to aviation incidents/accidents is foreseen under national penal procedural law.

Formal agreement

Within DANUBE, all of the States have put in place arrangements or have provisions in national law to ensure there is a framework for cooperation and exchange relevant safety information between the aviation authorities, the police and judicial authorities in cases of aviation incidents.

### *Occurrence reporting*

Occurrence reporting and investigation

Within DANUBE, all of the States provide regular statistical feedback on safety reports received through annual Safety Reports. The reports are publicly available on-line.

## DANUBE ANSPs assessment

### *Policy and its implementation*

Just Culture Policy elements

Within DANUBE, all ANSPs have endorsed a Just Culture Policy at ANSP level included in their Safety Policy and have indicated that there is a good understanding and practice of Just Culture principles. One ANSP has provisions in place to provide legal support to staff prosecuted as a result of an occurrence, the other ANSP indicated that such provisions need to be initiated.

Independence of safety investigators and access to data

Within DANUBE, all ANSPs guarantee the independence of safety investigators, either within their Safety Management Manuals or by other internal means. In addition, all ANSPs ensure that full access to relevant data for investigators is given and confidentiality is kept.

Training of ANSP staff and safety investigators

Within DANUBE, not all ANSPs have regular Just Culture training of ANSP staff through regular awareness briefings, but all have principles of Just Culture included in initial and recurrent training.

As regards the training requirements in Just Culture for ANSP safety investigators, all ANSPs have defined requirements in place, either in their Safety Management Manual or laid down in job descriptions of safety investigators.

### *Legal and Judiciary*

Agreement between ANSP and judicial /police authorities

Within DANUBE, none of the ANSPs have an agreement in place between the ANSP and the police and judicial authorities to ensure protection of reported safety information and involved individuals.

Agreed process between ANSP and NAA

Within DANUBE, all ANSPs have indicated that there is an agreed process between the ANSPs and the NAAs on how to deal with incident matters laid down either in their Safety Management Manuals, national legislation or internal procedures.

### *Occurrence reporting*

Occurrence reporting process and ANSP staff

Within DANUBE, all ANSPs have internal procedures/reporting system to ensure that the identity of the personnel involved in occurrences is protected under provisions of the Safety Management Manual. In addition, all ANSPs have indicated that staff subject to investigations have access to the information related to the investigation, but only one ANSP informs staff of the progress of an investigation as part of the investigation process. All ANSPs provide regular feedback on the results of the occurrence investigation to all staff, in most cases through periodical internal newsletter or annual reports.

Feedback on occurrences to the public

Within DANUBE, all ANSPs provide statistical data which is published in annual reports and made available to the public. In addition, the ANSPs have an automated reporting system, either in place or in test phase.

## DK-SE FAB States assessment

### *Policy and its implementation*

Policy elements

Within DK-SE FAB, the States have indicated that there is a good understanding and practice of Just Culture Policy at national level. In some cases, the Just Culture principles are included within the provisions of the Safety Culture. Where there is no specific Just Culture Policy, the States note that the national provisions on mandatory occurrence reporting are applicable which includes Just Culture principles.

Roles and responsibilities in the safety investigation process within the State

Within DK-SE FAB, all States have identified the roles and responsibilities of the different State authorities and the service providers in handling safety information, this is defined either in the Aviation Act or aviation legislation.

In addition, through this definition of roles and responsibilities all of the States ensures that the safety analysis and investigation is independent from the judicial authority.

Training of CAA staff

Within DK-SE FAB, there are only partly requirements to include specific Just Culture courses in the training of certain staff working in the competent authority. However, in all of the States, Just Culture elements are included in the general safety training provided to competent authority staff. As regards the training requirements in Just Culture for State safety investigators, no requirements are formally in place, but safety investigators are very well aware of and apply the Just Culture principles.

### *Legal and Judiciary*

Primary legislation

Within DK-SE FAB, the States ensure the protection of safety information and of persons providing such information under the Just Culture principles. In addition, in all States, subject-matter experts are involved in cases of prosecutions linked to aviation incidents/accidents.

Formal agreement

Within DK-SE FAB, the States have put in place arrangements, formally or informally via established practice, to ensure there is a framework for cooperation and exchange relevant safety information between the aviation authorities, the police and judicial authorities in cases of aviation incidents.

### *Occurrence reporting*

Occurrence reporting and investigation

Within DK-SE FAB, all of the States provide regular statistical feedback on safety reports received through annual Safety Reports produced jointly by the competent authority and the relevant safety investigation body.

## DK-SE FAB ANSPs assessment

### *Policy and its implementation*

Just Culture Policy elements

Within DK-SE FAB, some ANSPs have endorsed a Just Culture Policy at ANSP level, some have included Just Culture elements in their Safety Policy and all have indicated that there is a good understanding and practice of Just Culture principles. Some ANSPs have indicated to provide legal support to staff prosecuted as a result of an occurrence as laid down in their Just Culture Policies, others indicated that support is granted by other authorities (state, labour unions).

Independence of safety investigators and access to data

Within DK-SE FAB, some ANSPs have internal procedures in place which guarantee the independence of safety investigators. In addition, all ANSPs ensure that full access to relevant data for investigators is given and confidentiality is kept.

Training of ANSP staff and safety investigators

Within DK-SE FAB, some ANSPs have regular Just Culture training of ANSP staff, some other provide training on a need to know basis.

As regards the training requirements in Just Culture for ANSP safety investigators, some ANSPs have defined requirements in place, some ANSPs have no requirements.

### *Legal and Judiciary*

Agreement between ANSP and judicial /police authorities

Within DK-SE FAB, none of the ANSPs have an agreement in place between the ANSP and the police and judicial authorities, but the protection of reported safety information and involved individuals are ensured by national law.

Agreed process between ANSP and NAA

Within DK-SE FAB, all ANSPs have indicated that there is an agreed process between the ANSPs and the NAAs on how to deal with incident matters laid down either in their SMS manuals or national legislation.

### *Occurrence reporting*

Occurrence reporting process and ANSP staff

Within DK-SE FAB, all ANSPs have internal procedures/reporting system to ensure that the identity of the personnel involved in occurrences is protected under provisions of internal ANSP procedures. In addition, all ANSPs have indicated that staff subject to investigations

have access to the information related to the investigation and that staff is informed of the progress of an investigation as part of the investigation process, except one ANSP. All ANSPs provide regular feedback on the results of the occurrence investigation to all staff, in most cases through periodical newsletters or meetings.

Feedback on occurrences to the public

Within DK-SE FAB, all ANSPs provide statistical data which is published in annual reports and made available to the public. In addition, one ANSP has an automated reporting system in place.

**FABCE States assessment**

***Policy and its implementation***

Policy elements

Within FABCE, two States have indicated that the Just Culture policy is included in the State Safety Programme, in the others there is no explicit Just Culture policy at State level but a recognition and understanding of Just Culture principles. In one instance the State has endorsed the JC policy adopted by the main ANSP.

Roles and responsibilities in the safety investigation process within the State

Within FABCE, all States have identified in different national legal acts (Decrees or Aviation Act) the roles and responsibilities of the different State authorities and the service providers in handling safety information. In addition, the independence of the safety analysis and investigation process from the judicial authority is ensured within all FABCE States through the similar legal acts.

Training of CAA staff

Within FABCE, most States do not have specific Just Culture courses in the training of staff working in the competent authority, with two exceptions where the training is specifically foreseen. In one State there is an agreement between the NSA and the ANSP regarding the application of Just Culture. As regards the training requirements in Just Culture for State safety investigators, most States have no requirement in place with notable exceptions where the national safety/accident Investigation Authority has defined requirements.

***Legal and Judiciary***

Primary legislation

Within FABCE, most States have provisions under national law for the protection of safety information and more generally data protection principles have been transposed into national law. Where this is not explicitly stated the protection of safety information is implicitly ensured. In addition, in most States, the involvement of subject-matter experts in cases of prosecutions linked to aviation incidents/accidents is foreseen either under national criminal law or as a matter of judicial procedure.

Formal agreement

Within FABCE, all of the States have arrangements at working level in place to ensure there is a framework for cooperation and exchange relevant safety information between the aviation authorities, the police and judicial authorities in cases of aviation incidents.

### *Occurrence reporting*

Occurrence reporting and investigation

Within FABCE, all of the States provide regular statistical feedback on safety reports received through annual Safety Reports in most cases produced jointly by the competent authority and the relevant safety investigation body.

## FABCE ANSPs assessment

### *Policy and its implementation*

Just Culture Policy elements

Within FABCE, all ANSPs have endorsed a Just Culture Policy at ANSP level, except one, yet where elements of Just Culture are included in the Safety Management System, and all have indicated that there is a good understanding and practice of Just Culture principles. All ANSPs provide legal support to staff prosecuted as a result of an occurrence, either due to an informal commitment or as laid down in their Just Culture Policies.

Independence of safety investigators and access to data

Within FABCE, all ANSPs have internal procedures in place which guarantee the independence of safety investigators. In addition, all ANSPs ensure that full access to relevant data for investigators is given and confidentiality is kept.

Training of ANSP staff and safety investigators

Within FABCE, the majority of ANSPs have regular Just Culture training of ANSP staff as sometimes laid down in the respective Training Programmes, but also through regular briefings. One ANSPs, has only ATCO initial training courses on Just Culture and one indicated to include Just Culture principles to training presentations.

As regards the training requirements in Just Culture for ANSP safety investigators, the responses of the ANSPs show differing approaches, some have defined requirements in place, but others do not.

### *Legal and Judiciary*

Agreement between ANSP and judicial /police authorities

Within FABCE, none of the ANSPs have an agreement in place between the ANSP and the police and judicial authorities to ensure protection of reported safety information and involved individuals. However, one ANSP indicated that collaboration started between the ANSP and the police and judicial authorities, others noted that legal restrictions would not allow them to have such agreements.

Agreed process between ANSP and NAA

Within FABCE, all ANSPs have indicated that there is an agreed process between the ANSPs and the NAAs on how to deal with incident matters laid down either in their SMS manuals or internal procedures.

### *Occurrence reporting*

Occurrence reporting process and ANSP staff

Within FABCE, all ANSPs have internal procedures/reporting system to ensure that the identity of the personnel involved in occurrences is protected, mainly under provisions of Safety Management System manuals. In addition, all ANSPs have indicated that staff subject to investigations have access to the information related to the investigation and that staff is informed (or planned to be informed) of the progress of an investigation as part of the investigation process. All ANSPs provide regular feedback on the results of the occurrence

investigation to all staff, in most cases through distribution of extracts of investigation reports, periodical internal newsletter or briefing.

Feedback on occurrences to the public

Within FABCE, all ANSPs provide statistical data which is published in annual reports and made available to the public, except one ANSP. In addition, in some of the ANSPs an automated reporting system is in place.

**FABEC States assessment**

***Policy and its implementation***

Policy elements

Within FABEC, half of the States have indicated that the Just Culture policy is included in the State Safety Programme, the other half stated that there is no explicit Just Culture policy at State level but a recognition and understanding of Just Culture principles.

Roles and responsibilities in the safety investigation process within the State

Within FABEC, the large majority of States have identified in different national legal acts (Decrees or Aviation Act) the roles and responsibilities of the different State authorities and the service providers in handling safety information. Only in one state are the roles and responsibilities not defined. In addition, the independence of the safety analysis and investigation process from the judicial authority is ensured within all FABEC States through similar legal acts.

Training of CAA staff

Within FABEC, most States do not have specific Just Culture courses in the training of staff working in the competent authority, with two exceptions where the training is specifically foreseen. As regards the training requirements in Just Culture for State safety investigators, most States have no requirement in place with notable exceptions where the national safety/accident Investigation Authority has defined requirements.

***Legal and Judiciary***

Primary legislation

Within FABEC, all States, except one, have provisions under national law for the protection of safety information and more generally data protection principles have been transposed into national law. In addition, in two States, the involvement of subject-matter experts in cases of prosecutions linked to aviation incidents/accidents is foreseen either under national criminal law or as a matter of judicial procedure.

Formal agreement

Within FABEC, most of the States have arrangements at working level in place to ensure there is a framework for cooperation and exchange relevant safety information between the aviation authorities, the police and judicial authorities in cases of aviation incidents. Only two States have no agreements at all.

***Occurrence reporting***

Occurrence reporting and investigation

Within FABEC, all of the States, except of one, provide regular statistical feedback on safety reports received through annual Safety Reports in most cases produced jointly by the competent authority and the relevant safety investigation body.

## FABEC ANSPs assessment

### *Policy and its implementation*

Just Culture Policy elements

Within FABEC, all ANSPs have either endorsed an explicit Just Culture Policy at ANSP level or have indicated that the principles of Just Culture are embedded in their safety policy. All ANSPs provide legal support to staff prosecuted as a result of an occurrence, either as laid down in their Just Culture Policies, national law or other internal policies.

Independence of safety investigators and access to data

Within FABEC, all ANSPs, except one, have internal procedures or measures in place which guarantee the independence of safety investigators. In addition, all ANSPs ensure that full access to relevant data for investigators is given and confidentiality is kept.

Training of ANSP staff and safety investigators

Within FABEC, all ANSPs, except one, have regular Just Culture training of ANSP staff as sometimes laid down in the respective Training Programmes.

As regards the training requirements in Just Culture for ANSP safety investigators, some ANSPs have defined requirements in place, e.g. in their Safety Management System. Some ANSPs have no explicit requirements yet, but are planning to formalise them.

### *Legal and Judiciary*

Agreement between ANSP and judicial /police authorities

Within FABEC, the majority of ANSPs have indicated to have no agreement in place between the ANSP and the police and judicial authorities to ensure protection of reported safety information and involved individuals. For some this is due to national legal restrictions. The others have an agreement formalised either by national provisions or agreed regular meetings.

Agreed process between ANSP and NAA

Within FABCE, all ANSPs have indicated that there is an agreed process between the ANSPs and the NAAs on how to deal with incident matters, for the majority of ANSPs laid down either in their Safety Management System manuals or internal procedures.

### *Occurrence reporting*

Occurrence reporting process and ANSP staff

Within FABEC, the ANSPs have differing approaches with regard to their occurrence reporting system. All ANSPs have internal procedures/measures to ensure that the identity of the personnel involved in occurrences is protected. In addition, most ANSPs have indicated that staff subject to investigations have access to the information related to the investigation and that staff is informed of the progress of an investigation as part of the investigation process. All ANSPs provide regular feedback on the results of the occurrence investigation to all staff, e.g. through safety bulletins, reports published on their Intranet or training courses.

Feedback on occurrences to the public

Within FABEC, all ANSPs, except one, provide statistical data which is published in annual reports and made available to the public. In addition, in some of the ANSPs an automated reporting system is in place.

## UK-IR FAB States assessment

### *Policy and its implementation*

Policy elements

Within IR-UK FAB, the States have endorsed an explicit Just Culture Policy at national level within several legal acts, for example the Aviation Act and internal procedures. There is no regulatory requirement for the ANSP to have a separate Just Culture policy, but the ANSPs within the IR-UK FAB have agreed a joint Just Culture policy.

Roles and responsibilities in the safety investigation process within the State

Within IR-UK FAB, all States have identified the roles and responsibilities of the different State authorities and the service providers in handling safety information.

In addition, through this definition of roles and responsibilities all of the States ensures that the safety analysis and investigation is independent from the judicial authority.

Training of CAA staff

Within IR-UK FAB, one State has formally documented requirements to include specific Just Culture courses in the training of staff working in the competent authority, whereas the other State without specific requirements has de-facto Just Culture elements included in the general safety training provided to competent authority staff. As regards the training requirements in Just Culture for State safety investigators, one State has requirements in place and in the other State they will be in place for RP2.

### *Legal and Judiciary*

Primary legislation

Within IR-UK FAB, the States ensure the protection of safety information and of persons providing such information in their national legislation related to aviation. In addition, there is specific protection afforded under the same national law. Moreover, in the States, subject-matter experts are involved in cases of prosecutions linked to aviation incidents/accidents.

Formal agreement

Within IR-UK FAB, the States have put in place formal agreements to ensure there is a framework for cooperation and exchange relevant safety information between the aviation authorities, the police and judicial authorities in cases of aviation incidents.

### *Occurrence reporting*

Occurrence reporting and investigation

Within IR-UK FAB, the States provide regular statistical feedback on safety reports received through annual Safety Reports in most cases produced jointly by the competent authority and the relevant safety investigation body. One State indicated that the report is publicly available on-line.

## UK-IR FAB ANSPs assessment

### *Policy and its implementation*

Just Culture Policy elements

Within IR-UK FAB, all ANSPs have either endorsed an explicit Just Culture Policy at ANSP level or have indicated that the principles of Just Culture are embedded in their internal policies. All ANSPs provide legal support to staff prosecuted as a result of an occurrence as laid down in their Just Culture Policies, other internal policies or as internal principles.

Independence of safety investigators and access to data

Within IR-UK FAB, one ANSP have internal procedures in place which guarantee the independence of safety investigators. Due to the size of units, it is difficult for other ANSPs to always ensure full independence, yet requirements were set to guarantee there is no conflict of interest. However, all ANSPs ensure that full access to relevant data for investigators is given and confidentiality is kept.

Training of ANSP staff and safety investigators

Within IR-UK FAB, the majority of ANSPs have regular training of ANSP staff as sometimes laid down in the respective Safety Management Manual, but also through regular briefings.

As regards the training requirements in Just Culture for ANSP safety investigators, all ANSPs, except one, have indicated to have defined requirements in place, e.g. in their training courses.

***Legal and Judiciary***

Agreement between ANSP and judicial /police authorities

Within IR-UK FAB, the ANSPs have indicated that protection of reported safety information and involved individuals is ensured by national law.

Agreed process between ANSP and NAA

Within IR-UK FAB, all ANSPs have indicated that there is an agreed process between the ANSPs and the NAAs on how to deal with incident matters laid down either in their Safety Management Manuals or in Mandatory Occurrence Reporting Scheme.

***Occurrence reporting***

Occurrence reporting process and ANSP staff

Within IR-UK FAB, all ANSPs have either a reporting system or guidance to investigators to ensure that the identity of the personnel involved in occurrences is protected. In addition, all ANSPs have indicated that staff subject to investigations have access to the information related to the investigation. The majority of ANSPs also inform staff on the progress of an investigation as part of the investigation process. All ANSPs provide regular feedback on the results of the occurrence investigation to all staff, e.g. through safety bulletins, newsletters and monthly/annual reports.

Feedback on occurrences to the public

Within IR-UK FAB, most ANSPs provide statistical data which is published in annual reports and made available to the public on-line. In addition, in some of the ANSPs an automated reporting system is in place.

**NEFAB States assessment**

***Policy and its implementation***

Policy elements

Within NEFAB, the States have indicated that there is a good understanding and practice of Just Culture Policy at national level. In some cases, the Just Culture principles and the State policy on Just Culture is included within the provisions of the national Aviation Act. Where there is no specific Just Culture Policy, the States note that the provisions of Regulation (EU) No 376/2014 on occurrence reporting are directly applicable and that the relevant Just Culture principles will be used to adapt the existing national framework as required.

Roles and responsibilities in the safety investigation process within the State

Within NEFAB, all States have identified the roles and responsibilities of the different State authorities and the service providers in handling safety information, in most cases this is defined in the Aviation Act.

In addition, through this definition of roles and responsibilities all of the States ensures that the safety analysis and investigation is independent from the judicial authority.

Training of CAA staff

Within NEFAB, there are no requirements to include specific Just Culture courses in the training of staff working in the competent authority. However, in some of the States, Just Culture elements are included in the general safety training provided to competent authority staff. As regards the training requirements in Just Culture for State safety investigators, the responses from the States show differing approaches, in two there are no requirement in place and in the other States these are defined by the Safety Investigation Authority.

### *Legal and Judiciary*

Primary legislation

Within NEFAB, the States ensure the protection of safety information and of persons providing such information in different ways. In most cases, there is no specific protection afforded under national law, but the EU provisions on the protection of safety information and more generally data protection have been transposed into national law. In addition, in most States, subject-matter experts are involved in cases of prosecutions linked to aviation incidents/accidents.

Formal agreement

Within NEFAB, all of the States have put in place arrangements to ensure there is a framework for cooperation and exchange relevant safety information between the aviation authorities, the police and judicial authorities in cases of aviation incidents.

### *Occurrence reporting*

Occurrence reporting and investigation

Within NEFAB, all of the States provide regular statistical feedback on safety reports received through annual Safety Reports in most cases produced jointly by the competent authority and the relevant safety investigation body. In most cases, the report is publicly available on-line.

## NEFAB ANSPs assessment

### *Policy and its implementation*

Just Culture Policy elements

Within NEFAB, all ANSPs have endorsed a Just Culture Policy at ANSP level and have indicated that there is a good understanding and practice of Just Culture principles. All ANSPs have provisions in place to provide legal support to staff prosecuted as a result of an occurrence as laid down in their Just Culture Policies, except one which has provisions on general legal advice.

Independence of safety investigators and access to data

Within NEFAB, all ANSPs have internal procedures in place which guarantee the independence of safety investigators. In addition, all ANSPs ensure that full access to relevant data for investigators is given and confidentiality is kept.

Training of ANSP staff and safety investigators

Within NEFAB, all ANSPs have regular Just Culture training of ANSP staff as sometimes laid down in the respective Training Programmes, but also through regular briefings. Two ANSPs, had training courses organised together in the area of CISM.

As regards the training requirements in Just Culture for ANSP safety investigators, all ANSPs have defined requirements in place, most of them in their Safety Management System procedures.

### *Legal and Judiciary*

Agreement between ANSP and judicial /police authorities

Within NEFAB, one ANSP indicated to have an agreement in place between the ANSP and the police and judicial authorities to ensure protection of reported safety information and involved individuals.

Agreed process between ANSP and NAA

Within NEFAB, all ANSPs have indicated that there is an agreed process between the ANSPs and the NAAs on how to deal with incident matters laid down either in their Safety Management System manuals or internal procedures.

### *Occurrence reporting*

Occurrence reporting process and ANSP staff

Within NEFAB, all ANSPs have internal procedures/reporting system to ensure that the identity of the personnel involved in occurrences is protected under provisions of the SMS manual or other internal ANSP procedures. In addition, all ANSPs have indicated that staff subject to investigations have access to the information related to the investigation and that staff is informed of the progress of an investigation as part of the investigation process. All ANSPs provide regular feedback on the results of the occurrence investigation to all staff, in most cases through periodical internal newsletter or meetings.

Feedback on occurrences to the public

Within NEFAB, all ANSPs provide statistical data which is published in annual reports and made available to the public on-line. In addition, in some of the ANSPs an automated reporting system is in place.

## SW FAB States assessment

### *Policy and its implementation*

Policy elements

Within SW FAB, all States have endorsed an explicit Just Culture Policy at national level either within the provisions of the Air Safety Act or in several Decree-laws. There is also in all States a regulatory requirement for the ANSP to have a separate Just Culture policy.

Roles and responsibilities in the safety investigation process within the State

Within SW FAB, all States have identified in their regulatory framework the roles and responsibilities of the different State authorities and the service providers in handling safety information. In addition, through this definition of roles and responsibilities the States ensure that the safety analysis and investigation is independent from the judicial authority.

Training of CAA staff

Within SW FAB, one State has formally documented requirements to include specific Just Culture courses in the training of staff working in the competent authority. As regards the

training requirements in Just Culture for State safety investigators, one State has requirements in place.

### *Legal and Judiciary*

Primary legislation

Within SW FAB, all States ensure the protection of safety information and of persons providing such information in their national legislation. In addition, there is specific protection afforded under national law. In one State, subject-matter experts are involved in cases of prosecutions linked to aviation incidents/accidents, whereas in the other State such agreement on this matter with the different competent authorities is planned.

Formal agreement

Within SW FAB, all States have an established process on exchange of safety information between the aviation authorities, the police and judicial authorities. The agreed process in cases of aviation incidents between the aviation authorities, the police and judicial authorities is put in place in one State, whereas in the other it is expected to be put in place during 2015.

### *Occurrence reporting*

Occurrence reporting and investigation

Within SW FAB, all States provide regular statistical feedback on safety reports received through annual Safety Reports in most cases produced jointly by the competent authority and the relevant safety investigation body. One State indicated that the report is publicly available on-line.

## SW FAB ANSPs assessment

Note: *Portugal ANSP (NAV Portugal) has not reported in 2014.*

### *Policy and its implementation*

Just Culture Policy elements

Within SW FAB, the ANSPs have endorsed either key parts of a Just Culture Policy in their Safety Policy or references of Just Culture could be found in policies related to the application of non-punitive principles. One of the ANSPs provides also legal support to staff prosecuted as a result of an occurrence without having explicit mentioning it in the policy.

Independence of safety investigators and access to data

Within SW FAB, all ANSPs have internal procedures in place which guarantee the independence of safety investigators. In addition, all ANSPs ensure that full access to relevant data for investigators is given and confidentiality is kept.

Training of ANSP staff and safety investigators

Within SW FAB, the ANSPs have no regular Just Culture training of ANSP staff, although in one ANSP Just Culture training is included in the training prior joining the ANSP. One ANSP indicated to include regular training on Just Culture when having endorsed its Just Culture Policy currently under preparation.

As regards the training requirements in Just Culture for ANSP safety investigators, one ANSPs has requirements in nomination of safety investigators, one ANSP indicated to set requirements when having endorsed its Just Culture Policy.

### *Legal and Judiciary*

Agreement between ANSP and judicial /police authorities

Within SW FAB, the ANSPs have indicated that the national law does not support an agreement between the ANSP and the police and judicial authorities to ensure protection of reported safety information and involved individuals.

Agreed process between ANSP and NAA

Within SW FAB, all ANSPs have indicated that there is an agreed process between the ANSPs and the NAAs on how to deal with incident matters.

### *Occurrence reporting*

Occurrence reporting process and ANSP staff

Within SW FAB, all ANSPs have internal procedures/reporting system to ensure that the identity of the personnel involved in occurrences is protected under provisions of the Safety Management System manual or other internal ANSP procedures. In addition, one ANSP has indicated that staff subject to investigations have access to the information related to the investigation. Moreover, all ANSPs ensure that staff is informed of the progress, or at least of the end of an investigation as part of the investigation process. All ANSPs provide regular feedback on the results of the occurrence investigation to all staff, in most cases through periodical bulletins, reminders and learning sessions.

Feedback on occurrences to the public

Within SW FAB, none of the ANSPs provide statistical data which then could be published in annual reports, but this is planned for the future.

# 3 ANS-related Accidents and Incidents

In this Chapter, Sections 3.1 and 3.2 show safety performance of ANS using ANS-related accidents, serious incidents and incidents between 2005 and 2014. Section 3.3 reports on ATM incidents using data reported via the Annual Summary Template mechanism. The completeness and quality of safety data reporting and investigation are addressed in Section 3.4. The analysis in this chapter covers the EU 27 States plus Norway and Switzerland.

## 3.1 ANS-related Accidents and Serious Incidents

The data presented in this section relates to accidents and serious incidents, defined by ICAO Annex 13 and assigned to an occurrence by a European safety investigation authority. The inclusion criteria for these occurrences are as follows: air navigation services in the 27 EU States plus Norway and Switzerland, and commercial air transport (CAT) aeroplanes above 2,250 kg maximum take-off mass.

Figure 36 shows the number of accidents and serious incidents per year that involved ANS, alongside a rate calculated using the number of flight hours performed. In the six year period analysed, there were no fatal accidents that were ANS-related. The figure shows an overall decreasing trend in the number of serious incidents since 2010, whereas the number of accidents has remained static. The lower rate and number of serious incidents in 2009 is also reflected in historical data for 2008 and appears to be related to the downturn in traffic over the two year period. Overall, historical movement data provided by EUROCONTROL and serious incident data from EASA indicate that in a ten year period, both the number and rate of serious incidents has reduced. A reversal in the decreasing trend of serious incidents is shown in 2014 and in the overall accident and serious incident rate, per million flight hours. This reversal is also reflected in other measures of aviation system safety, such as the global fatality rate for CAT Aeroplanes, or the European CAT accident rate[6].

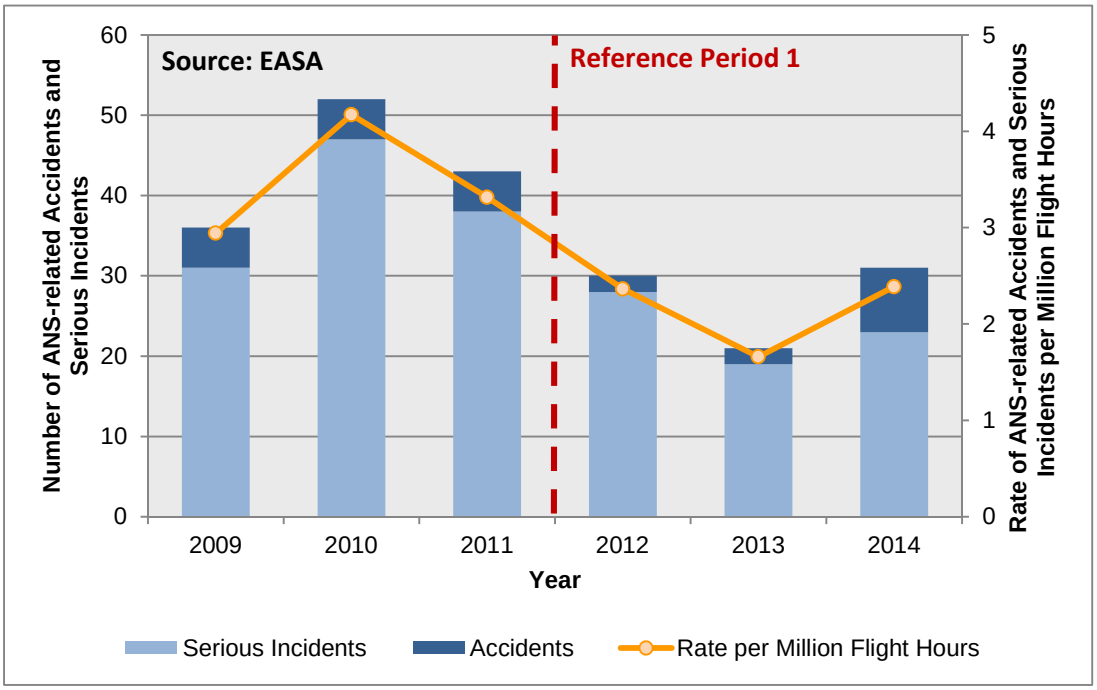


**Figure 36: ANS related accidents and serious incidents (2009-2014)**

Although presented alongside one another, the accidents and serious incidents that the data comprises are very different in their characteristics. Taking the most recent year, 2014, as an example, the eight (8) accidents could be split into three categories:

- Turbulence encounters that injure aircraft occupants (5 accidents).
- Collisions during taxi or on the ramp (2 accidents),
- Hard landings or tail-strikes on the runway (1 accident),

None of these eight (8) accidents appear at the first glance to be related to air traffic management, however, all of them have in common contributory factors relating to ANS. In these cases, ANS may have a role in preventing future accidents. By contrast, the serious incidents are not only more clearly linked to ANS, but they are typically events that could lead to far more serious accidents than those that actually occurred. For example, of the 23 serious incidents in 2014, there were:

- Runway incursions (9 serious incidents),
- Near mid-air collisions (9 serious incidents),
- Runway excursion or hard landings (3 serious incidents), and
- Encounters with severe turbulence or poor weather (2 serious incidents).

Therefore, serious incidents are often a better measure of the performance of the ANS system, because they relate more closely to ANS itself and are more severe in their nature. As a whole, RP1 period has shown a better level of ANS safety performance compared with the previous seven years, however, there has not been a measurable improvement within the reference period itself.

## 3.2 Types of ANS-related Accidents and Serious Incidents

**ANS-related vs. ANS contribution**

"**ANS related**" means that the ANS system may not have had a contribution to a given occurrence, but it may have a role in preventing similar occurrences in the future.

"**ANS contribution**" means that 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.

The rate of ANS-contribution accidents and serious incidents has significantly decreased since 2010 and also decreased consistently during the RP1 (Figure 37). Historical movement data from EUROCONTROL indicate that there was a reduction in traffic during 2008-2009. The corresponding dip in 2009, as shown in Figure 37, suggests that the rate is not directly related to the number of flight hours. Earlier data had higher accident and serious incident rates and imply that overall, safety has improved over the past ten years. Therefore, it could be concluded that the ANS sector has improved at managing risks that directly relate to the service provided.

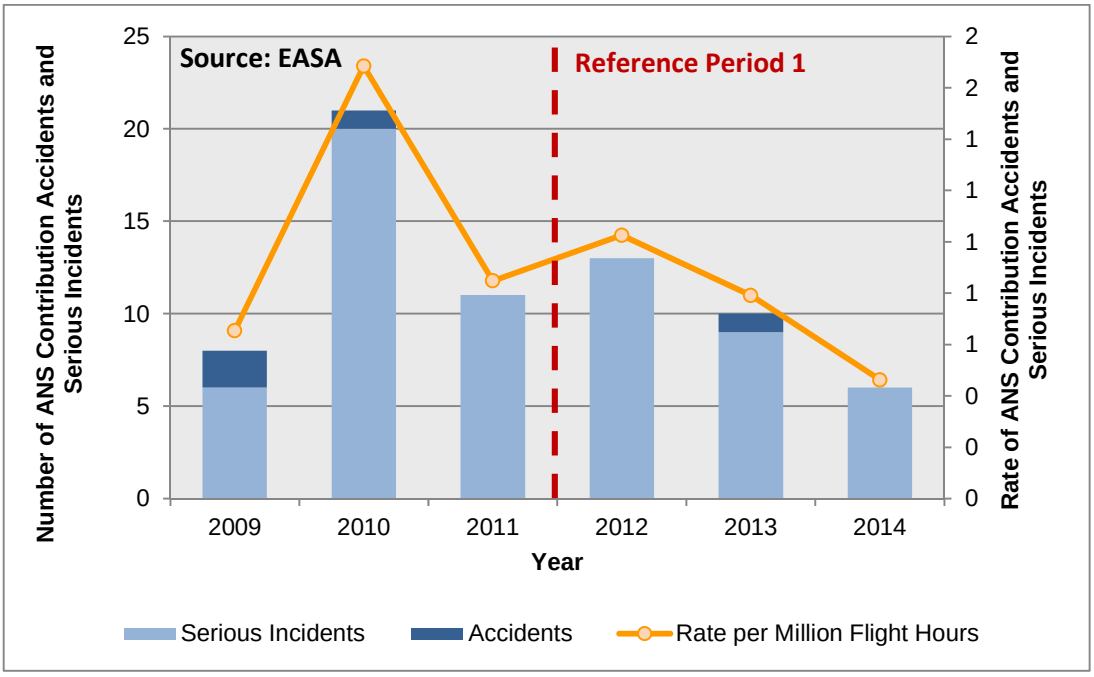


**Figure 37: ANS contribution accidents and serious incidents (2009-2014)**

Figure 38 and Figure 39 show the full range of occurrence categories assigned to ANS-related and ANS-contribution accidents and serious incidents during the RP1 period. Occurrence categories describe at a high level the type of accident and serious incident and more than one category can be assigned per occurrence. The inclusion of loss of control in-flight or system-component failures may appear to be unrelated to ANS, however, occurrences are a sequence of events, where (for example) a trigger event like a TCAS-RA may lead to a subsequent abrupt manoeuvre and loss of aircraft control. By monitoring the occurrence types, it is possible to identify risk-transfer from one aviation sector to another.

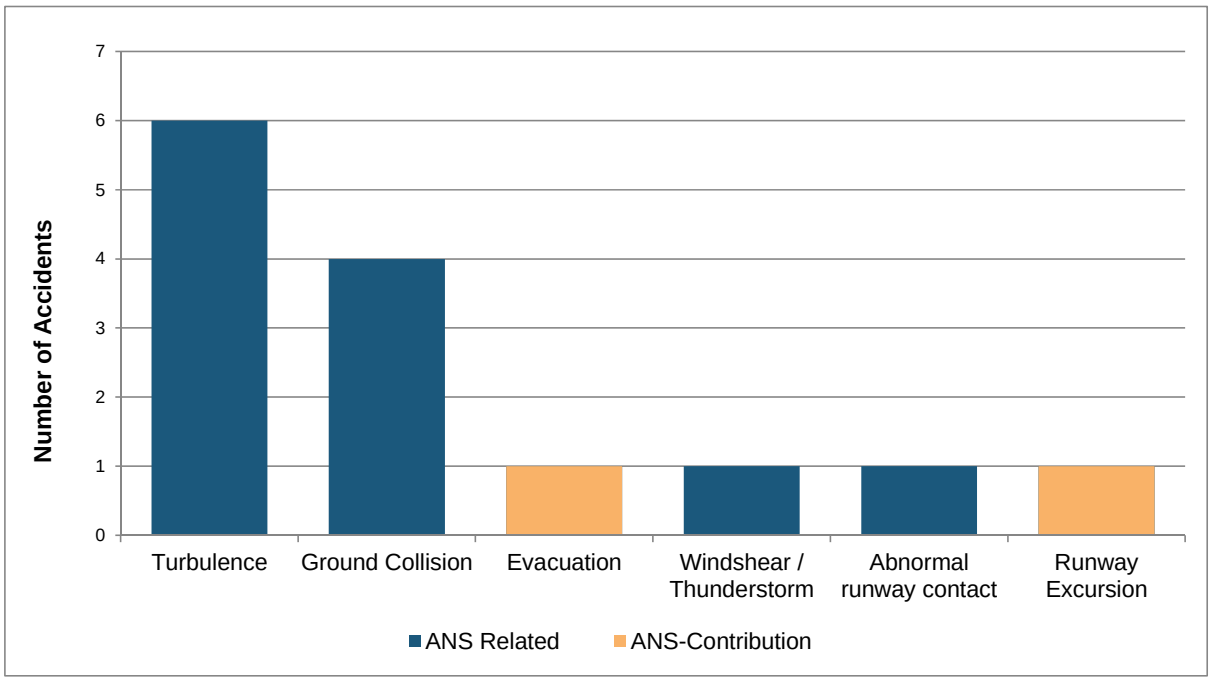


**Figure 38: Accident occurrence categories (2012-2014)**

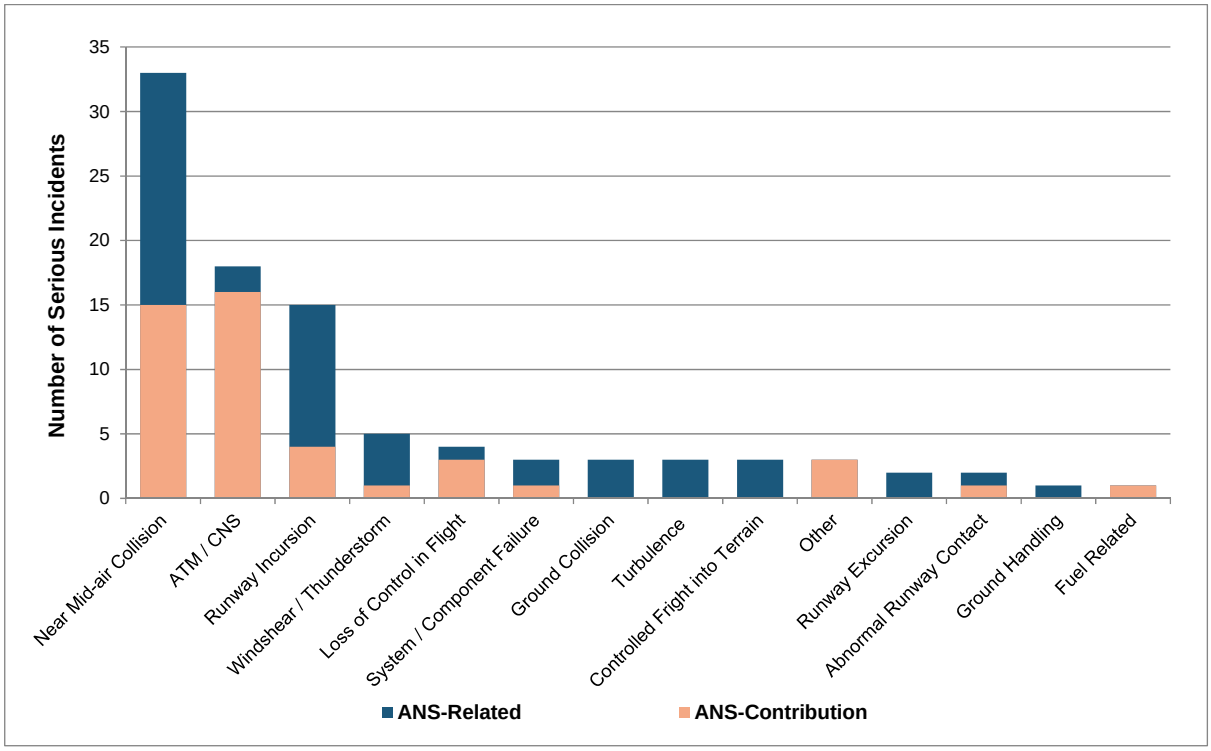


**Figure 39: Serious Incident occurrence categories (2012-2014)**

## 3.3 ATM-related incidents

This section provides a review of ATM-related incidents reported through the AST mechanism based on the provisional 2014 data reported by the relevant States during the March 2015 reporting session.

It has to be stressed that contrary to the above sections 3.1 'ANS Accidents' and 3.2 'Serious Incidents' there is no take-off mass related limitation for the reportable ATM-related occurrences presented below.

In general, in respect of the evolution of the risk posed by the reported occurrences on the ATM system, there is a decrease in the total number of reported occurrences in 2014 and a small increase in the risk bearing categories (severity A and B).

The current evolution is mainly due to the fact that, starting with the previous reporting session, the Safety Analysis Team has increased its efforts to ensure a better filtering and validation of genuine ATM-related occurrences from States' datasets coded in ADREP taxonomy. This was possible using an improved version of the so-called EASTER application developed in co-operation with the JRC. This led to a substantial decrease in the occurrences that were previously placed in the category OTHER, but have now been filtered out with the enhanced quality assurance actions taken. Hence this accounts, to a large extent, for the significant decrease in the overall numbers. In addition, although to a lesser extent, some States still have a considerable backlog of occurrences (ATM and others) to be processed.

The severity categories referred to in this section are in line with the ones defined in the EUROCONTROL Guidance Material to EASRR2 (EAM2/GUI1) and are aligned with the definitions used in ICAO Annex 13.

Although reporting via the AST mechanism is a responsibility of the States, the severity classification of occurrences is based on the input received from the ANS provider(s), SIAs and/or CAAs/NSAs depending on the institutional and/or operational arrangements implemented at state level.

### Airspace - Separation Minima Infringements

Figure 40 shows the number of reported severity A and B SMIs in States' Airspace. The number of occurrences reported in this category represents 11% of the total number of reported SMIs. This is a slight decrease when compared with the 2013 data (12%). Nevertheless, this represent a small decrease of A and B severity SMIs (out of all reported) compared with 2013 by approximately 5%.

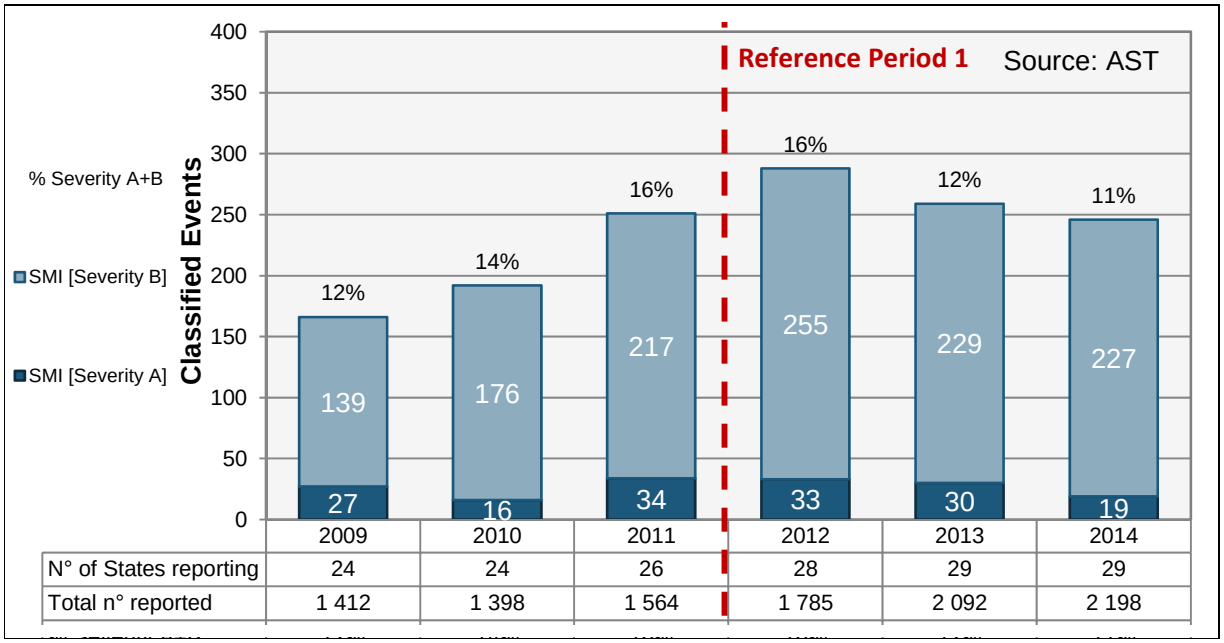


**Figure 40: Reported SMIs in States (2009-2014P)**

Concerning the severity A and B SMIs, in absolute numbers, the 2014 preliminary data shows also a small decrease compared with the final AST data reported in 2013:

- Serious incidents[7] (severity class A) decreased in absolute numbers from 30 to 19.
- Major incidents (severity class B) decreased in absolute numbers from 229 to 227.

However, the total number of SMIs reported in all severity categories in 2014 has increased by 5%. Note that approximately 8.5% of incidents reported in this category are still under investigation.

### Airspace - Unauthorised Penetration of Airspace

Figure 41 shows an overview of the Unauthorised Penetrations of Airspace (UPAs), also known as Airspace Infringements (AIs), reported in States during 2005-2014.

The number of severity A and B UPAs represents 1.4% of the total number of reported UPAs. The total number of occurrences reported in this category during 2014 increased by over 24% compared with the previous year's figures. Still, this represents an increase of A and B severity UPAs (out of all reported) compared with 2013 by approx. 58%.

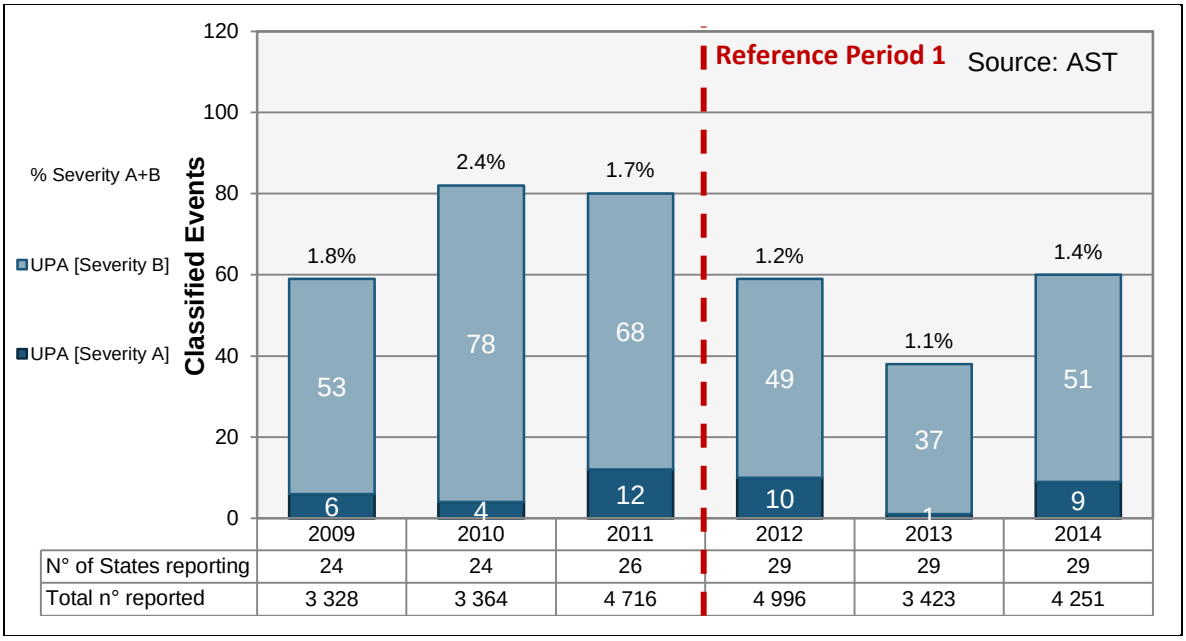


**Figure 41: Reported UPAs in States (2009-2014P)**

Concerning the severity A and B UPAs, in absolute numbers, the 2014 preliminary data shows increase compared with the data reported in 2013 (final AST data):

- Serious incidents (severity class A) increased in absolute numbers from 1 to 9.
- Major incidents (severity class B) decreased in absolute numbers from 37 to 51.

Note that almost 11% of incidents reported in this category are still under investigation.

### Airports - Runway Incursions

Figure 42 shows the number of reported severity A and B RIs reported in 2014 in States. The number of occurrences reported in this category represents 6% of the total number of reported RIs. This is a slight increase when compared with the 2013 data (5%). Still, this represents an increase of risk-bearing RIs (out of all reported) compared with 2013 by approx. 23%.

The total number of RIs reported in 2014 shows almost no change compared with the previous year.

In absolute numbers, the 2014 preliminary data shows also a small increase compared with the data reported in 2013 (final AST data):

- Serious incidents (severity class A) increased in absolute numbers from 14 to 23.
- Major incidents (severity class B) increased in absolute numbers from 60 to 68.

Note that 8.5 % of the RIs reported in 2014 are still under investigation.

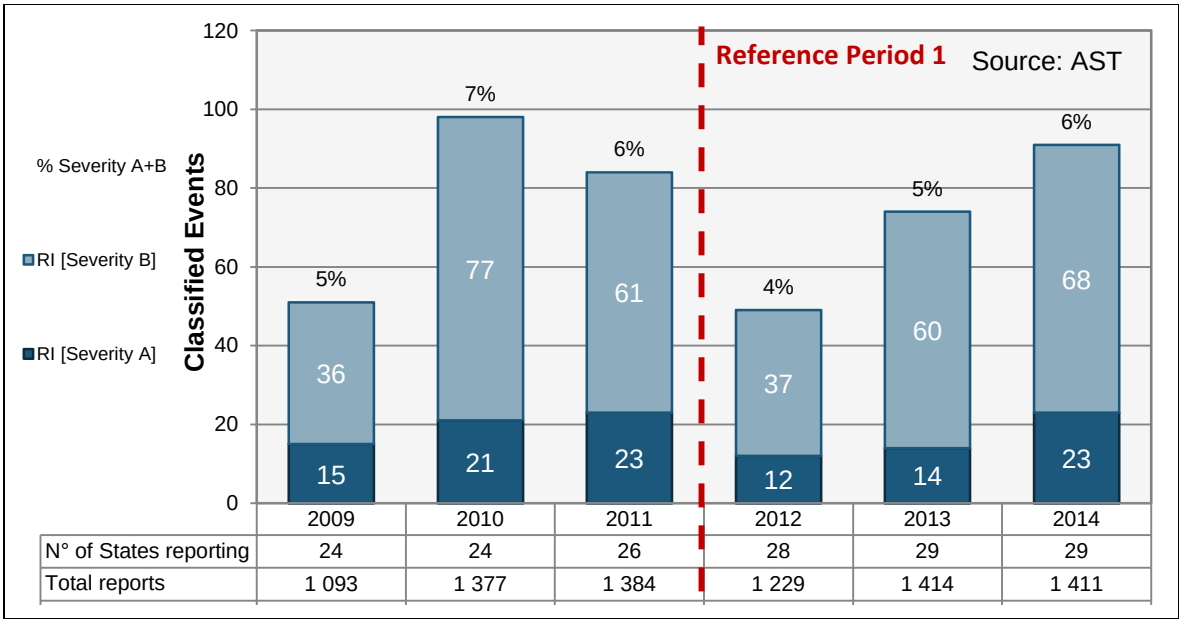


**Figure 42: Reported RIs in States (2009-2014P)**

## ATM Specific Occurrences

This section provides a review of ATM specific occurrences reported through the AST, as updated in March 2014 based on the preliminary data for 2014.

ATM specific occurrences encompass those situations where the ability to provide safe ATM services is affected. ATM specific occurrences typically include failure of ATM/CNS technical systems which could have an impact on the safety of air navigation.

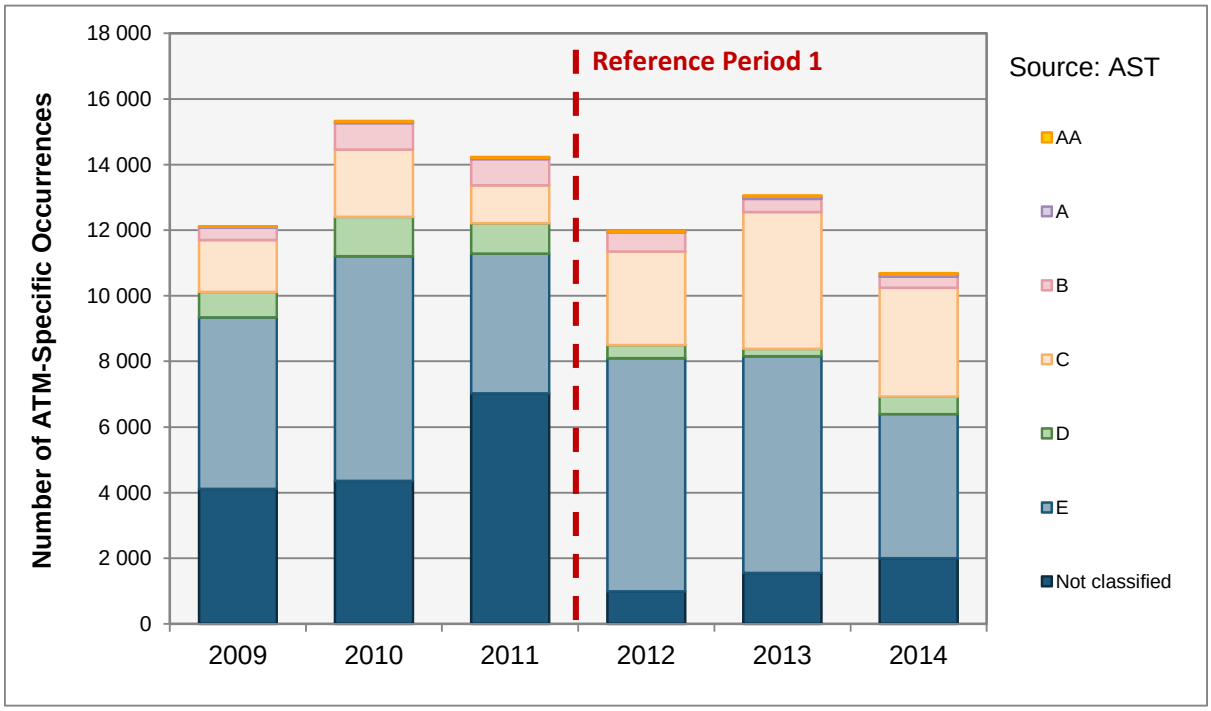


**Figure 43: Reported ATM Specific Occurrences in States (2009-2014P)**

The total number of ATM-S occurrences reported in 2014 decreased by approximately 18% compared with the previous year's figures. In addition, preliminary 2014 data show a decrease of risk-bearing ATM-S occurrences compared with 2012 is approximately 11%.

The number of occurrences that had a serious impact on the ANS Providers to supply ATM services has evolved as follows compared with the previous year (Figure 43):

- Severity class AA (total inability to provide ATM Services) decreased from 21 to 20;
- Severity class A (serious inability to provide ATM Services) decreased from 90 to 87;
- Severity class B (partial inability to provide ATM Services) decreased from 390 to 343.

It is notable that the number of ATM specific occurrences not severity classified increased substantially by approximately 22.5% compared with the previous year's data.

## 3.4 Reporting and Investigation

This section provides a review of quality and completeness of ATM safety occurrences (incidents and ATM specific occurrences) reported through the AST mechanism in March 2015.

### Level of Reporting

In 2014, all the 27 EU States (within the scope of RP1) together with Switzerland and Norway reported the AST covering the 2014 reporting year in time. This was made possible by the endeavour of the nominated States AST Focal Points.

### Total Number of Reported ATM-related Occurrences

Based on 2014 preliminary data, the number of severity not classified or severity not determined (category D) for the above categories of occurrences has overall decreased by almost 25% compared with the previous year's data (

Figure 44).

The numbers of severity not classified or not determined have decreased for all three types of occurrences. For SMIs and RIs an improvement in severity classification of these occurrences is being noted of almost 40% and 60% respectively compared to previous year. This improvement may have been achieved as a result of the new targeted requirements for the Safety KPIs in the Performance Scheme and increased support activities for States provided by DPS/SSR.

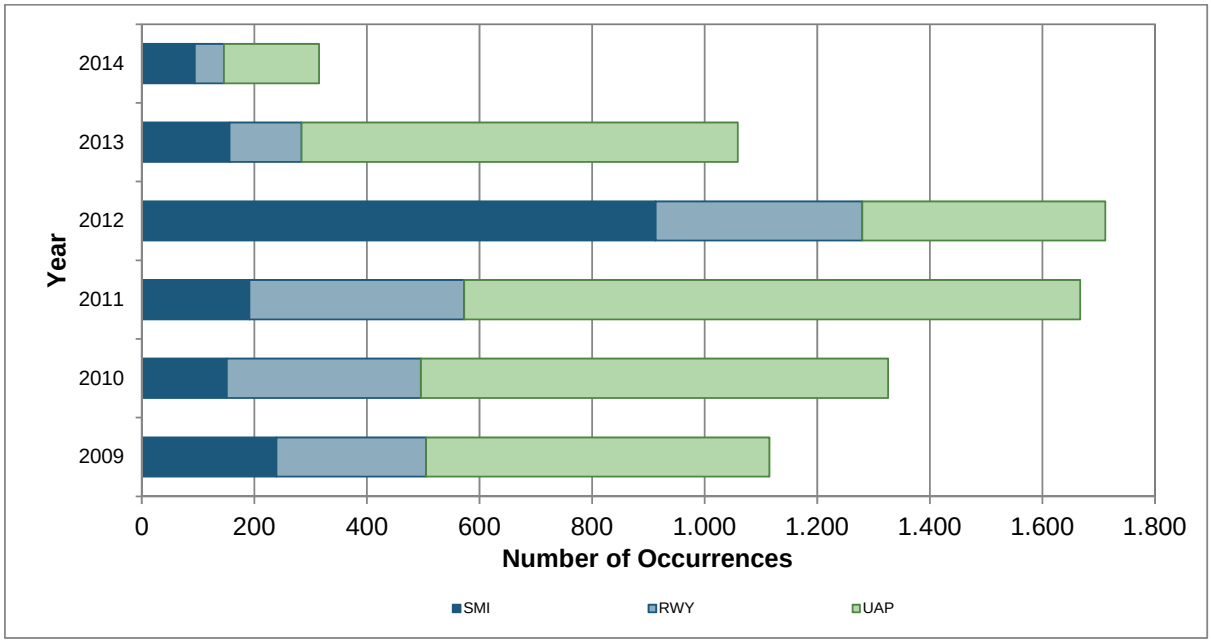


**Figure 44: Severity NOT Classified or NOT Determined (2009-2014P)**

### Completeness of safety data reported via the AST mechanism

The next figure illustrates the situation with respect of the completeness of the safety occurrence data submitted by the States via the AST Reporting mechanism for 2014. However, it should be stressed that the analysis is based on the preliminary data for 2014 submitted to EUROCONTROL via the AST reporting mechanism. The situation could and hopefully will change during the next reporting session (end of September 2015) when the 2014 data will be updated.

Analysis shows that the data required to populate a number of fields is missing in high percentages. This raises a concern with regards to quality of safety analysis at European level.

Figure 45 shows that the amount of fields left blank is much higher than the field where the word “unknown” was inserted. The Unknown fields in the AST is the sum of Unknown, Not Available, Not collected.

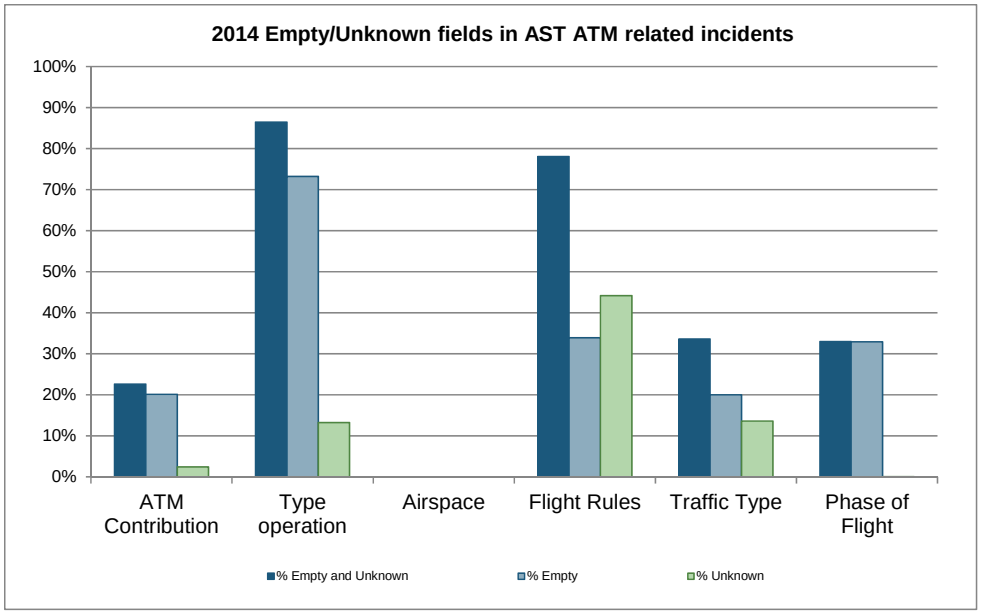


**Figure 45: Completeness of AST reported data in 2014**

**ATM contribution** = direct, indirect, none

**Type operation** = GAT or OAT

**Airspace** = Class A,B,C,D,E

**Flight Rules** = IFR or VFR

**Traffic Type** = General Air Traffic, Commercial, Military

**Phase of Flight** = taxi, take-off, climb to cruise, cruising, approach

ATM contribution to the occurrence is the most relevant data for determining the performance of the ATM system. This is left blank in over 20% of the reported incidents (which represents an increase from the previous year, when it was around 8% only).

In addition, data related to the aircraft involved (e.g. type of operation, flight rules, phase of flight and traffic type) is on average not available for roughly 50% (ranging from 30% to over 85%) of the reported operational occurrences. Although this type of data is not sensitive and do not fall under the issue of Just Culture it is evident that built-in lack of interest from data providers appears as a more realistic reason for incomplete reporting. As a consequence, this lack of completeness of AST data diminishes the capability of safety analysis at European level.

Note: *Preliminary data is reported via AST in April of each year and then updated in September to the final figures. The data presented is currently the April preliminary version. A thorough analysis of the completeness of the safety data reported via the AST mechanism will be conducted after the September 2015 AST reporting session that will consider the final data covering the 2014 reporting year.*

### RAT methodology application for severity classification

The AST mechanism was used as the vehicle for reporting the application of severity classification using the RAT methodology, as per EASA Acceptable Means of Compliance to the scheme.

Note: *The data presented and analysed takes into account the information reported by the end of March 2015 covering the whole 2014 reporting year. As mentioned above, updates are expected during the September 2015 AST reporting cycle.*

It is to be mentioned that a blank return stands for cases where no such occurrence was reported by the respective State (e.g. ANSP below the 50,000 movements threshold established by the Regulation), the RAT methodology was not applied or no data was made available.

Figure 46 and Figure 47 provide an insight in the application of the RAT methodology in the States during 2014 based on the data reported by the States in March 2015, for SMIs, RIs and ATM Specific Occurrences respectively.

The scope of the assessment should be ATM Overall. However, it is acknowledged that, in most of the States, this task was performed by the ANS providers involved in the occurrence on behalf of the State, hence the scope was in most of such cases restricted to ATM Ground.

Seventeen (17) States used the RAT Methodology for deriving the severity of all reported Separation Minima Infringements (Figure 46). The scope of the assessment was ATM Overall in 14 of these States, whilst three (3) States assessed the severity of all reported SMIs taking into account the ATM Ground component only.

Fifteen (15) States used the RAT Methodology for deriving the severity of all reported Runway Incursions (Figure 46). The scope of the assessment was ATM Overall in 13 of these States, whilst two (2) States assessed the severity of all reported RIs taking into account the ATM Ground component only.

Three (3) States did not report any RIs (Bulgaria, Cyprus, and Finland), hence, there was no scope for the application of the RAT Methodology.

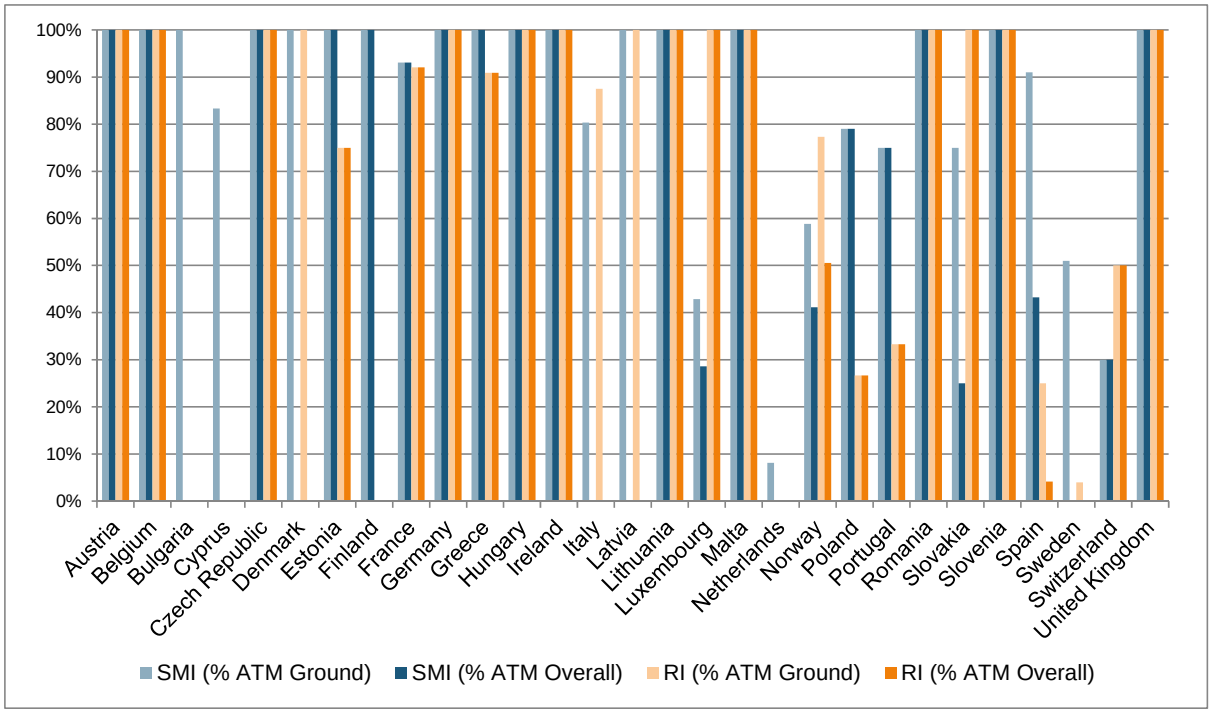


**Figure 46: RAT methodology application for severity classification of SMIs and RIs**

Fourteen (14) States used the RAT Methodology for deriving the severity of all reported ATM Specific Occurrences (Figure 47), which is one (1) less than last year. For this type of occurrence the scope of the assessment is ATM Overall only.

Three (3) States did not apply the RAT methodology for deriving the severity of any of the reported ATM Specific Occurrences (Cyprus, the Netherlands, and Sweden).

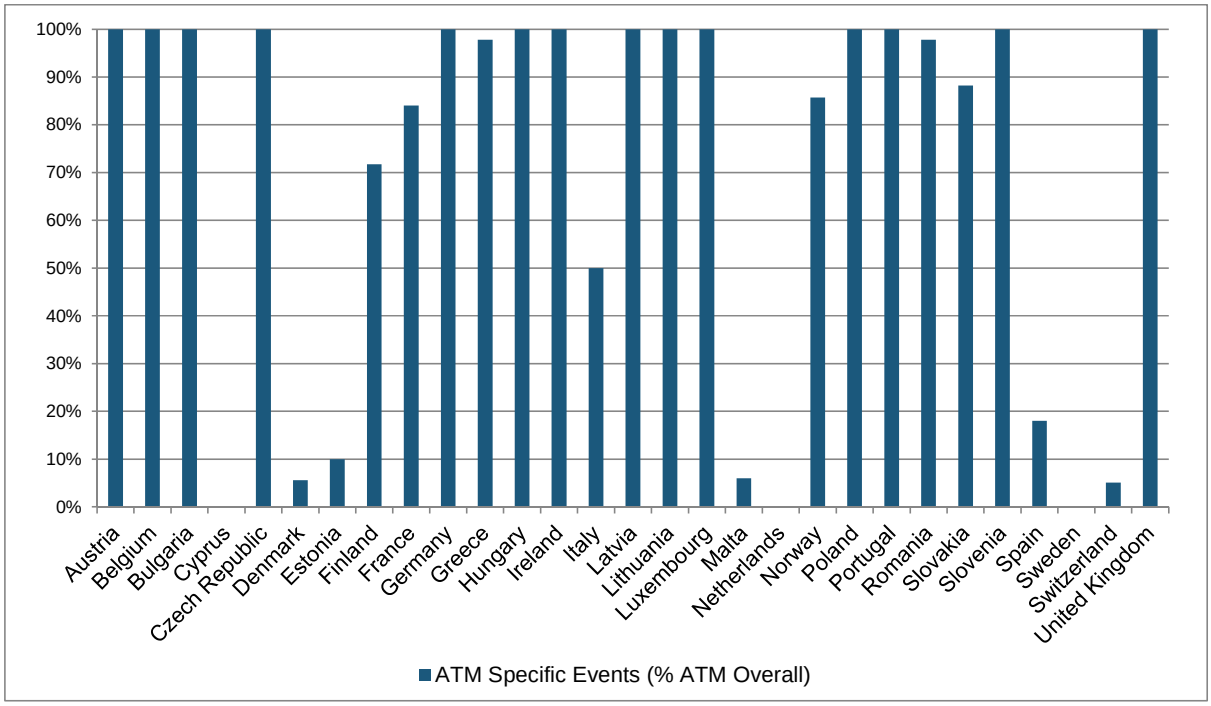


**Figure 47: RAT methodology application for severity classification of ATM Specific**

Note: *Data concerning the verification of the RAT application is based on **preliminary 2014** information (data collected end of March 2015). Updates are expected during the September 2015 AST reporting session. The PRB will update the Dashboard with **final 2014** data on the application of RAT severity classification during October 2015.*

# 4 Conclusions

The following is the list of the key conclusions made after the review of the National/FAB Monitoring Reports and verified results of monitoring of SPIs for the third (last) year of the first Reference Period of the Performance Scheme:

- In terms ANS related accidents and serious incidents (lagging safety indicators), RP1 period has shown a better level of ANS safety performance compared with the previous years, however, there has not been a measurable improvement (nor degradation) within the reference period itself. Moreover, the rate of ANS contribution accidents and serious incidents has also significantly decreased over the RP1, therefore, it could be concluded that the ANS sector has improved at managing risks that directly relate to the service provided.
- Outcomes of 2014 exercise show slow, but continuous improvement in implementation of safety management at both States and ANSPs level in the course of the RP1 period.
- In light of RP2 and EoSM targets Component 1 - *State safety policy and objectives* seems to be area where the least effort will be required by States. However, still some ten states, across six (6) FABs will require improvement in implementation of the EU safety legislative and regulatory framework and alignment of the national framework and management of interfaces. Therefore, FAB coordination and support in this area is highly recommended.
- The PRB acknowledges improvements made, however, alert States to put additional effort to achieve higher levels of safety management, as verified results of the EoSM questionnaires still show that implementation of safety management principles at State level are below implementation levels of ANSPs.
- The EU averages for application of the RAT severity methodology for RIs and ATM-S show improvement in comparison with the first two years of reporting. However, a small drop in severity classification is visible in the case of SMIs. As severity classification on the State level for all three types of occurrences is at approximately 60%, States are encouraged to continue additional efforts to enable further enhancements in the reporting and application of severity classification using the RAT methodology by seeking, planning and applying training on this matter. States requiring support in applying severity classification using the RAT methodology should contact EUROCONTROL DPS/SSR.
- As for the completeness of data received through AST mechanism, it can be observed that the ATM Occurrences contribution data is left blank in over 20% of the reported incidents, which is deterioration from previous year (8% in 2013). In addition, various data related to the aircraft involved is not available in 30-85% of operational occurrences. Although this information is not sensitive, as a consequence, this lack of completeness still diminishes the capability of safety analysis at European level. Therefore the PRB recommends that States improve the completeness of data reported to them via their national occurrence reporting schemes, such that the data reported to the Performance Scheme also improves.
- Preliminary occurrence data shows that absolute numbers of occurrences not severity classified have substantially decreased in 2014. For SMIs and RIs an improvement in severity classification is almost 40% and 60% respectively compared to previous year. This improvement may have been achieved as a result of the new targeted requirements for the Safety KPIs in the Performance Scheme and increased support activities for States provided by DPS/SSR.
- With regards to the reporting by States and their ANSPs the level of presence and corresponding level of absence of JC, the PRB notes that the reports have shown

some improvements in the reporting of the level of JC. The PRB recommends that States devote the necessary investment to the effective implementation of the JC, especially in view of RP2 and necessary coordination at FAB level.

Based on these conclusions, several recommendations are made and are listed in Volume 1 of this report.

# Endnotes

[1] ED Decision 2014/035/R - http://easa.europa.eu/system/files/dfu/ED Decision 2014-035-R.pdf

[2] In accordance with the methodology agreed by all stakeholders during the 2nd EASA/PRB meeting on Performance SKPIs.

[3] The EASA database captures the following: Accidents & serious incidents within EASA Member States (all mass categories), accidents to aircraft with MTOM > 2250kg (worldwide); serious incidents to aircraft with MTOM > 5700kg (worldwide).

[4] "ANS-related" means that the ANS system may not have had a contribution to a given occurrence, but it may have a role in preventing similar occurrences in the future.

[5] "ANS contribution" means that 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.

[6] See EASA Annual Safety Review 2014.

[7] "Serious Incidents" as categorised by EUROCONTROL, using a different method to those in the EASA data which are categorised by Safety Investigation Authorities using the ICAO Annex 13 definition.