European Aviation Safety Agency

Report

European Aviation Safety Plan
2012-2015

Final

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1 Executive Summary

The present document constitutes the second edition of the **European Aviation Safety Plan**. It covers the period between 2012 and 2015 and has been developed according to the same methodology that was used to develop the first edition. Therefore the main risk areas have not been changed.

Like the first edition, this second edition of the Safety Plan encompasses three broad areas: systemic, operational and emerging issues. The risks identified in these areas are mitigated by safety actions that Member States, EUROCONTROL, the European Commission, the industry and the Agency take on board. All the partners work together, streamline their activities and add their efforts to drive our accident rates even further down.

Furthermore, this second edition consists of two parallel activities:

a. On one hand, it provides a report on the status of the 91 standing actions developed last year. A progress report with the details on each of the actions is included in **attachment A**. This has been obtained in coordination with the various action owners. Additionally, a brief summary of the progress made in each of the safety areas has been included in the main body of the document (sections 2 to 6).

b. On the other hand, it expands the initial list of actions proposed in the first edition by incorporating 24 new actions. These new actions have been reviewed by EASAC and have been placed within the existing framework. They take into consideration new safety initiatives aimed at mitigating the existing risks.

The introduction contains details on the methodology, communication and governance aspects of the Plan. Furthermore it makes reference to the Communication recently adopted by the European Commission on *Setting up an Aviation Safety Management System for Europe*.

Overall twenty three (23) Member States have formalised the commitment to voluntarily implement the Safety Plan by nominating a focal point. A summary of the various coordination activities with the Member States is also included in the introduction. The further development of State Safety Programmes will make a difference in the paradigm shift towards a more pro-active approach to safety promoted in the Safety Plan.

In 2011, twelve (12) actions have been finalised. Among the completed actions we find the first requirements containing safety management provisions in the areas of flight crews and air operations, the establishment of a Network of Analysts to better coordinate safety analysis activities at European level, the assessing of the first performance plans containing SPIs for the ATM domain, the European contribution to the global approach to mitigate the risk of runway safety taken by ICAO, the development of an EASA automation policy and the organisation of a safety conference to tackle the risk factors that contribute to loss of control, the number one concern in aviation safety.

Almost 60% of the actions are on schedule according to the initial Plan. Significant efforts have been made to deliver results on-time. This new edition will facilitate maintaining focus on advancing actions to mitigate the major risks to aviation safety across Europe.

2 Introduction

While in Europe 2010 was the safest year ever in the history of civil aviation, the consistent growth in air traffic over the coming decades means that action is needed to develop and implement solutions that will make sure we improve upon our remarkable safety record. This document proposes actions to address the high level safety issues identified at European level. The first *European Aviation Safety Plan* (EASp) was published in 2010. The present document constitutes its second edition. It covers the period between 2012 and 2015.

2.1 Objectives and principles

The main objective of the Safety Plan is to create a common focus on European aviation safety issues as a continuation of the European work to increase aviation safety and to comply with ICAO standards. The second edition continues the approach of compiling the on going work in Europe, hence improving traceability and reinforcing commitment to the current initiatives. This will contribute to avoiding the duplication and overlapping of safety initiatives and competition for resources.

As it was the case for the first edition, this second edition is also driven by the national plans and priorities (bottom-up approach). While some safety issues will stay at national level and will be addressed by State Safety Programmes (SSP), there will be other instances where common issues of pan-European scope will require a collective action. The latter actions are the scope of the present publication.

The second edition of the European Aviation Safety Plan covers the 4-year period between 2012 and 2015. The objective of this edition is twofold: on one hand it informs stakeholders on the progress made on the actions during 2011; on the other hand it incorporates new actions to mitigate the already identified safety risks. The initial framework has been maintained.

The Safety Plan is built on the principle that the planning for the first year (2012) is a commitment and that the planning for the following years (2013-2015) might be subject to changes depending on changing priorities and availability of resources. Following this principle, the present 4-year Safety Plan commits the stakeholders to the actions planned for finalisation in 2012. These actions are highlighted throughout the document. The actions for the following years (2013-2015) will be reviewed in light of experience. The Agency's Rulemaking programme is also based on this principle.

2.2 Main risk areas: the Safety Plan Framework

The second edition of the Safety Plan builds on the methodology that was used to produce the first edition.

The first edition of the Safety Plan was developed by taking into account Member States safety concerns. In order to support the timely publication of the Plan, a request was sent to the 31 EASA Member States in the first quarter of 2010. They were asked to provide the top 5 safety concerns in their State as well as the process by which they had determined them. A total of 15 responses were received from Member States in May 2010. Additionally, input was aggregated with safety information from EUROCONTROL, ECAST and the Agency since these

organisations have a pan-European view on safety. The first results were presented to EASAC in June 2010.

The inputs collected were further analysed and classified into three different areas according to the type of issues they highlighted. All of the responses received were placed into one of the following areas:

a) **Operational Issues**, which are closely related to the events that are reported during operation. The relationship between this type of issues and the final outcomes or end states can be supported by data.

b) **Systemic Issues**, which affect the aviation as a whole. These issues play a role in accident and incident causation. They underlie operational issues; thus their improvement has an implicit effect on operational causes.

The above issues can be considered as the reactive elements of the Safety Plan since they address problems that have already happened and for which data is to some extent available. In order to balance the composition of the Plan with a more proactive or forward looking element, a third category of issues named **emerging issues** was also proposed.

c) **Emerging issues**. This area gives some consideration to safety issues derived from operations or regulations that have not been fully deployed and where data is not always available.

Finally **human factors and human performance** affect all the safety topics discussed within the above areas and it is important to recognise that addressing human factors will bring safety improvements across all those issues. Due to the fact that they have an effect across all domains and the difficulty of associating them to one of the above broad areas, they will be addressed separately in the Safety Plan.

The proposed approach and list of issues was presented to EASA Management Board in June 2010 and constitutes the **Safety Plan Framework**. The framework has remained unchanged during the second version of the Safety Plan. Safety actions have been added to cover the below issues.

SAFETY PLAN FRAMEWORK		
SYSTEMIC ISSUES	**OPERATIONAL ISSUES**	**EMERGING ISSUES**
Working with States to implement and develop SSPs	**COMMERCIAL AIR TRANSPORT BY AEROPLANES**	**New products, systems, technologies and operations**
Working with States to foster the implementation of SMS in the industry	**Runway Excursions**	**Environmental factors**
Safety Management enablers	**Mid-air collisions**	**Regulatory considerations**
Complexity of the system	**Controlled Flight Into Terrain**	**Next Generation of Aviation Professionals**
	Loss of Control In Flight	
	Ground Collisions	
	OTHER TYPES OF OPERATION	
	Helicopters	
	General Aviation	
HUMAN FACTORS AND PERFORMANCE		

2.3 Yearly review

In collaboration with all the stakeholders, the Safety Plan is being reviewed every year. The review consists of two main activities:

a. Firstly, the status of the standing actions has been revised. An action is considered closed when the proposed deliverable is achieved. When the action could not be closed during the due date or a deviation from the Plan is expected, the causes have been recorded and a modification has been proposed. This allows measuring the progress and effectiveness of the Safety Plan. A progress report is included in **attachment A**.

b. Secondly, the initial list of actions proposed in the first edition has been updated with the incorporation of new actions. These new actions have been placed within the existing framework. They take into consideration new safety initiatives aimed at mitigating the existing risks.

2.4 The European Aviation Safety Programme

In December 2010, the EASA Management Board endorsed the European Aviation Safety Programme (EASP) manual developed by the European Aviation Safety Advisory Committee (EASAC). It contained the views of the EASAC on how to develop proposals to set up an SMS for Europe. Since then, the European Commission has been working to further consult on the proposal.

In this respect, on 26 January 2011, the European Commission organised a conference to discuss the future of European Union's Aviation Safety Management towards 2020 and to hear the views and experiences of the various stakeholders in aviation safety. The conference debated the issues surrounding moving from a largely reactive system towards a proactive system based upon proven safety management.

With the results of the debate, the EC has developed a Communication[1] to the Council and the European Parliament. It is called "*Setting up an Aviation Safety Management System for Europe*". The Communication sets the strategy for aviation safety in Europe for the coming years and has the following aims:

- To support the aim, set out in the Transport White Paper[2], to raise the EU aviation safety performance to a level that matches or exceeds the best world standard.
- To detail how this will be achieved by adding a pro-active element to the current EU aviation safety system.
- To describe the obstacles that will need to be overcome if this is to work effectively.
- To propose some solutions to overcoming these obstacles
- To provide a vehicle to publish the European Aviation Safety Programme.

One of the actions that the Communication promulgates is the publication of annual updates to the European Aviation Safety Plan detailing progress made in addressing identified safety risks at EU level. This is the scope of the present publication.

[1] EC COM(2011) 670 final of 25.10.2011 - Setting up an Aviation Safety Management System for Europe.
[2] COM(2011) 144 - WHITE PAPER - Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system

This Communication is accompanied by a Commission Staff Working Paper[3] describing the current aviation safety framework at European level. It was prepared jointly by the Commission and EASA and is called the European Aviation Safety Programme. The work is based on the manual presented to the EASA MB at the end of 2010.

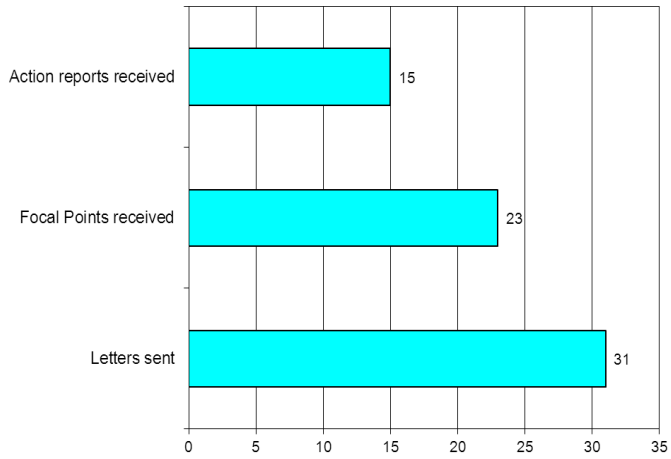
The Communication, the Commission Staff Working Paper and the present document constitute the main elements of the Safety Management System at European level: a strategy, a Safety Programme and a Safety Plan.

2.5 Coordination with Member States

2.5.1 Level of involvement

During the MB meeting held in March 2011 EASA States committed to implement the actions of the EASp on a voluntary basis. Immediately after, a letter was sent to the States asking them to nominate a focal point for the implementation of the Safety Plan. Twenty three (23) Member States have responded to that letter and have identified a focal point.

Throughout the year, a report has been sent out to the focal points to provide a status of the implementation of the actions in the Safety Plan. Fifteen (15) reports have been received till the date of the publication of this document. A summary of the level of involvement is provided below.



Member States that have nominated a focal point for the implementation of the Safety Plan are

Hungary, Portugal, Belgium, United Kingdom, France, Poland, Germany, Czech Republic, Switzerland, Finland, Iceland, Bulgaria, Latvia, Denmark, Sweden, Luxembourg, Spain, Lithuania, Slovak Republic, Estonia, Greece, The Netherlands and Ireland.

Underscored States have provided a report on the status of the actions assigned to them.

The voluntary implementation has also been extended to non-EU States that are members of ECAC. Five (5) States have nominated a focal point till the day of the publication of this document. Their input will be sought throughout 2012 to implement and improve the approach.

[3] EC SEC(2011) 1261 final of 25.10.2011 – The European Aviation Safety Programme.

2.5.2 Summary of 2011

Based on the 15 responses received, a high level summary of the work is provided below:

- 6 Member States have formalised the establishment of a SSP (at least 3 more will be published in 2012). Many are not translated into English language.
- The main operational risk areas for CAT operations are well aligned with the main concerns in the majority of the Member States that provided a report. The majority of the MS reported concrete actions to address the main risk areas identified in the EASp.
- Various mechanisms exist at MS level to tackle the main issues. National Safety Plans, State Safety Programmes or Risk Portfolios at Member State level are used to channel the safety actions.
- In cases where SSPs have not yet been published, MS rely on SMS implementation at industry level, oversight activities and safety promotion.
- Actions identified in existing European-wide plans to tackle specific issues (e.g. EAPPRI, EAPAIRR) are being implemented in almost all the States that provided a report.
- Local Runway Safety Teams (LRST) are required in all certified aerodromes and are part of the oversight programmes at MS level.
- 6 Member States have established a link to the ESSI website. Many are actively promoting the material developed by ESSI by distributing the information to the industry via safety bulletins, dedicated seminars, presentations at appropriate fora or dedicated oversight activities. Additionally States have initiated their own SMS promotion campaigns.
- 9 Member States have shared the actions they are taking to mitigate the high level issues identified in the Safety Plan. This has been performed through a questionnaire submitted to the focal points.

More details on the work with the Member States can be found in Attachment A under each of the actions owned by the Member States.

2.6 Content of the Plan

The Safety Plan is divided in four areas, each one addressing the main safety topics presented in the Safety Plan framework.

- Section 3 addresses *Systemic Issues*
- Section 4 addresses *Operational Issues*
- Section 5 addresses *Emerging issues*
- Section 6 addresses *Human Factors and Performance*, which affect all of the above areas.

Within the above sections, for each of the main safety topics there are a number of safety issues of more detailed scope. Each of the detailed issues contains two parts:

- A summary of the key achievements made during 2011 together with the main challenges encountered.
- A proposal for new actions to be incorporated on the EASp 2012-2015. Commitments for 2012 are highlighted in yellow.

Together with each new action the following information is included:

- An identifier (No.).
- The issue that it addresses.
- A brief description of the action.

- The action owner or key stakeholder that will be responsible for its implementation (it does not mean that it is the only one contributing to the action). Being owner of an action means to be able to report on its progress.
- The expected completion date (as a minimum; in some cases also starting dates are provided).
- The actions type: rulemaking (R), Oversight (O) or Safety Assurance and Promotion (SP) according to the functional areas that are part of the EASP. When a rulemaking task has been created or a research project has been launched, the reference is provided in brackets (e.g. ATM.001 refers to a rulemaking task as it can be found in EASA's rulemaking programme).
- The deliverable that is expected as a result of the actions. It allows evaluating the completion status on a yearly basis and serves as a first measure of progress.

The below table provides an example of the format chosen to present the Safety Plan's actions:

Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**

Attachment A contains a **status report** on the progress made on the Safety Plan throughout 2011. In this section the following information is provided for each action item: a summary of the work done, the leader of the action, an assessment on whether the action is progressing according to the Plan, possible deviations from the Plan should they exist and an identification of the key deliverables.

Several other appendixes clarify the acronyms and define the terms used throughout the document (attachment B), and provide a brief description of the different working groups and initiatives at European level dealing with aviation safety (attachment C).

2.7 Communication

During 2011 substantial effort has been made to advertise the Plan and promote the EASP approach, where the EU is breaking new ground. An important part in the success of the Safety Plan is played by an adequate outreach to the interested parties (both internal and external to EASA) and proper communication of the intentions behind it.

Throughout the year the approach has been presented to external parties either visiting the Agency (like ICAO or the Civil Aviation Authorities of Singapore and China) or at dedicated seminars (like the EU Aviation Safety Management Conference held in Brussels, the ICAO workshop on SMS held in Paris or the seminar organised by the Spanish Professional Pilot Association – COPAC- in Madrid to name a few). Within EASA, the progress on the Safety Plan is a regular topic on the agendas of the ESSI teams, NAAs partnership meetings, EHFAG and the EAFDM.

A dedicated web site (www.easa.europa.eu/sms) has been created to publish the key deliverables and update on the major developments.

The Agency, in cooperation with all the stakeholders, will continue to further disseminate the approach.

2.8 Governance

The content of the Safety Plan is developed by EASA under the supervision of EASAC. The Committee created in 2009 brings together safety experts from the Member States, the European Commission, Eurocontrol, the Performance Review Body (PRB), industry and EASA. Their role is to provide advice on how to address the identified safety risks at EU level.

Once it is reviewed and approved by EASAC, the Safety Plan is submitted to the EASA MB for endorsement. After it is endorsed, it becomes a public document that is implemented on a voluntary basis by all the stakeholders.

3 Systemic Issues

Systemic issues are system-wide problems that affect aviation as a whole. Their association to a particular safety event or circumstance is not always obvious. In most scenarios, they become evident by triggering factors and play a significant role in the development of safety occurrences. They often relate to deficiencies in organisational processes and procedures.

This is why systems approaches to safety and a greater emphasis on organisational and managerial factors on the part of industry organisations and regulatory authorities have been growing over the past two decades. The systemic issues addressed herein stem from the recognised benefits of a move towards a more performance based approach to safety where the safety capabilities of industry organisations and authorities are demonstrated up front instead of waiting for incidents and accidents to happen.

The Safety Plan focuses on State Safety Programme (SSP) and Safety Management System (SMS) implementation, where both authorities and industry stakeholders have responsibilities. Measuring safety performance, sharing safety information and implementing a just culture throughout the organisations involved emerge as key enablers to embrace this approach to safety.

The above elements have to be incorporated in a system with many interdependencies. Long term growth, increasing levels of integration and technical advancements make up for a complex aviation system and bring about new safety issues. These are also given some consideration in the Safety Plan.

All these issues are essential in creating the strong foundation on which more specific improvements can successfully stand.

3.1 Working with States to implement and develop SSPs

Summary of 2011

Key Achievements	• Coordination with Member States has been started through the 23 nominated focal points and the active involvement of 15 States. • The opinions containing Authority Requirements for air crews and air operations have been published. Regulations will be adopted in 2012. • The opinions contain provisions to support the implementation of SSP. However, there will be no requirements mandating SSPs for the Member States. • The same approach is now being transposed to other domains of aviation (airworthiness, ATM/ANS and aerodromes). • Adoption of a Communication from the Commission on setting up a European Aviation Safety Management System, together with the publication of the European Aviation Safety Programme.
Challenges	• Exploring ways to strengthen the collaboration with the Member States and allow for a dynamic exchange of information and views. • Incorporating SSP requirements on EU regulation at the most appropriate level.

New actions

SSPs are not consistently available in Europe

ICAO requires the implementation of a SSP at State level. However SSP implementation is still at its early stage. SSPs are not consistently available in Europe. Many Member States have just developed a draft SSP document and only a few have either fully implemented it or are advanced in their SSP implementation. The State Safety Programme is a pivotal piece in the management of safety by a State.

Among the list of data that National Authorities have to provide for the purpose of the performance scheme regulation[4], annex IV includes SSPs.

Proposed action(s)

In the assessment of National Performance Plans that the PRB has carried out in 2011[5], States are encouraged to give priority to ensuring that the work on SSP is completed prior to the start of RP2 (in 2014).

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
SYS1.7	SSPs are not consistently available in Europe.	Member States to give priority to the work on SSPs.	MS	2014	SP	SSP established

3.2 Working with States to foster the implementation of SMS in the industry

Summary of 2011

Key Achievements

- The opinions containing Organisation Requirements for air crews and air operations have been published. Regulations will be adopted in 2012.
- The opinions contain provisions for the implementation of management systems in organisations.
- The same approach is now being transposed to other domains of aviation (airworthiness, ATM/ANS and aerodromes).
- Best practice material in the area of safety management for commercial air transport operations has been published by ECAST.
- A specialised team tasked to develop SMS best practices for helicopter operations has been set up by the EHEST.
- Up to 6 Member States have confirmed the establishment of a link to the ESSI material through the CAA's website and many are actively promoting it by distributing the information to the industry.
- Eurocontrol Generic Safety Management Manual (EGSMM) is in edition 2.0.

[4] Commission Regulation (EU) No 691/2010 of 29 July 2010 laying down a performance scheme for air navigation services and network functions

[5] http://www.eurocontrol.int/prc/gallery/content/public/Docs/PRB%20Final%20Report%20%20P.%20Plan%20Assessment%20-%20Volume%20I.pdf

	The promotion of best practice in ATM is done through experience sharing to enhance SMS. • Skybrary is the main platform to share the safety knowledge with industry. • EASA and some Member States continue to support the SMICG to promote a common understanding of SMS principles. This group has already developed a pamphlet with basic principles and guidance to assess the effectiveness of an SMS. • EASA has now permanent presence at ICAO and the EU will play an active role in the ICAO panel that will contribute to develop Annex 19.
Challenges	• Encouraging the distribution of ESSI material and other SMS best practices to the industry. • Better tailoring the development of material to size and complexity of industry organisations focusing on small organisations.

3.3 Safety Management enablers

Summary of 2011

Key Achievements	• A Network of Analyst (NoA) has been created and has started to operate. The NoA will better coordinate the safety analysis tasks at European level. • Under the umbrella of ECAST, the UK CAA has started a project to propose a common framework for the risk classification of safety events across Europe. A barrier model has been developed for runway excursions. • The E3 Task Force has delivered a proposal to measure just culture in both States and ANSPs based on a set of questionnaires. • The first performance plans containing SPIs for the ATM domain have been assessed by the PRB. In the rest of the domains, Member States are publishing SPIs in national safety plans, SSPs, annual reports or national websites. • The 2010 Annual Safety Review was published containing a chapter with data on ATM safety.
Challenges	• Extending the common framework for risk classification to other types of occurrences (e.g. CFIT or LOC-I) • Making further progress in the establishment of European SPIs and targets for the rest of the domains. • The SM ICG continues to draft a methodology to assist States and industry in safety performance measurement.

3.3.1 Sharing Safety Information

New actions

Shortcomings in the European occurrence reporting system

Despite the adoption of Directive 2003/42/EC[6], occurrence reporting in the EU and the use of the European Central Repository (ECR) are still affected by a number of shortcomings which limit the usefulness of the occurrence reporting system for accident prevention purposes.

These problems are, notably, low quality of information, incomplete data, insufficient clarity in reporting obligations and in the flow of information, and legal and organisational obstacles to ensure adequate access to the European Central Repository (ECR) information to enable information sharing.

Proposed action(s)

Bring forward proposals to update the EU system on occurrence reporting by reviewing Directive 2003/42/EC and its Implementing Rules[7] with a view to gain full access to ECR.

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
SYS3.8	Shortcomings in the European occurrence reporting system.	Bring forward proposals to update the EU system on occurrence reporting by reviewing Directive 2003/42/EC and its Implementing Rules[8] with a view to gain full access to ECR.	EC	Oct 2012	R	Formal legislative proposal to the Parliament & Council

Understanding of the European wide operational issues

The operational issues within the Safety Plan have been taken from the top safety concerns in the various EASA Member States. Following the establishment of the Network of Analysts in 2011, it is now possible to use this forum to better understand the operational safety issues in Europe through an analysis of the ECCAIRS European Central Repository and also the National Occurrence Databases of the EASA Member States. By analysing the key operational issues within the Safety Plan the key risks and circumstances surrounding each type of occurrence can be more clearly recognized, which will help to identify any mitigating actions.

Proposed action(s)

The Network of Analysts will perform an analysis of the operational issues in the Safety Plan from the national databases in the EASA Members States. This will be combined with any additional information found in the ECR and a report will be provided for each operational area

[6] Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation.
[7] Commission Regulation (EU) No 1330/2007 of 24 September 2007 and Commission Regulation (EU) No 1321/2007 of 12 November 2007.
[8] Commission Regulation (EU) No 1330/2007 of 24 September 2007 and Commission Regulation (EU) No 1321/2007 of 12 November 2007.

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
SYS3.9	Understanding of European wide operational issues.	The NoA will perform an analysis of the operational Issues in the Safety Plan from the National Databases in the EASA Members States. This will be combined with any additional information found in the ECR .	NoA	2012	SP	Report will be provided for each operational area

Exchange of information on aviation safety

For the last two years the Agency has hosted two annual conferences to address main aviation safety hazards. In 2010 the focus was on the effect of climate change in aviation whereas in 2011 the theme of the conference was loss of control. They have proved very beneficial to promote the exchange of information and best practices and to bring together key stakeholders and share their expertise.

Proposed action(s)

In order to facilitate the exchange of information among key stakeholders and to promote the need for action on the main risks at European level, EASA will host an annual conference to address the issues identified in the Safety Plan.

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
SYS3.10	Exchange of information on aviation safety risks.	Host an annual conference to facilitate the exchange of information and address the issues identified in the Safety Plan.	EASA	2012	SP	Conference hosted

3.3.2 Implementation of just culture

The first reference period (RP1) of the Performance Regulation for ATM[9] covers 2012 to 2014. The third European Union-wide safety performance indicator is the reporting of the just culture. Member States are now preparing for the measurement of the just culture indicator based on a questionnaire developed this year. In parallel to the work on measurement, SPIs will have to be developed for the second reference period (RP2).

New actions

No new actions have been incorporated on the current version of the Safety Plan to cover this topic. This issue will continue to be monitored in subsequent editions.

[9] Regulation EU No 691/2010.

3.3.3 Development of SPIs with associated data stream

EASA and NAAs have formed a group of experts called the European Authorities Coordination Group on FDM (EAFDM). It is a voluntary and independent safety initiative with the following objectives:

a. to foster actions by NAAs which contribute to improving the implementation of FDM programmes and to making FDM programmes more safety effective,
b. to contribute to EASA objective of a high and uniform level of safety in Europe,
c. to contribute to a better overview of air transport operational safety in Europe for EASA and NAAs.

New actions

FDM programmes priorities do not take into account operational issues identified at the European and national levels

Many of the safety performance measures established to monitor safety issues at industry level rely on data from flight data monitoring (FDM) programmes. **Flight Data Monitoring** is the pro-active use of digital flight data from routine operations to improve aviation safety and is mandatory for aeroplanes with a maximum certificated take-off mass (MCTOM) in excess of 27 000 kg[10]. FDM is now being used by aircraft operators throughout the world to inform and facilitate corrective actions in a range of operational areas. It offers the ability to track and evaluate operational safety trends, identify risk precursors, and take the appropriate remedial action.

Proposed action(s)

States should set up a regular dialogue with their national aircraft operators on flight data monitoring (FDM) programmes, with the objectives of:

- Promoting the operational safety benefits of FDM,
- Fostering an open dialogue on FDM implementation that takes place in the framework of just culture,
- Encouraging operators to include in their FDM programmes FDM events relevant for the prevention of RE, MAC, CFIT and LOC-I, or other issues of national concern,
- Agreeing with operators, on a voluntary basis, regular reporting of standardized FDM events related to SSP top priorities.

EASA should:

- Foster actions by States which contribute to improving the implementation of FDM programmes by their national operators, and
- Assist States initiate the standardisation of FDM events relevant to SSP top safety priorities.

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
SYS3.11	FDM programmes priorities do not consider operational issues identified at the European and national levels.	States should set up a regular dialogue with their national aircraft operators on flight data monitoring (FDM) programmes, with the above objectives.	MS	2012	SP	Report on activities performed to promote FDM

[10] EU-OPS 1.037 (a) (4)

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
SYS3.12	FDM programmes priorities do not consider operational issues identified at the European and national levels.	EASA should foster actions by States to improving the implementation of FDM programmes by their operators and assist States initiate the standardisation of FDM events relevant to SSP top safety priorities.	EAFDM	2012	SP	Report on activities of the EAFDM

3.4 Complexity of the system

Summary of 2011

Key Achievements	• EUROCAE has started work to develop a methodology that will improve the apportionment of safety risks during the safety assessment of ground and on-board ATM systems. • The European Aviation Crisis Coordination Cell (EACCC) is established and meets regularly. The EACCC coordinates the management of responses to a network crisis. • Europe's rulemaking proposals for aviation safety follow a total system approach that covers all links in the safety chain.
Challenges	• Assessing the impact of SESAR in the current rulemaking activities.

New actions

Increasing the number of design interfaces

All major aircraft programmes are encountering delays due to their complexity and the way industry is organised. Designers tend to outsource design of significant items to risk sharing partners; thus increasing the number of interfaces.

Proposed action(s)

A study should be done to evaluate the safety issues and identify possible mitigation means to the potential risk of outsourcing design of significant items.

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
SYS4.5	Increasing the number of design interfaces.	Evaluate the safety issues and identify mitigation means to the risk of outsourcing design of significant items.	EASA	2013	SP	Study completed

4 Operational Issues

Operational issues are brought to light by the reporting and analysis of occurrence data. The Safety Plan starts by addressing the main risks that affect commercial air transport operations[11], especially those carried out by aeroplanes. Additionally an effort has been made to capture actions that address other types of operation; thus acknowledging the existing initiatives at European level.

Within the commercial air transport operations by aeroplanes, safety issues have been organised into five different categories, which constitute the various ways in which accidents and serious incidents take place. These events are unrecoverable and represent end states in the series of events that develop into a safety occurrence. Before they occur, usually other recoverable safety issues are triggered that reduce the available safety margin. These may be related to weather, air traffic services, airport services, operations, flight crew, etc. The latter are the issues that the safety actions aim to address.

It is also important to recognise that certain issues like unstable approaches, the encounter with hazardous weather conditions or inappropriate actions performed by the crew have an impact on more than one risk area. Human factor issues also affect different areas and are addressed in section 6.

4.1 Commercial Air Transport by Aeroplanes

4.1.1 Runway Excursions

The close cooperation between aviation's major stakeholders has already led to a number of solutions to address major risk areas. One example of this is the Runway Excursion Risk Reduction Toolkit (RERR Toolkit). The second edition of this toolkit, a joint collaboration with IATA and with contributions from ACI, CANSO, IFALPA and other industry partners, was released at the Global Runway Safety Symposium (GRSS) held in Montreal. It provides information, training modules, presentations, videos and best practices in an interactive format.

Summary of 2011

Key Achievements	• Significant progress has been made to develop a European Action Plan for the Prevention of Runway Excursions (EAPPRE). Eurocontrol is leading the development. Publication is expected in 2012. • European proposals were jointly developed by the European Commission, Member States of the EU and ECAC and Eurocontrol to take part on the ICAO Global Runway Safety Symposium held on May 24-26. ICAO and European initiatives to mitigate the risk of runway excursions are well coordinated. • The first NPAs to propose requirements in the domains of Aerodromes and ATM that incorporate requirements to better address the risk of runway excursions have been published in 2011.

[11] These operations involve the transportation of passengers, cargo and mail for remuneration or hire.

- Runway excursions are included in 10 Member States risk portfolios (out of 15 reports received).
- 9 Member States have shared actions and measures in use at national level to mitigate runway excursions risk.
- This safety issue was assessed as a top priority for 2011 by EASAC.

Challenges

- Following up the actions and conclusions of the ICAO GRSS.
- Improving coordination with Member States on the issue.

New actions

Global response to runway safety

Despite the significant efforts of regulators and industry, runway safety continues to be one of aviation safety's greatest challenges worldwide, and Europe is not an exception in this respect.

On 24-25 May 2011 ICAO organised a Global Runway Safety Symposium (GRSS) in search for a global response. European proposals and commitments for the Symposium were jointly developed by the European Commission, Member States of the European Union and of the European Civil Aviation Conference (ECAC), EASA and Eurocontrol.

The GRSS achieved the following:

- Highlighted the evolution towards a more integrated safety management approach in ICAO's runway safety programme.
- Coordinated a global effort for improving runway safety by identifying what a State can do to improve runway safety outcomes.
- Identified a common framework for the enhancement of runway safety.
- Promoted and gained commitment from partners to deliver regional runway safety workshops across the globe.
- Identified content and format for subsequent runway safety workshops.

The GRSS results mean that ICAO and its partners will now be increasing the scope and frequency of their runway safety data sharing. Partners will also be helping ICAO to promote and encourage the implementation of new runway safety solutions, committing to working with the Organization and its Member States to fund and deliver 12 Regional Runway Safety Seminars that will be held across every continent over the next three years.

Proposed action(s)

European partners should take part in the RRSS that will be organised in March 2012 in Amsterdam and contribute to develop action plans to promote the establishment of collaborative runway safety teams.

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
AER1.7	Global response to runway safety.	European partners should take part in the RRSS that will be organised in March 2012 in Amsterdam and contribute to develop action plans to promote the establishment of collaborative runway safety teams.	EASA, ECTRL, EC & MS	2012	SP	Participation & report of activity

Wind shear

Wind shears present a serious hazard for the operation of aeroplanes. Accidents have occurred during approach or landing, while a wind shear was present. Most of the time, flight crews can perform an emergency go around procedure and start a new approach. However, in some cases (e.g. low level wind shear), the crew does not have time to properly counter the effect of such a phenomenon, thus cannot adequately mitigate the risk of a subsequent loss of control that may end up in a runway excursion. Depending on the scenario, a wind shear can also lead to other safety outcomes (e.g. a loss of control in flight).

Proposed action(s).
Develop regulations to require predictive wind shear warning systems in CAT operations.

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
AER1.8	Wind shear.	Develop regulations to require predictive wind shear warning systems in CAT operations.	EASA	2013-2015	R RMT.0369	Opinion

4.1.2 Mid-air collisions

Summary of 2011

Key Achievements

- 10 Member States (out of 15 reports received) have reported to be implementing the European Action Plan for Airspace Infringement Risk Reduction (EAPAIRR).
- Eurocontrol has developed high level specifications for ground based ATM safety nets. These are complemented by guidance material and awareness campaigns to promote deployment of Europe-wide ground based safety nets.
- In coordination with SESAR, Eurocontrol has studied the compatibility of airborne safety nets with each other (PASS project).
- The first implementing rules containing ATM requirements for both ANSPs and competent authorities have been published. These requirements include provisions to address issues leading to mid-air collisions.
- Mid-air collisions are included in 12 Member States risk portfolios (out 15 reports received).
- 9 Member States have shared actions and measures in use at national level to mitigate mid-air collision's risk.

Challenges	• Improve coordination with Member States on the issue. • Completing the second phase of the ATM rulemaking tasks to bring about further safety enhancements in this area.

New actions

No new actions have been incorporated on the current version of the Safety Plan to cover this topic. Nevertheless a number of actions remain open to mitigate the associated risk (see Attachment A). This issue will continue to be monitored in subsequent editions.

4.1.3 Controlled Flight Into Terrain

Summary of 2011

Key Achievements	• Since fatigue plays a role in many CFIT events (it is also a factor in all types of human errors and aircraft accidents), a NPA to update flight and duty time limitations and rest requirements has been published and has received a large amount of comments that are being dealt with. An Opinion is expected in 2012. • CFIT has been included in 12 risk portfolios (out of 15 reports received). • 9 Member States have shared actions and measures in used at national level.
Challenges	• Advancing changes to certification specifications for large aeroplanes to mitigate the risk of CFIT during the approach and landing. • Improving coordination with Member States on the issue.

New actions

Certain turbine powered aircraft not equipped with TAWS

Certain turbine powered aircraft performing commercial air transport operations are not required to be equipped with Terrain Awareness Warning Systems (TAWS). This is the case of aircraft of less than 5700 kgs MTOM that are able to carry 6 to 9 passengers. Experience has shown a considerable risk exposure to CFIT accidents for this type of aircraft.

Proposed action(s)
Make TAWS equipment mandatory for this type of aircraft in order to mitigate the risk of CFIT.

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
AER3.6	Certain turbine powered aircraft are not equipped with TAWS.	Make TAWS equipment mandatory for aircraft of less than 5700 kgs MTOM able to carry 6 to 9 passengers.	EASA	2013-2016	R RMT.0371	Decision

4.1.4 Loss of control in flight

Summary of 2011

Key Achievements	• NPAs to revise large aeroplanes and engine certification specifications with a view to improve protection in icing conditions have been issued. • Progress has been made in the revision of large aeroplanes specifications to protect aircraft against debris impact (NPA should be issued in 2012). • Improvements of flight crew alerting systems and electronic displays have been introduced in CS-25 (Amendment 11). • A research study has been completed to improve the understanding of vapour water behaviour in fuel under cold temperature conditions. Laboratory testing has been performed to investigate and characterise the formation of ice crystals in aviation fuel. • LOC-I has been included in 12 risk portfolios (out of 15 reports received). • 9 Member States have shared actions and measures in used at national level. • A safety conference was organised by EASA to tackle the safety concerns related to Loss of Control in flight. The conference has identified new safety actions to address this issue.
Challenges	• Improve coordination with Member States on the issue. • Address the outcomes of the LoC conference.

New actions

Response to upset conditions

Responding to upset conditions demands immediate and correct response by the flight crew, and sometimes this reaction may be counter-intuitive. For instance, the airplane's response to a stall may be worsened by applying power or continuing to try to maintain altitude (as often prescribed by pilot examination criteria). Training this knowledge requires both an academic knowledge, as well as developing the ability to manage the aircraft state through the correct execution of skill-based behavior. Part of this can be trained in the classroom, and part could be trained in the flight simulator. However, if their response is based on inadequate or incomplete data, simulators may provide a negative training environment.

Re-creating the startle factor in flight simulators, in other words the impact of such events that cause a pilot to react in a primal, self-defending manner, is also a significant challenge. In a high-stress situation, a pilot may call upon basic skills more than cognitive and adaptive thinking to resolve the situation, and training these skills is considered essential in preventing LOC-I.

The Agency will support and encourage initiatives like the International Committee for Aviation Training in Extended Envelopes (ICATEE).

ICATEE is an international joint industry-authority initiative to deliver a comprehensive long-term strategy to eliminate or reduce the rate of loss of control accidents and incidents through enhanced Upset Recovery Training (URT). It is lead by the Flight Simulation Group of the Royal Aeronautical Society and covers a broad spectrum of disciplines and activities. ICATEE proposes to eliminate the limitations of current training through improved training at the basic (licensing) level, as well as during recurrent training and checking of pilots.

Proposed action(s)

EASA and Member States to support, encourage and follow up initiatives such as ICATEE to contribute to developing solutions aimed to reduce LOC-I, revising and promoting upset recovery guidance material, and influencing the adoption of future ICAO SARPs.

The approach could involve the following: revise Airplane Upset Recovery Training Aid, provide recommendations for enhancing and making better use of current-technology full flight simulators; enhance the knowledge-based skill-sets of pilots; assess the use of aerobatic-capable aircraft for training and investigate the relevance of continuous-g training platforms.

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
AER4.8	Response to upset conditions.	EASA and Member States to support, encourage and follow up initiatives such as ICATEE to contribute to developing solutions aimed to reduce LOC-I, revising and promoting upset recovery guidance material, and influencing the adoption of future ICAO SARPs.	EASA and MS	2013	SP	Report on initiatives such as ICATEE

Response to unusual attitudes

Exposure to unusual attitudes and recovery gives the pilots a good experience and lessens any startle factor that may present itself in the event of an upset - it equips them to deal effectively with unexpected flight conditions.

Proposed action(s)

Publish Part FCL which contains the new European-wide requirements addressing recovery from unusual attitudes.

Part FCL will enter into force in 2012. The new requirements include a specific recovery exercise from unusual attitudes in most of the training courses. Training of and recovery from unusual attitudes will be included in the Light Aircraft Pilot License (LAPL), Private Pilot License (PPL), modular Instrument Rating (IR) and instructor course and as a check item in several skill and proficiency checks (e.g. the Commercial Pilot License –CPL - or IR skill test and the class & type rating skill test/proficiency check).

Part FCL requirements will also include aerobatic training, based on national training requirements in place before the introduction of Part FCL.

Organise a workshop to identify and promote requirements and guidance in Part FCL and Part OPS related to the prevention of LoC accidents and identify needs for future improvements.

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
AER4.9	Response to unusual attitudes.	Publish Part FCL, which contains the new European-wide requirements addressing the training of and recovery from unusual attitudes.	EASA	2012	R	Publication of Part FCL
AER4.10	Response to unusual attitudes.	Organise a Workshop to identify and promote requirements and guidance in Part FCL and Part OPS related to the prevention of LoC accidents and identify needs for future improvements.	EASA	2012	SP and R	Workshop on Part FCL

Unclear maintenance responsibilities

Fatal loss of control accidents are evenly split between those that follow an aircraft technical problem and those that do not. In order for aircraft equipment to function properly it is crucial to perform adequate maintenance procedures.

There are still possible areas for improvement regarding the alignment of Part-145 and CAMO responsibilities, in particular regarding the responsibilities of contractors and of maintenance certifying staff.

In the worst case scenario the improper assignment of responsibilities in the corresponding contracts, improper coordination or the lack of adequate information to the flight crew may be a contributing factor or cause a fatal accident, like for example a loss of control. Other potential outcomes are also possible.

Proposed action(s)
Review and update CAMO and Part-145 responsibilities.

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
AER4.11	Unclear maintenance responsibilities.	Review and update CAMO and Part-145 responsibilities.	EASA	2012-2014	R RMT.0217	Opinion & Decision

4.1.5 Ground Collisions

4.1.5.1 Runway Incursions

Summary of 2011

Key Achievements

- All of the Member States that provided a report (a total of 15) require the establishment of a Local Runway Safety Team (LRST) and have confirmed their existence on the MS certified aerodromes.
- According to the responses received from the 15 Member States that provided a report, EAPPRI implementation has been initiated and is being

	monitored. • The EAPPRI has been revisited in 2011 and enhanced with further recommendations and guidance material. • Runway Incursions have been included in 12 risk portfolios (out of 15 reports received). • 9 Member States have shared actions and measures in used at national level.
Challenges	• Improve coordination with Member States on the issue. • Consider advancing the development of implementing rules related to runway incursions (EAPPRI report) • Implementing recommendations of EAPPRI – version 2.0

New actions

No new actions have been incorporated on the current version of the Safety Plan to cover this topic. Nevertheless a number of actions remain open to mitigate the associated risk (see Attachment A). This issue will continue to be monitored in subsequent editions.

4.1.5.2 Safety of Ground Operations

Summary of 2011

Key Achievements	• The first NPAs proposing the first European requirements in the aerodrome domain have been issued in 2011 They will contribute to mitigate through regulation some of the issues that are related to airport facilities covering aerodrome operator organisations, oversight authorities, aerodrome operations and design. • Safety of Ground Operations has been included in 12 risk portfolios (out of 15 reports received). • 9 Member States have shared actions and measures in used at national level.
Challenges	• Improve coordination with Member States on the issue.

New actions

Lack of harmonisation of ground operation activities

There are many initiatives aimed at reducing damage as well as tackling the issue of ground safety. One of them is the implementation of the IATA Safety Audit for Ground Operations (ISAGO). ISAGO aims to improve safety and cut airline costs by reducing ground accidents and injuries.

In today's industry environment, Airlines, Airport/Regulatory Authorities and Handling Agencies, members of the ISAGO working group and task forces have recognised the need of harmonisation of ground operations activities.

With that aim an IATA Ground Operations Manual (IGOM) is now in the process of being developed. The IGOM will take account of relevant publications including company and manufacturers manuals and set a standard applicable in Europe and worldwide.

Proposed action(s)

Contribute to the development of industry developed ground operations manual and promote the use of this manual in Europe.

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
AER5.11	Lack of harmonisation of ground operation activities.	Contribute to the development of industry developed ground operations manual and promote the use of this manual in Europe.	ECAST	2012	SP	Working draft IGOM

4.2 Other types of operation

4.2.1 Helicopters

Summary of 2011

Key Achievements	• The EHEST is working in close cooperation with the IHST on the production of risk awareness, safety promotion and training material for helicopter operations. • An EHEST communication team has been set up. EHEST work has been presented at a number of events addressing the helicopter community, with focus on small operators and general aviation. • First EHEST safety recommendations have been published on its website.
Challenges	• Work with Member States in addressing EHEST recommendations.

New actions

Impact of technologies in mitigating helicopter safety issues.

The use of technology can be a major contributor to reducing the helicopter accident rate and to the drive to seek continuous improvements in safety. Technologies that may have been in use on fixed wing aircraft for many years are transferred to rotorcraft at a (much) later date. Only few technologies have been developed specifically for rotorcraft[12].

Technology can provide a variety of solutions that address safety issues, also of operational nature, and contribute to prevent different types of accidents or to increase survivability. However "What kind of safety benefits can be expected from existing and new technologies?" This question raised in the European Rotorcraft Forum 2009 was addressed by the EHEST in the 2011 edition.

[12] European Rotorcraft Forum (ERF) 2011 – Paper 106 *EHEST: Mapping Safety Issues with Technological Solutions*. J. Stevens, J. Vreehen and M. Masson.

Proposed action(s)

To assess the impact of technologies on mitigating safety issues, the EHSIT Specialist Team Technology has developed a dedicated tool (technology - safety issues matrix). The tool mutually links the results of the safety analysis (accident causes and their contributing factors) to R&D and technological developments.

The process of mapping safety issues with technological solutions has only recently started. More work will be carried out in 2012 and 2013 to finalise the first version of the tool

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
HE1.4	Impact of technologies in mitigating helicopter safety issues.	Finalise a first version of a tool to assess the impact of technologies on mitigating helicopter safety issues.	EHEST	2013	SP	First version of tool developed

Helicopter flights into degraded visual environment (HDVE)

The EASA Annual Safety Review of 2010[13] places Controlled Flight Into Terrain (CFIT) as the leading accident category for fatal accidents by EASA MS operated helicopters in the last decade.

Helicopter transport flights are particularly exposed to the safety hazards associated with flying in Degraded Visual Environments (DVE), including risk factors like degraded situational awareness and spatial disorientation[14].

The European Helicopter Safety Team (EHEST) recommended that the continuing risk posed by unintended helicopter flight in DVE requires an operational and research action to address the potential improvements for enhancing visual cueing of Visual Flight Rules (VFR) pilots from proven developments in the aerospace or automotive sectors.

Proposed action(s)

Perform a study to define and evaluate visual augmentation possibilities for VFR helicopter flight with the aim to mitigate the potential hazards associated with DVE.

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
HE1.5	Helicopter flights into degraded visual environment.	Perform a study to define and evaluate visual augmentation possibilities for VFR helicopter flight with the aim to mitigate the potential hazards associated to DVE.	EASA	2012	SP Research (HDVE)	Study report

[13] http://easa.europa.eu/communications/docs/annual-report/EAS_AnnualReport_2010.pdf

[14] UK CAA Research Paper 2007/03, Helicopter Flight in Degraded Visual Conditions (http://www.caa.co.uk/docs/33/Paper200703.pdf).

4.2.2 General Aviation

Summary of 2011

Key Achievements	• EGAST is working on the development and sharing of good practices and safety promotion among stakeholders in Europe. • A research project has been initiated to perform reviews of initiatives looking at improvements to see and avoid for General Aviation with the aim to identify best-practices and promote standardisation.
Challenges	• Working with Member States to extend the EAPAIRR recommendations.

New actions

Transfer of technologies into general aviation

As it is the case for helicopter operations, major improvements in general aviation safety can also be gained through technology. However technologies are already available for instance at the very light end of general aviation or for very large aircraft (business jets). The transfer of technologies into the medium part of general aviation is not so advanced. The challenge is to introduce such technologies while maintaining and if possible increasing the safety level.

Proposed action(s)
Study the feasibility of launching a research project to look into the safety and environmental benefits of encouraging the transfer of new technologies into General Aviation (excluding Business aviation).

The following technologies could be covered: electric propulsion, new fuels, hydrogen technologies for airship, anti-collision systems, aircraft parachutes, new design for propellers and engines.

New Safety Actions

No.	Issue	Actions	Owner	Dates	Type	Deliverable (Measure)
GA1.4	Transfer of technologies into general aviation.	Study the feasibility of launching a research project to look into the safety and environmental benefits of encouraging the transfer of new technologies into General Aviation (excluding Business aviation).	EASA	2012	SP Research	Project feasibility studied

Airspace infringement risk in general aviation

The analysis of safety data indicates that the majority of airspace infringements are committed by general aviation VFR flights. This is not a surprise, as most GA VFR flights are conducted outside controlled areas and zones, and are in general flown by less trained and experienced leisure pilots, whereas IFR flights are usually contained within controlled airspace and carried out under the supervision of ATC units.

A European Action Plan for Airspace Infringement Risk Reduction has been set up to achieve the right balance between positive encouragement and regulatory enforcement, which is of particular importance for the development of general aviation in Europe. The timeline for the implementation of the Action Plan is set to 2010 - 2013.

Proposed action(s)

National authorities should play the leading role in establishing and promoting local implementation priorities and actions in consultation with airspace users and service provider organisations.

While airspace infringement is an important operational risk across much of Europe, the nature and scale of the problem varies between States. The complexity of the airspace structure, the scale of military flying activity, the scale and maturity of both commercial and general aviation sectors, the scope and nature of air traffic service provision and State's regulatory and legislative frameworks are the factors which will shape the local airspace infringement risk reduction strategies and determine the most appropriate and effective actions to be taken by individual States. Therefore the number of Action Plan recommendations that can be implemented is likely to differ from State to State.

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
GA1.5	Airspace infringement risk in general aviation.	National authorities should play the leading role in establishing and promoting local implementation priorities and actions.	MS	2013	SP	List of local implementation priorities and actions for GA

5 Emerging Issues

This section anticipates issues that are emerging or where potential hazards exist for the immediate or near future. Giving consideration to safety issues derived from operations or regulations that have not been fully deployed incorporates a forward looking element in the Safety Plan, thus complementing the approach illustrated in previous chapters. Developing a possible picture of the future with some of the trends that are more relevant to aviation is one of the actions captured in this section.

The nature of the issues identified in this chapter is twofold: on one hand, it addresses safety aspects of changes and trends that impact aviation; on the other hand, it copes with the introduction of new products, systems, technologies and operations for which safety regulations may need to be updated.

Actions will not only deal with uncertainties at early stages of development but also with gathering data that are lacking from operations. Gaps in safety data can be mitigated by specific research actions either to produce simulation experiments (at different scales) or by gathering operational experts input on safety issues and prioritising them.

In addition to new products, systems and technologies, consideration is given to issues related to the environment, possible evolution of the role of the regulator and oversight authorities as well as personnel training as one of the key issues that the next generation of aviation professionals will face.

5.1 New products, systems, technologies and operations

Summary of 2011

Key Achievements	• Work has started to develop a methodology to assess future risks. More than 700 methods have been reviewed in Phase 1 of the project by the Future Aviation Safety Team (FAST). • Pre-rulemaking activities have been initiated to regulate UAS, operations with VLJ and powered lift operations.
Challenges	• Synchronise the rulemaking activities on new operations with the activities of the key stakeholders in each area. • Investigate a lighter process for the regulation of sub-orbital planes.

New actions

Composite Damage Metrics and Inspection (CODAMEIN)

New generations of aircraft such as Airbus A350, Boeing B787, and many other projects under development, introduce extensive use of composite structure.

It is commonly recognised that significant damage (e.g. delamination, blind-side fibre damage) may be difficult to detect visually in composite structure. Confidence regarding the successful detection of such damage may be further reduced by material relaxation.

A particular concern is low velocity high-energy blunt impact, for example by

ground vehicles. This problem may worsen due to ground vehicle shock absorbers (introduced to reduce damage to metallic structure) which have the potential to make damage detection more difficult.

Proposed action(s)

Improve the understanding of high energy blunt impact on composite structure for aircraft, its significance, and the associated damage metrics and damage indications.

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
EME1.7	Composite Damage Metrics and Inspection.	Improve the understanding of high energy blunt impact on composite structure for aircraft, its significance, and the associated damage metrics and damage indications.	EASA	2012	SP Research (CODAMEIN)	Final study report published

5.2 Environmental factors

Summary of 2011

Key Achievements	• Work has been advanced to establish a network to increase awareness and provide dissemination, coordinate research and avoid duplication on the effect of climate change on aviation. The terms of reference will be available in February 2012.
Challenges	• Consideration should be given to whether developing regulatory action, standards or special conditions are necessary to cover some of the identified issues.

New actions

Weather and its severe events have always been an issue for the safe operation of aeroplanes. Aviation regulators carefully observe the developments with regard to climate change, worldwide and regional trends and the evolution of certain parameters.

Although being well aware that uncertainties still exist and more knowledge is needed the International Aviation Safety and Climate Change (IASCC) conference held by EASA in September 2010 came to the conclusion that hazards can be generated by the combination of climate change and the changes in technologies and operations.

During the conference it was also recognised that an increase of air traffic volume increases the likelihood of the air transport system encountering extreme weather events. There was consensus that the mitigation measures against this risk could be hardening aircraft design against ice crystal, amending regulations, based on solid scientific grounds, and acceptable means of compliance including test facilities.

Flying through clouds with High Ice Water Content at High altitude

Amongst the emerging hazards caused by climate change we find the increase of freezing rain events and ice crystals from cirrus clouds at high altitudes and very low temperatures. Encountering high concentrations of ice crystals can lead to blocked pitot probes and engine in-flight shut-downs.

The aviation sector has compiled information on over 100 engine weather-related power-loss events, and concluded that these events are due to flight through areas of high ice water content associated with deep convective clouds. Temporary loss of airspeed indications has also been experienced. Analysis of the atmospheric conditions present at the time of the incidents (when available) showed the presence of icing conditions at an unusually high altitude and at a very low temperature. These conditions were outside the environment envelope of CS 25 Appendix C and even outside the extended conditions specified by EASA CS advisory materials.

New regulatory activities aimed at a more representative characterisation of the icing conditions to address in service occurrences have been put in place and will enter into force in 2012.[15] This includes amending Certification Specifications for Large Aeroplanes and Engines (see action AER4.2)

Proposed action(s)

Furthermore a research project will be launch to validate the proposed regulatory mixed phase and glaciated icing environment, assess the necessity of further amendment/extension of the envelope and define the necessary actions for a more detailed flight test characterisation with in particular the determination of the composition of cloud masses at high altitude with the appropriate precision.

New Safety Actions

No.	Issue	Actions	Owner	Dates	Type	Deliverable (Measure)
EME2.4	Flying through clouds with High Ice Water Content at High altitude.	Launch research to validate the proposed regulatory mixed phase and glaciated icing environment, assess the necessity of further amendment/extension of the envelope and define the necessary actions for a more detailed characterisation of the composition of cloud masses at high altitude.	EASA	2012	SP Research (HighIWC)	Final study report published

Impact of space weather on aviation

Space Weather is the travel of solar and galactic radiation and their interaction with the Earth magnetosphere and ionosphere. It is a cyclic phenomenon. Extreme space-weather events such as geomagnetic storms can have a serious impact on modern technological infrastructures and also in aviation.

A solar maximum is expected in 2013, thus increasing the risk for critical infrastructures. The potential consequences for aviation could be: outage of

[15] EASA issued NPA 2011-03 to amend CS25 and NPA 2011-04 to amend the CSE in March 2011. Note: The FAA is leading these rulemaking activities, hence progress is dependent on FAAs rulemaking constraints.

telecom infrastructure, outage of GPS satellites, effect on GPS signal integrity, upset of avionics system, radiation effects on crews and passengers and poor HF communication in the presence of these atmospheric conditions.

The increasing need to monitor and manage the risk posed by space weather has been recognised internationally. The Joint Research Centre (JRC) in collaboration with the Directorate General Enterprise and Industry of the European Commission hosted an "awareness dialogue" on 25-26 October to raise awareness of the potential impact of this particular hazard.

Proposed action(s)

In order to raise awareness on this phenomenon and recommend monitoring sources, a Safety Information Bulletin (SIB) on the impact of space weather on aviation will be published by the Agency.

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
EME2.5	Impact of space weather on aviation.	Publish an SIB to raise awareness on the impact of space weather on aviation.	EASA	2012	SP	SIB published

5.3 Regulatory considerations

Summary of 2011

Key Achievements	• A well balanced standardisation programme based on regulatory compliance, pro-active standardisation and regulatory feedback has started to be introduced. • Progress has been made to implement one uniform standardisation process for all fields of aviation. The 736 methodology is uniformly applied in all current fields in the standardisation inspection scope. • An internal working group has been established to identify the necessary building blocks of a future CMA.
Challenges	• Further streamline and harmonised the standardisation process integrating all domains of aviation. • Continue the preparation for the implementation of a CMA approach.

New actions

New regulatory competences in risk-based regulation

The oversight of a safety management approach will require new competencies compared to a compliance only approach. For example, the oversight authority will need to be able to understand the risk profile of an organisation, and to have a view on whether the organisation has identified the right risks, right desired outcomes, right actions to achieve those outcomes, and the right measures to track progress. The regulator will also need to make more subjective judgements, based on evidence, of an organisation's SMS maturity.

The skills needed to deal with performance based regulation, risk assessment, safety management system maturity etc are currently not readily available in all NAAs at this time.

Proposed action(s)

Based on guidance developed by the SM ICG and experience from ECTRL SRC, a roadmap will be developed describing how regulatory competence in risk based regulation, risk based oversight and oversight of SMS will be developed in the EU.

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
EME3.4	New regulatory competences in risk based regulation.	Based on guidance developed by the SM ICG and experience from ECTRL SRC, a roadmap will be developed describing how regulatory competence in risk based regulation, risk based oversight and oversight of SMS will be developed in the EU.	EASAC	2012	SP	Roadmap developed

5.4 Next generation of aviation professionals

Summary of 2011

Key Achievements	• An EASA automation policy has been developed and presented at the LoC safety conference organised by EASA. • An EASA opinion has been published with requirements for the holder of an aircraft type-certificate to provide the minimum content of the type-training for pilots and aircraft maintenance certifying staff as part of the Operational Suitability Data (OSD) as well as the results of an operational evaluation.
Challenges	• Consulting on and promoting the EASA automation policy • Review material on Evidence Based Training (EBT) developed by ICAO.

New actions

Increasing pilot reliance on automation

Modern aircraft are increasingly reliant on automation for safe and efficient operations, whether commercially operated or not. Due to the advantages of automation it is required for certain operations and for precision navigation. This can cause problems to senior pilots who may be less comfortable with automation while the new generation of pilots may lack basic flying skills in case of automation failure or when there is a need to revert to a lower automation level, including hand flying the aircraft.

The EASA Internal Group on Personnel Training (IGPT) was set-up in EASA to follow-up the EASA International Conference on Pilot Training of November 2009.

The IGPT is composed of experts from all operational Directorates of the Agency. This group has developed an EASA Automation Policy that was presented during the LoC safety conference held in October this year.

Proposed action(s)
Consolidate the EASA Automation Policy through consultation and promote this policy among stakeholders

New Safety Actions						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
EME4.6	Address the problem of increasing pilots' reliance on automation.	Consolidate the EASA Automation Policy through consultation and promote this policy among stakeholders.	EASA (IGPT)	2012	SP	Report on promotion activities

6 Human Factors and Performance

A projected increase in passenger numbers over the next decade, the move towards a Single European Sky and next generation aircraft technology, together with constantly shifting political, economic and regulatory frameworks demand that the role of the human in achieving the highest possible standards of safety within the aviation industry is seen as essential.

The entire aviation system, through people, processes and performance, relies predominantly on individuals and teams for safety, efficiency and effectiveness. In practice, people are required to communicate, apply judgments and make decisions and in doing so are constantly exposed to the risk of error. Therefore, human factors and performance of individuals and organisations affect all aspects of aviation and should not be addressed in isolation.

A new European Strategy for human factors in civil aviation will address these provisions, including a commonly held definition of the term 'human factors'. The work will remove inconsistencies and resolve current disparate arrangements with respect to the regulation, governance, training, licensing, audit and assurance of human factors activity.

The expertise of human performance specialists and the tools they use have been recognised as key ingredients for both SESAR and NextGen programmes to advance ATM infrastructures in the Europe and USA. EUROCONTROL and ANSPs will continue to work together in the deployment of ATM human performance activities through the partnership established by the European Safety Programme for ATM (ESP+).

Summary of 2011

Key Achievements	• The EHFAG is finalising a human factors strategy to endorse human factors and human performance across civil aviation activities. • The Eurocontrol Safety Team has approved in June 2011 the SHP SG (Safety Human Performance Sub Group) work programme to support ANSP in the deployment of ATM human factors activities.
Challenges	• Develop an action plan on human factors based on the developed strategy.

New actions

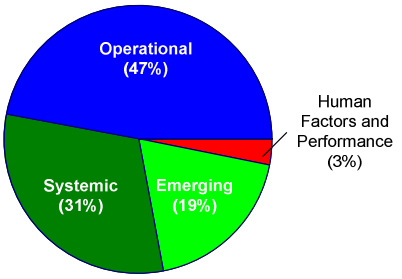
No new actions have been incorporated on the current version of the Safety Plan to cover this topic. Nevertheless a number of actions remain open to mitigate the associated risk (see Attachment A). This issue will continue to be monitored in subsequent editions.

Attachment A: 2011 Status Report

SAFETY ACTION DISTRIBUTION

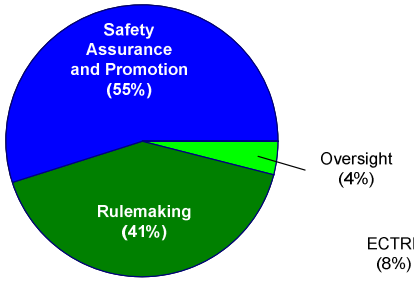
EASp 2011-2014 contains 91 actions

Almost half of the actions on the Plan address operational safety issues



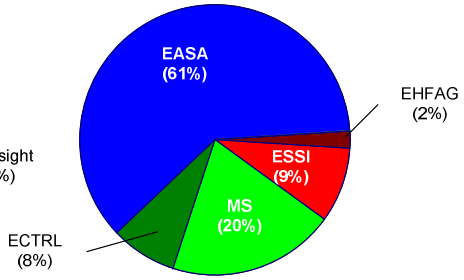
According to the main risk areas

More than half of the actions on the Plan are classified as Safety Assurance and Promotion



According to the type of action

The Agency owns most of the actions on the Safety Plan



According to the stakeholder leading the implementation of the action

Overall performance

	Not Started	Started	Advanced	Completed (obj. partially achieved)	Completed (Obj achieved)	Totals	%
More than one year late	5	1				6	7%
Less than one year late	3	16	4			23	25%
On schedule	5	17	19	1	11	53	58%
Other		9				9	10%
						91	**100%**

2011 Performance

	Not Started	Started	Advanced	Completed (obj. partially achieved)	Completed (Obj achieved)	Totals	%
More than one year late	1					1	4%
Less than one year late		10	3			13	50%
On schedule				1	11	12	46%
Other							
						26	**100%**

Timeliness criteria

On schedule
The action is expected to finish as it was originally planned

Less than one year late
The action is expected to finish at least one year later than originally planned

More than one year late
The action is expected to finish more than year later than originally planned

Work towards objectives criteria

Not started
No work has been performed on the action

Started
The action is in its initial phases

Advanced
Substantial work towards the objectives has been performed

Completed (obj. partially achieved)
Action is closed, but objectives have not been completely achieved

Completed (objective achieved)
Action is closed and the objectives have been achieved.

Performance Summary

Overall, 58% of the total actions are on-schedule according to the Plan. 25% carry a delay of less than one year, while 7% have been delayed for more than a year. Nine (9) actions could not be assessed due to the fact that responses from all Member States were not available and it was not possible to determine the timing of the subject actions.

In most cases where actions had to be postponed it was due to the fact that resources were devoted to accomplishing other tasks. The following pages provide an indication of the various reasons for each individual deviation from the original plan.

Concerning 2011, 26 actions were due this year: 12 of them have been successfully completed whereas 14 had to be delayed. Out of this 14: 8 had to be moved into next year due to the fact that only a few Member States provided an action report. In the remaining cases actions have been delayed due to the fact that resources had to be further re-allocated in the teams assigned to them or a deviation from a procedure was experienced (e.g. the amount of comments received to an NPA was too large to be dealt with in the assigned time, the normal procurement process in a research project had to be extended or consultation on a given deliverable took longer than expected).

The Communication published by the EC has further postponed the establishment of a performance measurement scheme for all the domains of aviation (except ATM) allowing for more time for consultation among stakeholders before bringing proposals forward. A specific date for the completion of this action (SYS3.7) is not known at the time of the publication of the Safety Plan.

Details on each of the actions can be found in the following pages. To facilitate understanding, the following colour code has been used during the assessment:

Action is on schedule
Action is less than one year late
Action is more than one year late
Action has been completed

SYSTEMIC ISSUES

Systemic Issues							Implementation						
No.	Issue	Actions	Owner	Dates	Type	Deliverable (Measure)	Update	Status	Lead	POC	According to PLAN?	Reasons for deviation	Deliverable(s)
1. Working with States to address SSPs													
SYS1.1	Improve coordination and sharing of best practices among States.	Present the European approach to safety management in a workshop and improve coordination with Member States. MS should share the provisions and plans to implement SSPs.	EASA & MS	2011	SP	Workshop	A letter has been sent to 31 MS asking for a focal point. 23 nominations have been received. 15 Member States have reported on the activities related to the EASp and 9 have responded to a survey to share their activities. The workshop has been postponed. Possibilities for better coordination will be studied.	Completed (objective partially achieved)	E2	Rodrigo Priego	On-schedule	Workshop postponed.	Activity reports and questionnaires
SYS1.2	SSP Requirements.	Publish European requirements for Aviation Authorities (AR) in the domains of air operations and flight crew licensing.	EASA & EC	2012	R	Opinion/Decision	Opinion 03/2011 published on 19 April 2011 contains Authority Requirements (AR) for air crews. Opinion 04/2011 published on 1 June 2011 contains AR for air operators. They contain the provisions to support the implementation of SSP (exchange of information, oversight and management system). Regulations expected to be adopted by 8 April 2012. However there will be no requierements mandating SSPs/Safety Plans for the Member States.	Advanced	R.3	Jean-Marc Cluzeau	On-schedule	Mandate for SSP will not be in the IRs.	Opinion 03/2011 Opinion 04/2011
SYS1.3	Incorporation of SSP in all domains of aviation.	Incorporate SSPs and enablers in the IR for airworthiness (enablers are supporting tools like system safety analysis, occurrence reporting and human factors).	EASA & EC	2013	R (MDM.055 and .060) (RMT.0251 and RMT.0262)	Opinion/Decision	MDM.055 has started. Opinion/Decision is scheduled for 2013/Q3. MDM.060 has been delayed. Start has been moved from 2010 to 2012/Q1. Opinion/Decision is scheduled for 2014/Q3. In both tasks the provisions in Part-AR designed to support the implementation of SSP (exchange of information, oversight and management system) will be considered for amending the airworthiness rules. However there will be no requierements mandating SSPs/Safety Plans for the Member States.	Started (MDM.055) (RMT.0251)	R.4	Regine Hamelijnck	Less than one year late	MDM.060 (RMT.0262) delayed Mandate for SSP will not be in the IRs.	ToR MDM.055
SYS1.4	Incorporation of SSP in all domains of aviation.	Incorporate SSPs and enablers in the requirements on Competent Authorities in ATM/ANS.	EASA & EC	~~2012~~ 2013	R (ATM.004) (RMT.0157)	Opinion/Decision	Commission Implementing Regultion No 1034/2011 from 17th of October 2011 was published on 18th of October in the OJ L 271. There are NO requirements in it for competent authorities in the field of ATM/ANS to establish SSP. Nevertheless some provisions designed to support the implementation of SSP have been transposed. The second phase of the rulemaking task will bring further enhancements in this area, in order to align with the provisions already incorporated in the fields of operations and flight crew licensing. NPA on the related IR foreseen by 2012/Q2.	Started	R5.1	Anastasiya Terzieva	Less than one year late	ATM.004 delayed	Commission Implementing Regulation No 1034/ 2011
SYS1.5	Incorporation of SSP in all domains of aviation.	Incorporate SSPs and enablers in the requirements for aerodrome oversight authorities.	EASA & EC	2012	R (ADR.001) (RMT.0139)	Opinion/Decision	Work started in July 2010. NPA 2011-20 was pubished on 13 December. The NPA contains draft rules for the certification, management, operation and design of aerodromes. Opinions on the IRs will be issued eleven (11) months thereafter estimated in 2012/Q4 (December 2012). Decisions on the associated AMC's and GM will be issued after the adoption of the IRs at the latest by 2013/Q4 (December 2013). They will define the requirements for competent authorities management systems.	Advanced	R5.2	Gernot Kessler	On-schedule	None	NPA 2011-20
SYS1.6	Safety Management promotion and information.	Organise a workshop with MS to share experience on national implementation of the Authority and Organisation requirements.	EASA	2013	SP	Workshop	An information and promotion plan will be developed in 2012 once the first regulations are adopted.	Not started	R3	Regine Hamelijnck	On-schedule	None	
2. Working with States to foster the implementation of SMS in the industry													
SYS2.1	SMS requirements.	Publish European requirements for Aviation Organisations (OR) in the domains of air operations and flight crew licensing.	EASA & EC	2012	R	Opinion/Decision	Opinion 03/2011 published on 19 April 2011 contains Organization Requirements (OR) for air crews. Opinion 04/2011 published on 1 June 2011 contains OR for air operators. Regulation expected to be adopted by 8 April 2012. They include provisions for the implementation of management systems in organisations.	Advanced	R.4.2	Regine Hamelijnk	On-schedule	None	Opinion 03/2011 Opinion 04/2011
SYS2.2	Incorporation of SMS in all domains of aviation.	Incorporate SMS and enablers in IR for airworthiness (enablers are supporting tools like system safety analysis, occurrence reporting and human factors).	EASA	2013	R (MDM.055 and .060) (RMT.0251 and RMT.0262)	Opinion/Decision	MDM.055 has started after the vote by the EASA Committee on the text for Parts AR and OR (June 2011). Part-OR includes the SMS requirements in Subpart GEN Section II . The adopted text will then form the basis for amending Regulation 2042/2003. Although the structure is not changed, a certain number of adaptations will be required to "transpose" Part-OR, in particular as regards existing quality system requirements. MDM.060 has been delayed. Start has been moved from 2010 to 2012/Q1. Opinion/Decision is scheduled for 2014/Q3. Whenever the ToR are adopted, a drafting of NPA for Regulation 1702 will start using the selected working method and taking into account the basis created in the text of Parts AR and OR.	Started (MDM.055)	R.4	Regine Hamelijnck	Less than one year late	MDM.060 delayed	ToR MDM.055
SYS2.3	Incorporation of SMS in all domains of aviation.	Incorporate SMS and enablers in the requirements for aerodrome operator organisations (part ADR.OR).	EASA & EC	2012	R (ADR.001) (RMT.0139)	Opinion/Decision	Work started in July 2010. NPA 2011-20 was pubished on 13 December. The NPA contains draft rules for the certification, management, operation and design of aerodromes. Opinions on the IRs will be issued eleven (11) months thereafter estimated in 2012/Q4.. Decisions on the associated AMC's and GM will be issued after the adoption of the IRs at the latest by 2013/Q4. They will define the requirements for aerodrome management systems, containing SMS.	Advanced	R5.2	Gernot Kessler	On-schedule	None	NPA 2011-20

SYSTEMIC ISSUES

Systemic Issues							Implementation						
No.	Issue	Actions	Owner	Dates	Type	Deliverable (Measure)	Update	Status	Lead	POC	According to PLAN?	Reasons for deviation	Deliverable(s)
SYS2.4	Incorporation of SMS in all domains of aviation.	Incorporate existing SMS and enablers in part OR for ANSP.	EASA & EC	2013	R (ATM.001) (RMT.0148 and .0150)	Opinion/Decision	Commission Implemented Regulation No 1035/2011 was adopted on 17 October 201. It addresses safety management systems for ANSP in the field of ATM/ANS. Further enhancements and reviews of these requirements are envisioned for the second phase of the rulemaking task ATM.001 in order to better align them with the regulations in the other domains.	Advanced	R5.1	Maria Algar Ruiz	On-schedule	None	Commission Implementing Regulation No 1035/ 2011
SYS2.5	Promotion of SMS.	Develop and promote SMS best practices for fixed wing commercial aviation and aerodromes.	ECAST	2011	SP	Best Practice	The ECAST SMS Working-group has published a webpage for stakeholders to obtain information about ECAST efforts in the area of Safety Management and to support organisations wishing to implement a Safety Management System. Best practices are generic enough to also be usable by aerodromes. ECAST best practice is published together with other reference material on SKYbrary.	Completed (objective achieved)	ECAST	Michel Masson	On-schedule	ECAST decided not to develop specific material for aerodromes, current material can be also applied.	ECAST SMS web site
SYS2.6	Promotion of SMS.	Develop and promote SMS best practices for helicopter operations.	EHEST	2011	SP	Best Practice	A specialised team tasked to develop SMS best practices for helicopter operations has been set-up by the EHEST. The team defined a work-program and work is ongoing. Deliverable is expected early 2012. In addition, EHEST is involved in the development of a helicopter compatible version of ISBAO by IBAC and encourages worlwide use of the SMS Toolkit by IHST. Action will be extended into 2012.	Advanced	EHEST	Michel Masson	Less than one year late	EHEST has taken new tasks on-board. Deliverables expected in 2012.	EHEST website
SYS2.7	Promotion of SMS.	Encourage implementation of promotion material developed by ECAST and EHEST.	MS	2011	SP	Best Practice published by MS.	15 reports have been recevied from MS. Recommendation: Member States are encouraged to establish a link to the ESSI material on the CAA's website. The Czech Republic, Latvia, Switzerland, Sweeden, France and UK have already established a link. Belgium will publish the material on the CAA's website in 2012. A few MS have taken the promotion effort one step further (e.g. Belgium, France, Ireland, Sweeden or Switzerland) by distributing the information to the industry via safety bulletins, dedicated seminars, presentations at the appropriate fora or through oversight activities. Additionally many States are promoting SMS in various ways (training courses to operators or promotion of ICAO material) ESSI is still developing best practice material and will continue using the ESSI website for promotion. This action will be pursued after 2011 as the European OPS rules and AMCs will be published in 2012. It will be extended into next year's Safety Plan.	Started	MS	Rodrigo Priego	Less than one year late	15 reports received from MS. Action will be extended.	
SYS2.8	Promotion of SMS.	Develop and promote SMS guidance and best practices for ATM.	ECTRL	~~2011~~ 2011-2014	SP	Best Practice	EUROCONTROL Generic Safety Management Manual (EGSSMM) is in Edition 2.0. A full range of guidance on various SMS procedures complements the manual (such as on Safety Surveys, ATM Occurrence Investigation, Safety records, Safety Assessments etc). The promotion is being done through ES2 (Experience Sharing to Enhance SMS) – see below in SYS2.9. A 3rd edition of the EGSMM to integrate the results from the ANSP/NSA SMS interface project is planned during 2012.	Advanced	ECTRL	Tony Licu (ESP+)	On-schedule	Scope of action is 2011-2014 and will be extended.	EUROCONTROL Generic Safety Management Manual (EGSMM)
SYS2.9	Promotion of SMS.	Support to ANSP SMS implementation; develop a structured approach to the identification of safety key risk areas and to gathering information on operational safety and SMS best practices from the industry; harmonise SMS approaches in FABs.	ECTRL, MS and ANSP	~~2014~~ 2011-2014	SP (ESP+)	Methodology & Training material	ES2 (Experience Sharing to Enhance SMS) workshops are being held according to the plan (this year 3 WS were done – One on Safety KPIs and Cost of SMS in EUROOCONTROL HQ in March, a second One on Safety Assessment and SMS Roadmaps for FABs in May in Sarajevo and a third on Software Safety Assurance (in Bled/Slovenia 21-22 September 2011).) SKYbrary is the main platform to share the safety knowledge with industry. Further developments of various portals are ongoing and more partners are joining SKYbrary (www.skybrary.aero). The SMS portfolio of courses sponsored by EUROCONTROL Safety Team has been reviewed and the catalogue of course updated (14 SMS courses are available) SISG – Safety Improvement Sub Group is the main ATM operational group to gather the ATM safety key risk area information The Safety Human Performance Sub-Group (SHPSG) is the main human factors thrust of joint safety and human actors experts.	Started	ECTRL	Tony Licu (ESP+)	On-schedule	None	SMS portfolio of courses sponsored by EUROCONTROL Safety Team

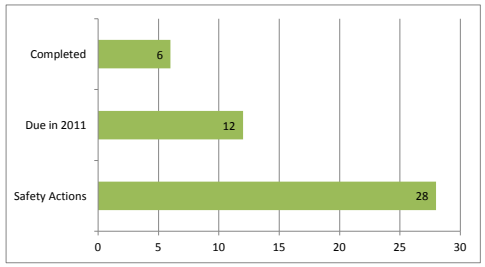
SYSTEMIC ISSUES

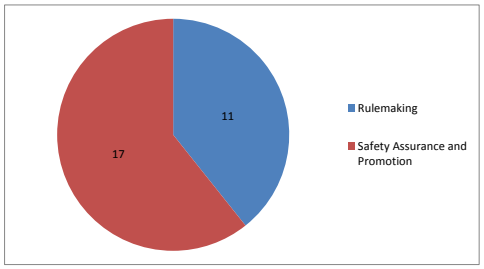
Systemic Issues							Implementation						
No.	Issue	Actions	Owner	Dates	Type	Deliverable (Measure)	Update	Status	Lead	POC	According to PLAN?	Reasons for deviation	Deliverable(s)
SYS2.10	SMS International cooperation.	Promote the common understanding of SMS principles and requirements in different countries, share lessons learned and encourage progress and harmonisation.	EASA and MS through SMICG	Cont.	SP	SMICG Products	EASA and MS continue to support the SMICG. A pamphlet with basic principles, an SMS effectiveness assessment tool and a practical guide for senior managers have been developed. Products will be made availabe on Skybrary. This action is a continuous activity and will be extended into the next version of the EASp.	Started	E2	Rodrigo Priego	On-schedule	None	SMS Pamphlet
SYS2.11	SMS International cooperation.	Contribute to the work on the new ICAO Annex on SMS and represent the European position.	EC, EASA & ECTRL	2012	R	Participate in ICAO activity Report.	EASA has permanent representation at ICAO since July 2011. EC, EASA and ECTRL are coordinating the paricipation on the ICAO panel that will develop Annex 19.	Started	E2	Rodrigo Priego	On-schedule	None	
3. Safety Management Enablers													
Sharing safety information													
SYS3.1	Coordination of safety analysis tasks.	Coordinate the safety analysis at European level through the creation of a European Network of Analyst.	EASA & MS	2011	SP	Network ToRs	A NoA coordinator has joined EASA and is managing the project. First meeting of the NoA took place in September 2011. NoA is operative. ToRs have been established.	Completed (objectived achieved)	E2	John Franklin	On-schedule	None	NoA web site
SYS3.2	Comparable risk classification of events across the industry.	Propose a common framework for the risk classification of events in aviation based on existing work.	EASA, ECTRL & MS	2013	SP	Study Report	UKCAA is leading the initiative and reporting on progress to ECAST. The project was initiated to build on the Aviation Risk Management Solutions (ARMS) Event Risk Classification (ERC) methodology. The focus is on how best to answer the 'probability' part of the ERC methodology (i.e. the effectiveness of the remaining barriers between the safety event being classified and the most credible accident outcome), which is still quite a subjective task. The proposed solution is to develop weighted barrier models for the key safety outcomes of interest and 'runway excursions on landing' was chosen as a pilot study. Barriers are weighted because they are not necessarily equally effective and their effectiveness can vary depending on the scenario in question. A weighted barrier model for Runway Excursions on landing has been developed. The barriers have been weighted using expert opinion. Next steps are to refine the barrier weightings using historical data (where appropriate) and to further validate the model against real occurrences. Similar models will then be developed for other undesirable safety outcomes.	Started	E2	Joji Waites	On-schedule	None	
Implementation of just culture													
SYS3.3	Measure implementation of the just culture approach.	Establish a set of indicators for the ATM domain that can be monitored and provide a good indication of the implementation of the just culture approach.	EC, ECTRL & EASA (E3 Group)	2011	SP	Indicators	After consultation with MS and stakeholders, the E3 Task Force has delivered its final report to the EC. This report was also consulted with the Single Sky Committee. Just culture indicator consists of a questionnaire on State and ANSP level. Based on the E3 final report, the EC amended the performance scheme regulation which was voted positively by the SSC during its 43rd meeting. The intent is for the IR to be adopted by the end of 2011. EASA has, with support of the E3 group, developed Acceptable Means of Compliance and Guidance Material for the implementation and the measurement of, amongst others, the just culture indicator. NPA-2011-18 is open for consultation from 25/10/2011-18/11/2011.	Completed (objective achieved)	E2	Marieke Van Hijum	On-schedule	None	NPA-2011-18 and associated documents
Development of SPIs with associated data stream													
SYS3.4	Monitor performance at national level.	Publish SPIs in use at national level.	MS	~~2011~~ 2012	SP	SPIs published	SPIs exist in 11 out 15 Member States (in Safety Plans, SSPs, annual reports or national websites). Many have already published them (France, UK, Latvia, Estonia, Iceland, Poland, Ireland and Sweeden) and others (Belgium, Finland, the Netherlands or Switzerland) will publish them soon (in many cases coinciding with the publication of their SSPs) Published SPIs belong in different Tiers. Usually all States publish Tier 1 and some publish Tier 2 SPIs. There are expectations for SPIs to be published at European level (currently only in the ATM domain)	Started	MS	Rodrigo Priego	Less than one year late	15 reports received from MS. Action will be extended.	

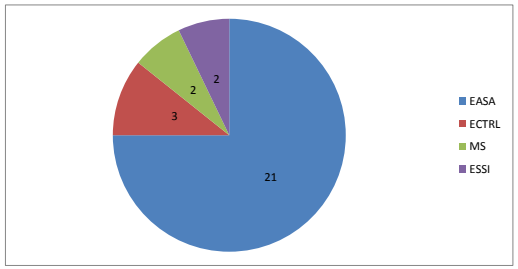
SYSTEMIC ISSUES

Systemic Issues							Implementation						
No.	Issue	Actions	Owner	Dates	Type	Deliverable (Measure)	Update	Status	Lead	POC	According to PLAN?	Reasons for deviation	Deliverable(s)
SYS3.5	Lack of a methodology to define SPIs.	Develop a comprehensive methodology.	EASA and MS through SMICG	2012	SP	Safety Performance Measurement Approach - Phase I	In phase I of the Safety Performance Measuring Approach (SPMA) project, the SMICG measurements working group will define a model for the measurement of safety performance taking a systems perspective for deriving safety performance indicators and focusing on the aviation system's ability to effectively manage safety risks. This will be based on the three-tier model of aviation system behaviours to address outcomes, service providers' behaviours and regulators' behaviours. Phase I is expected to be concluded in 2012/Q2. In phase II of the SPMA project, the ICG measurements working group will develop guidance material on the application of the SPMA in the different areas, where such guidance will not include explicit risk acceptance criteria. The group will also provide a glossary of common terms and definitions. Phase II is expected to be concluded 2013/Q2.	Started	R6	Regine Hamelijnck	On-schedule	None	
SYS3.6	Continuous monitoring of ATM safety performance.	Develop and populate safety indicators to measure performance on ATM and disseminate general-public information of the ANSPs performance through routine publication of achieved safety levels and trends.	EASA ECTRL MS ANSPs SRC/SRU	2014	SP (ESP+)	Publication of SPIs and safety levels/trends	On-going process of the Annual Summary Template (AST) reporting mechanism provides the main inputs to the deliverables. The public avaialble material is found in the SRC Annual Safety Report and Performance Review report. In addition, in 2011 the first ATM Chapter for the EASA ASR was developed with, and submitted to, EASA Safety Analysis as per the agreed work programme.	Advanced	ECTRL	Juan Vazquez Tony Licu (ESP+)	On-schedule	None	EASA Annual Safety Review
SYS3.7	ATM performance measurement scheme more advanced than in other domains of aviation.	Develop a roadmap containing the necessary steps for all the domains to have a common approach for performance measurement in 2015. The roadmap will be included in the EASP.	EASA, MS, EC & ECTL	2011	SP	Roadmap	The European Commission has published a Communication to the European Parliament and Council (Setting up an Aviation Safety Management System for Europe). According to this Communication, the Commission will consult stakeholders and conduct an impact assessment before bringing forward proposals for performence schemes for other aviation safety domains. The text of this action will be aligned with the Communication published by the EC.	Not started	EC	Valerie Gray	More than one year late	Action delayed according to Communication by the EC. EC to consult with stakeholders on the issue.	EC Communication
4. Complexity of the system													
SYS4.1	Apportionment of safety budgets across aviation segments.	Develop a methodology based on EUROCAE ED-78A (as part of AMC for ATM systems).	EASA	2014	R, SP	Methodology	Preliminary work started by EUROCAE WG-91	Started	E6	Yves Morier	On-schedule	None	
SYS4.2	Management of crisis situations.	Continue supporting the European Aviation Crisis Coordination Cell (EACCC) to ensure timely response to any future pan-European crisis severely affecting aviation.	EC, ECTRL, EASA & MS	Cont.	SP	Participation & report of activity	EACCC is established and meets regularly. The cell deals with any impact on the aviation network. Four teleconferences have been held so far to exchange the latest information with the VAACs, ANSPs and aircraft operators. Two more meetings are planned this year.	Completed (objective achieved)	E2	John Vincent	On-schedule	None	
SYS4.3	Total System Approach to rulemaking.	Deliver a harmonized set of clear and concise rules covering all links in the safety chain, together with proper oversight mechanisms using a total system approach.	EASA	Cont.	R, O	Opinion/ Decision Oversight policies and procedures.	EASA's rulemaking approach and proposals follow a total system approach. Several tasks to harmonise requiremens across domains and avoid gaps/overlap are included in the rulemaking programme (e.g. MDM.055 and .060).	Completed (objective achieved)	E6	Eric Sivel	On-schedule	None	
SYS4.4	Fragmentation of European skies.	Assess impact of SESAR in current rulemaking activities.	EASA, EC & ECTRL	2012-2015	R	RP Update	The workload for 2013-2015 needs still to be reviewed to take into account the tasks coming from the development of SES, SESAR and EASP (from draft RMP)	Not started	R	Eric Sivel	On-schedule	None	

SUMMARY







OPERATIONAL ISSUES

Operational Issues							Implementation						
No.	Issue	Actions	Owner	Dates	Type	Deliverable (Measure)	Update	Status	Lead	POC	According to PLAN?	Reasons for deviation	Deliverable(s)
Commercial Air Transport by Aeroplanes													
1. Runway Excurions (RE)													
AER1.1	Produce a European action plan by combining Authorities' and industry efforts.	Develop and publish the EAPPRE.	ECTRL, ECAST	2012	SP	EAPPRE, 1st edition	The task in led by Eurocontrol with the support from ECAST. Publication is expected in 2012 as planned.	Advanced	ECAST	Yvonne Page	On-schedule	None	
AER1.2	Coordinate ICAO efforts with European initiatives.	Liaise with ICAO on Runway Excursion, in particular regarding safety promotion aspects. Promote European achievements to ICAO and the outcomes of this ICAO initiative in Europe.	EASA	2011	SP	Contribution to the ICAO Global Runway Safety Symposium 2011	Participated on ICAO Global Runway Safety Symposium held on 24-26 May 2011 in Montreal. European proposals and commitments were jointly developed by the EC, MS of EU and ECAC, EASA and ECTRL.. They are available in the website. Follow-up actions are captured in the next version of the EASp.	Completed (objective achieved)	E2	Rodrigo Priego	On-schedule	None	Available on the GRSS2011 website
AER1.3	Requirements for RE need to be transposed in certain areas.	Development of European requirements for aerodrome operators organisations, aerodrome operations and aerodrome design.	EASA & EC	2012	R (ADR.001, ADR.002 & ADR.003) (RMT.0139, RMT.0140 & RMT.0144)	Opinion/ Decision	NPA 2011-20 was pubished on 13 December. The NPA contains draft rules for the certification, management, operation and design of aerodromes. These proposals are closely based on ICAO requirements which are already in place and to which EASA MS adhere. Opinions on the IRs will be issued eleven (11) months thereafter estimated in 2012/Q4. Decisions on the associated AMC's and GM will be issued after the adoption of the IRs at the latest by 2013/Q4 (December 2013). They will propose mitigation measures to the risk factors contributing to the RE.	Advanced	R5.2	Gernot Kessler	On-schedule	None	NPA 2011-20
AER1.4	Requirements for RE need to be transposed in certain areas.	Development of European requirements for ATM/ANS provision	EASA & EC	2013	R (ATM.001)	Opinion/ Decision	Opinion 05/2011 on SERA (Part B) has been published in 2011. The NPAs on the related IRs are forseen by Q2/2012 and beyond.	Advanced	R5.1	Maria Algar Ruiz	On-schedule	None	Opinion 05/2011
AER1.5	Include RE in national SSPs.	Runway excursions should be addressed by the MS on their SSPs in close cooperation with the aircraft operators, air traffic control, airport operators and pilot representatives. This will include as a minimum agreeing a set of actions and measuring their effectiveness.	MS	2012	SP	SSP publication	RE are included in 9 out of 15 Member State's risk portfolios. Published SSPs and Plans address the issue in Belgium, France, Ireland and UK. In cases where SSPs have not been published yet, the issue is being addressed through industry SMS and CAA oversight systems (Estonia, Iceland). In Switzerland, LRST address mitigating actions at airports. In Sweeden a seminar is planned for 2012. Detailed issues being tackled at MS level are: bird strikes (turbine birds), non-stabilised approaches or meteorological conditions during approach. IATA RERRT is being promoted.	Started	MS	Rodrigo Priego	Unknown	15 reports received from MS.	
AER1.6	Share national actions and measures.	Share actions and measures in use at national level to address the safety issue and participate in a dedicated workshop.	EASA, MS	2011	SP	Survey, Report & Workshop	A survey has been launched to nominated focal points. 9 responses have been received so far. Action will be extended into next year's plan.	Started	MS	Rodrigo Priego	Less than one year late	9 responsed received from MS. Action will be extended.	
2. Mid-air Collisions (MAC)													
AER2.1	Airspace infringement risk.	MS should implement actions of the European Action Plan for Airspace Infringement Risk Reduction.	MS	Per Plan	SP	SSP Publication	The EAPAIRR has been assessed and is being implemented in 10 out 15 States (e.g Belgium, Finland, France, the Netherlands, Latvia, Switzerland, UK, Sweeden, Ireland and Poland) . Many SSPs are still under construction. Some States have organised symposiums, seminars and specific awareness campaigns on this issue (e.g. Sweeden and France). The implementation requires close cooperation between States and ANSPs. The level of awareness of States on this issue is HIGH. Action will be also included in next year's Safety Plan.	Started	MS	Rodrigo Priego	Unknown	15 reports received from MS. Action will be extended.	
AER2.2	Ground-based ATM Safety Nets.	Develop high level specifications completed by guidance material for System Safety Defences (Short Term Conflict Alert, Approach Path Monitoring and Area Proximity Warning).	ECTRL, EASA	2014	R	Guidance material	The high level specifications complemented by comprehensive guidance material are completed. The SPIN (Safety nets Performance Improvement Network) Sub-Group that developed the documentation now meets twice per year to maintain and where necessary complement the documentation. An action paper for ICAO ANC/12 is in preparation to propose promulgation of relevant parts of the available documentation into an ICAO Manual for Safety Nets.	Advanced	ECTRL	Tony Licu	On-schedule	None	Guidance material

OPERATIONAL ISSUES

Operational Issues							Implementation						
No.	Issue	Actions	Owner	Dates	Type	Deliverable (Measure)	Update	Status	Lead	POC	According to PLAN?	Reasons for deviation	Deliverable(s)
AER2.3	Ground-based ATM Safety Nets.	Create an awareness campaign to promote and support, where appropriate, Europe-wide deployment of ground-based safety nets.	ECTRL	2014	SP	Leaflets, training modules.	The following general awareness creation resources are available: • A dedicated safety nets web site: http://www.eurocontrol.int/safety-nets • The NETALERT newsletter that is published three times per year: http://www.eurocontrol.int/safety-nets/public/standard_page/NetAlert.html • The SPIN (Safety nets Performance Improvement Network) Sub-Group that meets twice per year The following dedicated awareness creation resources are made available on request: • Safety nets seminars tailored to the needs of specific ANSPs (so far eight seminars were conducted, and a recent survey indicated a demand for eight additional seminars • Independent safety nets performance assessments and optimisation assistance (so far provided to seven ANSPs, and a recent survey indicated interest from 12 additional ANSPs) • An application, PolyGen (Polygon Generator), which allows MSAW surfaces to be defined more accurately and with less effort using digital terrain data as an input	Advanced	ECTRL	Tony Licu (ESP+)	On-schedule	None	NetAlert Newsletters
AER2.4	Airborne ATM Safety Nets.	Prepare studies to further evolve airborne safety nets. These studies will collect information on the current performance of safety nets and forecast their performance for possible future operational environment, as well as assessing the performance implications of envisaged changes to the safety nets.	ECTRL	2014	SP	Study report published.	The work in this area is done in close coordination with the related SESAR projects. A priority area of study is the compatibility of safety nets with each other and with other conflict management layers. The results of the related and recently completed PASS project are available. A specific topic in compatibility of safety nets is ACAS RA display to controllers. With the increasing use of Mode S surveillance the number of early adopters is also increasing (six identified so far). A specific drafting group was created to achieve two objectives: • Create awareness of open issues amongst early adopters • Develop and validate a harmonised concept of operations The early adopters are also offered dedicated support (so far provided to two ANSPs). Furthermore a dedicated tool, InCAS (Interactive Collision Avoidance Simulator), is available and maintained. Recently support for TCAS version 7.1 has been implemented). Finally work is ongoing to bring compatibility issues to the attention of relevant standardisation bodies.	Advanced	ECTRL	Ben Bakker Tony Licu	On-schedule	None	PASS project
AER2.5	European ATM requirements.	Requirements on ATM/ANS provision	EASA & EC	2013	R (ATM.001) (RMT.0148 and RMT.0150)	Opinion/ Decision	Commission Implementing Regulation No 1035/2011 was published on 17 October 2011. Opinion on SERA (Part B) has been published in 2011/Q4 The second phase of the rulemaking task will bring further enhancements in this area.	Advanced	R5.1	Maria Algar Ruiz	On-schedule	None	Commission Implementing Regulation No 1035/ 2011
AER2.6	European ATM requirements.	Requirements on Competent Authorities in ATM/ANS.	EASA & EC	~~2012~~ 2013	R (ATM.004) (RMT.0156)	Opinion/ Decision	Commission Implementing Regulation No 1034/2011 was published on 17 October 2011, transposing existing EU requirements. The second phase of the rulemaking taks will bring further enhancements in this area. It is exptected to finish in 2013.	Advanced	R5.1	Anastasiya Terzieva	Less than one year late	ATM.004 delayed	Commission Implementing Regulation No 1034/ 2011
AER2.7	European ATM requirements.	Requirements for systems and constituents.	EASA & EC	~~2011-2013~~ 2012-2015	R (ATM.005) (RMT.0161)	Opinion/ Decision	ATM.005 not yet launched.	Not started	R5	Jussi Myllarniemi	More than one year late	ATM.005 delayed	
AER2.8	Include MAC in national SSPs.	Mid-air collisions shall be addressed by the MS on their SSPs. This will include as a minimum agreeing a set of actions and measuring their effectiveness.	MS	2012	SP	SSP Publication	MAC is included in 12 out of 15 Member State's risk portfolios (in some cases as secondary priority). Mitigating actions are defined and monitored in France, Switzerland, the Netherlands UK, Sweeden, Ireland and Poland. Belgium, Finland and Luxemburg are about to include the issue in their SSPs. In Estonia and Iceland efforts to address the issue rely on industry SMS in cooperation with CAA's oversight.	Started	MS	Rodrigo Priego	Unknown	15 reports received from MS.	
AER2.9	Share national actions and measures.	Share actions and measures in use at national level to address the safety issue and participate in a dedicated workshop.	EASA, MS	2011	SP	Survey, Report & Workshop	A survey has been launched to nominated focal points. 9 responses have been received so far. Action will be extended into next year's plan.	Started	MS	Rodrigo Priego	Less than one year late	9 responsed received from MS. Action will be extended.	

OPERATIONAL ISSUES

Operational Issues							Implementation						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**	**Update**	**Status**	**Lead**	**POC**	**According to PLAN?**	**Reasons for deviation**	**Deliverable(s)**
3. Controlled Flight Into Terrain (CFIT)													
AER3.1	Electronic Checklists, smart alerting and automatic altitude call-outs.	Amend CS-25 to introduce requirements aiming at reducing approach and landing accidents by: - Implementing interactive electronic checklist and smart alerting systems in new type-certificated airplanes. - Incorporating human factors principles into checklist design for new type-certificated airplanes. - Developing requirements for automatic aural altitude call-outs on final approach	EASA	~~2012-2014~~ 2013-2015	R ~~(25.026)~~ (20.010) (RMT.0004)	Decision	Rulemaking task 25.026 has been merged with task 20.010 that is planned to start during 2013/Q1. The ending date is planned 2015/Q2.	Not started	R	Filippo Tomasello	Less than one year late	Start postponed (accepted by AGNA/SSCC)	
AER3.2	Aircraft Design.	Amend CS-25 to introduce requirement aiming at reducing approach and landing accidents by: - Identifying flight-critical system components as the basis for design guidance, continuing airworthiness, and maintenance. - Issuing design guidance to ensure flight-critical system components are fault tolerant and are subjected to critical-point, flight-realistic-condition, certification testing/analysis.	EASA	2012-~~2014~~ 2015	R (25.027) (RMT.0047)	Decision	Rulemaking task 25.027 is due to start during the first quarter of 2012 and to finish during the first quarter 2015. This task is linked to task 25.029 that has started.	Not started	R	Jean-Bruno Marciacq	Less than one year late	Postponed (accepted by AGNA/SSCC)	
AER3.3	Fatigue.	Updating of Flight and Duty Time Limitations and rest requirements for commercial air transport with aeroplanes taking into account recent scientific and technical evidence.	EASA	2011	R	Opinion	NPA 2010-14 was published in December 2010 and lots of comments have been received. Task is ongoing and an Opinion is expected by June 2012.	Advanced	R3	Jean-Marc Cluzeau	Less than one year late	Delay is due to the amount of comments received	NPA 2010-14
AER3.4	Include CFIT in national SSPs.	Controlled flight into terrain shall be addressed by the MS on their SSPs. This will include as a minimum agreeing a set of actions and measuring their effectiveness.	MS	2012	SP	SSP Publication	CFIT is being addressed in 12 out of 15 Member States in various ways. Switzerland, UK, France, Ireland and Sweeden are actively managing the risk by addressing the issue at national level through Safety or Business Plans, SSPs or Risk Portfolios. Belgium, Luxenburg, Poland and Finland will introduce the issue in their SSPs (currently under development). In cases where an SSP has not been published this is addressed through industry SMS, national oversight activities and dedicated safety promotion (e.g. Estonia, the Netherlands and Iceland).	Started	MS	Rodrigo Priego	Unknown	15 reports received from MS.	
AER3.5	Share national actions and measures.	Share actions and measures in use at national level to address the safety issue and participate in a dedicated workshop	EASA & MS	2011	SP	Survey, Report & Workshop	A survey has been launched to nominated focal points. 9 responses have been received so far. Action will be extended into next year's plan.	Started	MS	Rodrigo Priego	Less than one year late	9 responsed received from MS. Action will be extended.	
4. Loss of Control In Flight (LOC-I)													
AER4.1	Protection From Debris Impacts and Fire.	Develop a new paragraph of CS-25, which would cover the protection of the whole aircraft against the threat of tire/wheel failure. Identified as a common priority for JAA-FAA-TCCA joint rulemaking	EASA	2013	R (25.028) RMT.0048	Decision	Task 25.028 has started, the NPA is expected to be published in 2012/Q2.	Started	R4	Xavier Vergez	On-schedule	None	
AER4.2	Protection of aircraft and engines in icing conditions.	Upgrade the existing CS-25 and CSE certification specifications to ensure that Large Aeroplanes and engines safely operate in icing conditions including Super cooled Large Drop (freezing drizzle, freezing rain), mixed phase and ice crystal.	EASA	2012	R (25.058) RMT.0058 RMT.0179	Decision	Task 25.058 has started, NPA 2011-03 was published on 22 March and was open to comment until 05 August. A companion NPA 2011-04 was published for CS-E on the same date with the same period for comment. The task is due to finish during the 2012/Q1. Harmonisation with the FAA demands the publication of a second NPA for CS-25 in parallel with the final rule from the FAA. This final rule is expected in 2012/Q2. The FAA is leading these rulemaking activities, hence progress is dependent on FAAs rulemaking constraints.	Advanced	R4	Xavier Vergez	On-schedule	None	NPA 2011-03 NPA 2011-04
AER4.3	Aircraft malfunction	Improvement of flight crew alerting systems and electronic displays to reflect advances in technology	EASA	2011	R (25.037)	Decision	Task 25.037 was finished by the publication of Amendment 11 of CS-25 on 27th of June 2011.	Completed (objective achieved)	R4	Boudewijn Deuss	On-schedule	None	Decision n2011/004/r
AER4.4	Fuel System Low Level Indication / Fuel Exhaustion Associated crew procedures.	Amend CS-25 by introducing new provisions and associated AMC addressing safety recommendations in order to better protect Large Aeroplanes against fuel exhaustion/fuel low level scenarios	EASA	2012	R (25.055)	Decision	Rulemaking task 25.055 is on track. The draft NPA has been circulated for EASA consultation. The end date is planned for the second quarter of 2012.	Advanced	R4	Boudewijn Deuss	On-schedule	None	

OPERATIONAL ISSUES

Operational Issues							Implementation						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**	**Update**	**Status**	**Lead**	**POC**	**According to PLAN?**	**Reasons for deviation**	**Deliverable(s)**
AER4.5	Water/ice in fuel.	Launch a study to assess the full understanding of vapour water behaviour in fuel under cold temperature conditions.	EASA	2011	SP (Research Project WAFCOLT)	Study Report	Study was kicked off on January 2011. The project addresses a survey on existing data (incl. manufacturer data) and laboratory testing for the formation and characterisation of ice crystals in aviation jet fuel. Testing has been performed (physical properties, behaviour) using a series of samples of different origins and specifications (EU - Russia – China – high aromatics – synthetic fuel). Final report available on Agency website.	Completed (objective achieved)	E2.3	Emmanuel Isambert	On-schedule	None	Research project reports
AER4.6	Include LOC-I in national SSPs.	Loss of control in flight shall be addressed by the MS on their SSPs. This will include as a minimum agreeing a set of actions and measuring their effectiveness.	MS	2012	SP	SSP Publication	LOC-I is being addressed in 12 out of 15 Member States in various ways. Switzerland, UK, France, Ireland and Sweeden are actively managing the risk by addressing the issue at national level through Safety or Business Plans, SSPs or Risk Portfolios. Belgium, Luxenburg, Poland and Finland will introduce the issue in their SSPs (currently under development). In cases where an SSP has not been published this is addressed through industry SMS, national oversight activities and dedicated safety promotion (e.g. Estonia, the Netherlands and Iceland).	Started	MS	Rodrigo Priego	Unknown	15 reports received from MS.	
AER4.7	Share national actions and measures.	Share actions and measures in use at national level to address the safety issue and participate in a dedicated workshop	EASA & MS	2011	SP	Survey, Report & Workshop	A survey has been launched to nominated focal points. 9 responses have been received so far. Action will be extended into next year's plan.	Started	MS	Rodrigo Priego	Less than one year late	9 responsed received from MS. Action will be extended.	
5. Ground Collision													
Runway Incursions													
AER5.1	Runway safety.	MS should audit their aerodromes to ensure that a local runway safety team is in place and is effective. Member States will report on the progress and effectiveness.	MS	2012	O	Audit plan included in SSPs. Progress Report.	Runway safety teams are required and in place in the certified airports of the 15 Member States that provided a response. Their effectiveness is being monitored as part of the safety oversight scheme of the CAA. Good practices: Oversight audits to require the LRSTs implementation of EAPRRI 2, require (some) non-certified aerodromes to set up a LRST	Started	MS	Rodrigo Priego	Unknown	15 reports received from MS.	
AER5.2	Runway incursions.	MS should implement actions suggested by the European Action Plan for the Prevention of Runway Incursions.	MS	Per Plan	SP	SSP Publication	EAPPRI implementation initiated and monitored in the 15 Member States that provided a response (in many cases by LRSTs). Relevant actions already appear in some Safety Plans (e.g. France or UK). Sweeden is planning a dedicated seminar next year. Version 2 of EAPPRI has been published in 2011. This action will be extended in order to ask MS to review this new version.	Started	MS	Rodrigo Priego	Less than one year late	15 reports received from MS. Action will be extended.	
AER5.3	Runway incursions.	Development of Implementing Rules based on transferred tasks from the JAA and the EUROCONTROL EAPPRI report.	EASA	2011-~~2014~~ 2011-2015	R (MDM.085) (RMT.0416 and RMT.0417)	Opinion/ Decision	Task MDM.085 is transferred to task OPS.009(a) and (b). The tasks have started and are scheduled to finish in 2015. Task renumbered as RMT.0416, 0417. ToR published on 12/09/2011 and the Rulemaking Group has been established.	Started	R	Jean-Marc Cluzeau	Less than one year late	Changes to the RMP Based on RMP 2012-2015	
AER5.4	Include RI in national SSPs.	Runway incursions should be addressed by the MS on their SSPs. This will include as a minimum agreeing a set of actions and measuring their effectiveness.	MS	2012	SP	SSP Publication	RI is being addressed in 12 out of 15 Member States in various ways. Switzerland, UK, France, Ireland and Sweeden are actively managing the risk by addressing the issue at national level through Safety or Business Plans, SSPs or Risk Portfolios. Belgium, Luxenburg, Poland and Finland will introduce the issue in their SSPs (currently under development). In cases where an SSP has not been published this is addressed through industry SMS, national oversight activities and dedicated safety promotion (e.g. Estonia, the Netherlands and Iceland)	Started	MS	Rodrigo Priego	Unknown	15 reports received from MS.	
AER5.5	Share national actions and measures.	Share actions and measures in use at national level to address the safety issue and participate in a dedicated workshop.	EASA & MS	2011	SP	Survey, Report & Workshop	A survey has been launched to nominated focal points. 9 responses have been received so far. Action will be extended into next year's plan.	Started	MS	Rodrigo Priego	Less than one year late	9 responsed received from MS. Action will be extended.	

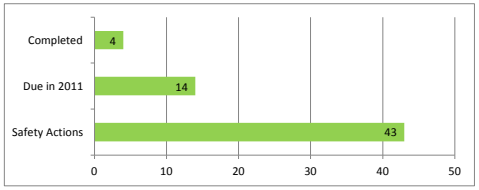
OPERATIONAL ISSUES

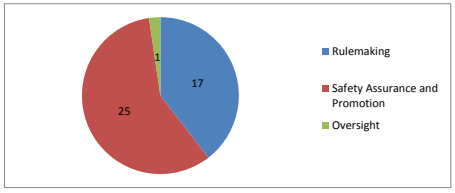
Operational Issues							Implementation						
No.	Issue	Actions	Owner	Dates	Type	Deliverable (Measure)	Update	Status	Lead	POC	According to PLAN?	Reasons for deviation	Deliverable(s)
Safety of Ground Operations													
AER5.6	Transposition of requirements into EU regulation in the domain of Aerodromes.	Requirements for aerodrome operator organisations and oversight authorities.	EASA & EC	2012	R (ADR.001) (RMT.0136)	Opinion/ Decision	NPA 2011-20 was pubished on 13 December. The NPA contains draft rules for the certification, management, operation and design of aerodromes. These proposals are closely based on ICAO requirements which are already in place and to which EASA MS adhere. Opinion will be available in 2012/Q4.	Started	R5.2	Gernot Kessler	On-schedule	None	NPA 2011-20
AER5.7	Transposition of requirements into EU regulation in the domain of Aerodromes.	Requirements for aerodrome operations.	EASA & EC	2012	R (ADR.002) (RMT.0140)	Opinion/ Decision	NPA 2011-20 was pubished on 13 December. The NPA contains draft rules for the certification, management, operation and design of aerodromes. These proposals are closely based on ICAO requirements which are already in place and to which EASA MS adhere. Opinion will be available in 2012/Q4.	Started	R5	Gernot Kessler	On-schedule	None	NPA 2011-20
AER5.8	Transposition of requirements into EU regulation in the domain of Aerodromes.	Requirements for aerodrome design.	EASA & EC	2012	R (ADR.003) (RMT.0144)	Opinion/ Decision	NPA 2011-20 was pubished on 13 December. The NPA contains draft rules for the certification, management, operation and design of aerodromes. These proposals are closely based on ICAO requirements which are already in place and to which EASA MS adhere. Opinion will be available in 2012/Q4.	Started	R5	Gernot Kessler	On-schedule	None	NPA 2011-20
AER5.9	Include Ground Operations in national SSPs.	Risks to ground operations should be addressed by the MS on their SSPs. This will include as a minimum agreeing a set of actions and measuring their effectiveness.	MS	2012	SP	SSP Publication	Safety of ground operations is being addressed in 12 out of 15 Member States in various ways. Switzerland, UK, France, Belgiun, Ireland and Sweeden are actively managing the risk by addressing the issue at national level through Safety or Business Plans, SSPs or Risk Portfolios. Luxemburg, Finland and Poland have dedicated actions in place (through aerodrome boards and dedicated teams) and will introduce the issue in their SSPs (currently under development). In cases where an SSP has not been published this is addressed through industry SMS, national oversight activities and dedicated safety promotion (e.g. Estonia, the Netherlands and Iceland)	Started	MS	Rodrigo Priego	Unknown	15 reports received from MS.	
AER5.10	Share national actions and measures.	Share actions and measures in use at national level to address the safety issue and participate in a dedicated workshop.	EASA & MS	2011	SP	Survey, Report & Workshop	A survey has been launched to nominated focal points. 9 responses have been received so far. Action will be extended into next year's plan.	Started	MS	Rodrigo Priego	Less than one year late	9 responsed received from MS. Action will be extended.	
Other types of operation													
1. Helicopters													
HE1.1	Improve Helicopter Safety in Europe through risk awareness and safety promotion.	In cooperation with the IHST, improve Helicopter safety level through risk awareness and development of safety promotion and training material.	EHEST	2012 cont.	SP	Leaflets and training material	The EHEST is working in close cooperation with the IHST on the production of risk awareness, safety promotion and training material. The following products were published on the EHEST website: video on the Loss of Control in Degraded Visual Environment, a training leaflet with safety considerations for helicopter pilots and a Maintenance toolkit. Other deliverables will be released end of 2011 or early 2012: leaflets on Helicopter Airmanship, Risk Assessment in Training, Off Airfields Landing Site Guide Rotor RPM Management and Autorotation and Planning and Decision Making, and videos on Helicopter Passengers Management and Helicopter Mission Preparation Including Off Airfield Landing.	Advanced	EHEST	Michel Masson Clement Audard	On-schedule	None	EHEST website
HE1.2	Improve Helicopter Safety through communication.	Develop a communication network focusing on the small helicopter operators and General Aviation, but also reaching out to pan-European organisations and linking to international forums.	EHEST	2011	SP	Report on the communication network	An EHEST Communication team has been set up and uses a variety of communication means: websites of EHEST, newEHA, EHOC and the like. EHEST work has been presented at a number of events addressing the helicopter community, with focus on small operators and general aviation. An updated Communication strategy is being developed which will see the expanded use of the manufacturers communication chains (via their Technical Networks) to add other OEMs. Articles have been published in helicopter journals such as 4Rotors. EHEST also looks to explore new ways to reach out to the smaller operators in a pro-active manner and to spread the information in a user-friendly way. Coordination regarding communication to general aviation has been established with the European General Aviation Safety Team (EGAST).	Completed (objective achieved)	EHEST	Michel Masson Clement Audard	On-schedule	None	EHEST website

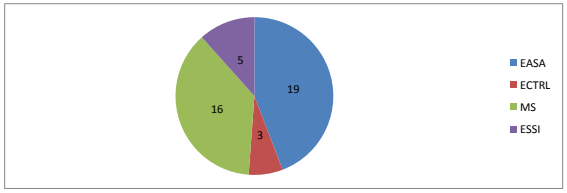
OPERATIONAL ISSUES

Operational Issues							Implementation						
No.	Issue	Actions	Owner	Dates	Type	Deliverable (Measure)	Update	Status	Lead	POC	According to PLAN?	Reasons for deviation	Deliverable(s)
HE1.3	Further implement EHEST recommendations.	MS should address the recommendations proposed by the EHEST as part of their SSPs and monitor their effectiveness.	MS and Industry	2012	SP	SSP Publication	EHEST has published the following recommendation in 2011: EHEST recommends the NAAs in partnership with industry representatives, to organise Helicopter Safety events annually or every two years. The EHEST materials could be freely used and promoted. Some MS (e.g. Finland, France) have already started to do it. Good practice: when needed, the documentation produced by EHEST could be translated and forwarded to industry. The action will be re-written to focus on the above recommendation by EHEST.	Started	MS	Rodrigo Priego	Unknown	15 reports received from MS.	
2. General Aviation													
GA1.1	Improve quality of General Aviation safety data	Improve the collection and analysis in Europe of General Aviation fleet usage and safety data for a better evaluation of safety risks.	EGAST	2013 cont.	SP	Report on GA usage and safety data in Europe.	A letter and a form are in preparation to be sent to individual entities. The list of entities is being finalised. The form will ask for the number of airplanes by type and number of movements.	Started	EGAST	Vasco Morao	On-schedule	None	
GA1.2	Improve General Aviation Safety in Europe through risk awareness and safety promotion.	Improve General Aviation Safety level through risk awareness, sharing of good practices and safety promotion among stakeholders in Europe.	EGAST	2012 cont.	SP	Leaflets and training material.	The EGAST Core-Team is working on the development and sharing of good practices and safety promotion among stakeholders in Europe.	Advanced	EGAST	Clement Audard	On-schedule	None	EGAST website
GA1.3	See and avoid for General Aviation.	Perform reviews of on-going local/national initiatives looking at improvements to see and avoid for GA with the aim to identify best-practices and promote standardisation.	EASA	2011	SP Research	Study report published.	An assessment of the research action was made by the Internal research Committee (IRC). The Agency Research plan for 2011-2013 includes the proposed study with proposed funding for 2011. A call for tender for the study has been distributed. The contract has been signed on November 2011 and the project will last 9 months. Action finalisation will be extended to 2012.	Started	E2.3	Emmanuel Isambert	Less than one year late	Due to time required for procurement, the final publications of the report is not expected for 2011.	

SUMMARY







EMERGING ISSUES

Emerging Issues							Implementation						
No.	Issue	Actions	Owner	Dates	Type	Deliverable (Measure)	Update	Status	Lead	POC	According to PLAN?	Reasons for deviation	Deliverable(s)
1. New products, systems, technologies and operations													
EME1.1	Methodology to assess future risks.	Adapt or create a robust method to assess future risks based on expert judgement, project studies, questionnaires and scenarios.	EASA	Sept. 2012	SP	Methodology	Draft ToR have been developed and a project plan has been agreed between EASA and FAST. Work has started, is on schedule, and is being monitored regularly. More than 700 methods have been reviewed in Phase 1 of the project started in 2011. This Method Review phase is followed by a Method Development phase started in 2011 and expanding in 2012.	Advanced	E2/E6	Michel Masson Yves Morier	On-schedule	None	
EME1.2	Common possible picture of the future.	Adapt or create a methodology to develop a common possible picture of the future. Such methodology should envisage cooperation with other bodies such as EUROCONTROL, SAE or ACARE.	EASA with ECTRL, SAE & ACARE	~~Early~~ 2012	SP	Methodology	A concept paper to clarify the scope is under development and expected to be finalised in February 2012. The paper will be used to approach existing groups after and exploration of the activities they carry out. This concept paper will take into account: The paper presented to EASAC at its September meeting (a picture of future air transport 2025), the roadmap to a single European transport area-towards a competitive and resource efficient transport system, the flight path 2050, the common picture of the future developed by FAST as a by-product of their main task on EME 1.1, the work performed by the Cambridge students (Market research and analysis of the aviation industry and impact on EASA).	Started	E6	Yves Morier	On-schedule	None	
EME1.3	UAS further regulation.	Development of IR for the operations of UAS.	EASA	2012-2014	R (MDM.030) (RMT.0229)	Opinion/Decision	Task MDM.030 is now due to start during the first quarter 2013 and to end 2nd quarter 2016. EASA Rulemaking is actively involved in the pre-rulemaking strategy phase. A concept paper will be available by the end of 2012. The main development of UAS is outside EASA scope either because they are below 150kg or because they will be used for custom, police and search and rescue. The activity is synchronised with the activities of other key players in this area, in particular ICAO.	Started (pre-rulemaking phase)	R	Jean-Marc Cluzeau	More than one year late	Rulemaking task postponed. Resources devoted to finalising other tasks (OPS and FCL). Task will be resumed once the resources are freed.	
EME1.4	Operations with VLJ.	Review of Implementing Rules in relation to the operation of Very Light Jets.	EASA	2012-2015	R (MDM.064) (RMT.0414 and RMT.0415)	Opinion/Decision	Rulemaking task MDM.064 has been replaced by task OPS.066 and renumberd as RMT.0414, 0415. The start date has been moved to 2014/Q3. A study to prepare for the task is planned to be carried out in 2013. Task will end during the 2017/Q2 (2018 for the AMC).	Not started	R	Jean-Marc Cluzeau	More than one year late	Rulemaking task postponed. Resources devoted to finalising other tasks (OPS and FCL). Task will be resumed once the resources are freed.	
EME1.5	Powered Lift (Tilt rotor) pilot licensing and operations.	Review of Implementing Rules for pilot licensing and operations in relation to the experience gained in	EASA	2012-2015	R MDM.070 RMT.0266	Opinion/Decision	Task MDM.070 starts during 2014/Q4 and should end during 2017/Q4 (2018 for the AMC). For the time being there is one application for validation using special conditions. The action is dependant on the certification progress and possible entry into service. A preparatory study is most likely to be undertaken in 2012. New timing is aligned with certification - no such aircraft are yet certified.	Not started	R	Jean-Marc Cluzeau	More than one year late	Rulemaking task postponed. New timing is aligned with certification - no such aircraft are yet certified. Resources devoted to finalising other tasks	
EME1.6	Suborbital planes regulation.	Regulate sub-orbital planes.	EASA	2011-2015	R MDM.098 RMT.0396	Opinion/Decision	Pre-RIA and ToR drafted, submittal to SSCC put on hold due to a new directive from the Commissioner's Cabinet to investigate a lighter process, similar to FAA-AST "Launch Licensing". Sub-orbital Working Group (SoWG) is subsequently currently drafting possible amendments to the BR to accommodate for this lighter approach, however 3 European stakeholders confirmed their demand for full certification (EADS, Booster, REL-Skylon). To meet their application times and allow them to design according to the rules, task MDM.098 should start during the third quarter of 2011 and should end in 2014.	Started	R	Eric Sivel	On-schedule	Start delayed due to new directive from the Commissioner's Cabinet to investigate a lighter process	
2. Environmental factors													
EME2.1	Effect of climate change on aviation.	Establish a network to increase awareness and provide dissemination, coordinate research and avoid duplication. Establish roadmaps and identify precursors (data bank).	EASA	2011	SP	Network ToR.	Atmospheric risks including climate change was the subject of one panel at the EU/US safety conference held in Vienna on June 14-16. The main conclusion was that there was no consensus yet on the impact of climate change on safety but highlighted that the development of new operations was raising concerns about the assumptions made at aircraft certification. Research was necessary to address these and in the mean time avoidance (despite its limitations) and training were the most effective mitigation means. The TOR for the network will take into consideration the outcomes of this dicussion and will be finalised in February 2012.	Started	E6	Yves Morier	Less than one year late	Workload on IORS and PRB	

EMERGING ISSUES

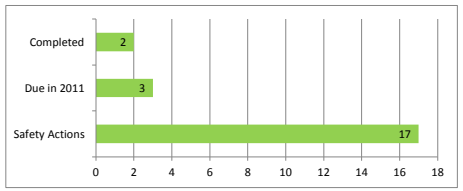
Emerging Issues							Implementation						
No.	Issue	Actions	Owner	Dates	Type	Deliverable (Measure)	Update	Status	Lead	POC	According to PLAN?	Reasons for deviation	Deliverable(s)
EME2.2	Effect of climate change on aviation.	Take regulatory action as appropriate to cover well identified issues like icing (in particular ice crystals). Develop rules as identified by the network.	EASA	Depending on outcome of network	R	Opinion/Decision	This action is dependant on the findings of the network.	Not started	E6	Yves Morier	On-schedule	None	
EME2.3	Effect of climate change on aviation.	Complement activities by development of Standards and special conditions.	EASA	Depending on outcome of network	R, O	Special Condition	This action is dependant on the findings of the network.	Not started	E6	Yves Morier	On-schedule	None	
3. Regulatory and oversight considerations													
EME3.1	Well balanced standardisation programme.	Establish a well balanced standardisation programme based on three pillars, regulatory compliance verification, pro-active standardisation and a regulatory feedback mechanism.	EASA	2014	O	Updated Policy/ Procedures	Regulatory compliance verification is performed in accordance with the Standardisation Inspection Annual Programme (SIAP) which takes into account not only pre-set time interval of routine inspection but also some risk based criteria (already applied for SIAP 2011 and more systematically for SIAP 2012). In scope of pro-active standardisation the topics for standardisation meeting are selected with the aim to address the issues which need in depth discussions, clarifications and agreement (e.g. 2011 agenda items). 50% of Team members are from inspectors seconded from NAAs. The 2010 Standardisation Annual Report introduced for the first time the regulatory feedback information based on the results of 2010 standardisation inspections. Feedback is also ensured on a regular basis through direct involvement of R officers in FCCs and standardisation meetings.	Started	S.1	Tomas Mickler	On-schedule	None	
EME3.2	One uniform standardisation process for all fields of aviation.	Develop and implement one uniform standardisation process for all fields of aviation as covered by the Basic Regulation and related Implementing Rules.	EASA	2014	O	Updated Policy/ Procedures	As of July 2010 the 736 methodology was uniformly applied in all current fields in the standardisation inspection scope; however certain transition flexibility measures for some new fields (OPS, FCL) had to be introduced. In 2011 further streamlined and harmonisation is in progress. In 2012 ATM/ANS field will be integrated and by 2014 aerodromes. With the advent of new IRs the std methodology will be fully harmonised across all fields.	Started	S.1	Tomas Mickler	On-schedule	None	
EME3.3	Implement CMA.	Develop and implement a Continuous Monitoring Approach involving a risk based targeting.	EASA	2014	O	Updated Policy/ Procedures	In 2011 an internal working group was established to identify and develop the necessary building blocks of a future CMA. A Confidence Model based on safety relevant indicators has been developed and is currently being tested/validated. A Country Status Report & Country Co-ordinators have been established to improve the reporting mechanism and prepare for the implementation of the new concept and to address findings raisedby the IAS.	Started	S.1	Tomas Mickler	On-schedule	None	
4. Next generation of aviation professionals													
EME4.1	The demand for aviation professionals may exceed supply and aviation personnel have to cope with new procedures and increasingly complex technologies.	Evaluate new training methods such as Competency Based Training (CBT), Evidence Based Training (EBT) and distance learning, and adapt as necessary training standards and rules to ensure that the level of safety can only be positively affected. Priority will be given to the training of pilots but also of certifying staff involved in aircraft maintenance.	EASA	2014	R	Opinion/Decision	For Flight Crew Licensing: Based on the agreed prioritisation of tasks it was decided to initiate task FCL.006 in 2014/Q2. The title of this task is: "Extension of competency-based training to all licences and ratings and extension of TEM principles to all licences and ratings". EASA opinion is planned to be published Q2 2017 and the AMC material Q2 2018. The task has been renumbered as RMT.0194, 0195 with no additional changes. Work will be started for maintenance training too.	Not started	R	Jean-Marc Cluzeau Eric Sivel	More than one year late	Other urgent tasks must be initiated earlier and ICAO is actually working on the development of further material on EBT which should be reviewed by EASA before starting the task.	
EME4.2	Standardise type training courses and adapt them to each type and variant, both for pilots and aircraft maintenance certifying staff.	Publish requirements for the holder of an aircraft type-certificate to provide the minimum content of the type-training for pilots and aircraft maintenance certifying staff as part of the Operational Suitability Data (OSD) as well as the results of an operational evaluation.	EASA	2011	R (21.039)	Opinion/Decision	Task 21.039: Elaboration and adoption in the Community framework, of additional airworthiness specifications for a given type of aircraft and type of operation. CRD 2009-01 was published during first quarter of 2011. Opinion 07/2011 has been published.	Completed (objective achieved)	R	Eric Sivel	On-schedule	None	Opinion 07/2011

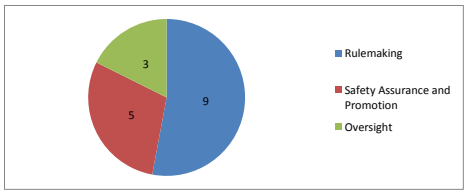
EMERGING ISSUES

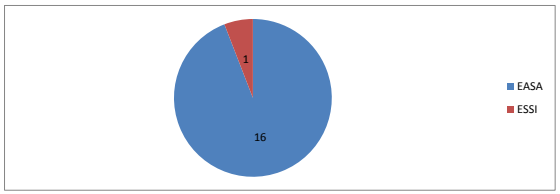
Emerging Issues						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
EME4.3	Modernise training and competence provisions in ATM and ANS.	Develop ~~high level~~ provisions for air navigation service providers to ensure that their personnel are suitable and qualified for the tasks and that procedures are established in respect of their training and continuing competence.	EASA	~~2014~~ 2012-2015	R	Opinion/Decision
EME4.4	Address the problem of increasing pilots' reliance on automation.	Develop an Automation Policy	EASA (IGPT)	2011	SP	EASA Policy
EME4.5	Reduce possible differences in training implementation among States.	Develop a Training Implementation Policy.	EASA (IGPT)	2012	SP	EASA Policy

Implementation						
Update	**Status**	**Lead**	**POC**	**According to PLAN?**	**Reasons for deviation**	**Deliverable(s)**
With the second phase ATM.001 Rulemaking task it will be proposed training and competence requirements for Air Traffic Safety Electronic Personnel (ATSEPs) amending the recently adopted Commission Implementing Regulation No 1035/2011 on Organisation Requirements for Air Navigation Service Providers. Creation of proper regulatory framework also for other safety critical personnel groups through new established Rulemaking tasks is envisaged. With the second phase ATM.003 Rulemaking task the ATCO competence scheme framework will be further developed and enhanced.	Started	R5.1	Jussi Myllarniemi Laszlo Kiss	Less than one year late	Dates readjusted to the Rulemaking planning	
EASA Automation Policy was presented at the EASA LoC Conference of 4-5 Oct and approved by the Agency on 18 Oct. Promotion of the approach and consultation on the proposal will be recorded as a new task in the Safety Plan 2012-2015.	Completed (objective achieved)	E2	Michel Masson	On-schedule	None	EASA Automation Policy
This task has not been started yet.	Not started	E2	Michel Masson	Less than one year late	Task should have been started already	

SUMMARY





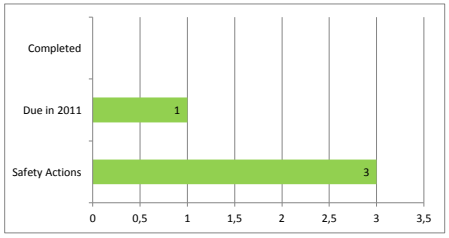


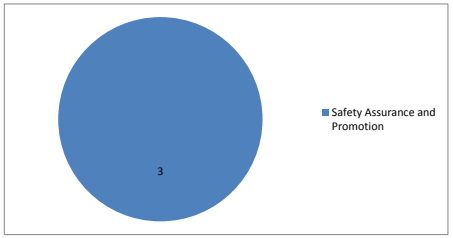
HUMAN FACTORS AND HUMAN PERFORMANCE

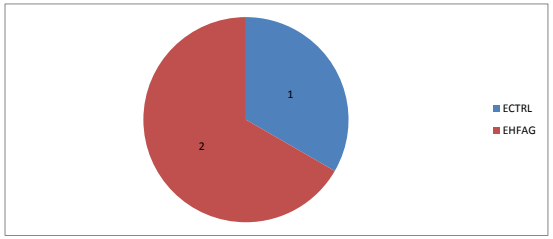
Human Factors and Performance						
No.	**Issue**	**Actions**	**Owner**	**Dates**	**Type**	**Deliverable (Measure)**
HFP1.1	Strategy for human factors.	To develop an EASA human factors strategy in conjunction with EHFAG to enable and endorse human factors and human performance across civil aviation activities including rulemaking, regulatory oversight and standardization.	EHFAG	2011	SP	Strategy
HFP1.2	Action plan development.	Develop an Agency action plan on human factors based on the strategy and evaluation of the results of the questionnaire of December 2009.	EHFAG	2012	SP	Action Plan
HFP1.3	Support ATM human performance .	Support to ANSP in the deployment of ATM human factors activities.	ECTRL, ANSPs	2011-2014	SP (ESP+)	Best Practices

Implementation						
Update	**Status**	**Lead**	**POC**	**According to PLAN?**	**Reasons for deviation**	**Deliverable(s)**
The draft strategy is in the final stages of development and it will be finalised by the EHFAG at the beginning of 2012.	Advanced	EHFAG	Simon Roberts	Less than one year late	Provide enough time for consultation before finalisation	
Action will be started once the strategy has been developed	Not started	EHFAG	Simon Roberts	On-schedule	None	
Safety Team has approved in June 2011 the SHP SG (Safety Human Performance Sub Group) work programme for the period 2011-2014. The work programme covers 10 strandsof work: 1. Weak Signals 2. Human Factors in safe ATM Design 3. HF intelligence for all safety actors and all layers of managemen 4. HP safety culture improvements 5. Safety HP Dissemination and Toolkits 6. Fatigue management, etc. 7. Human Factors in Investigation 8. Degraded Modes 9. Critical Incident Stress Management 10. Safety and Team Work Factors	Started	ECTRL	Tony Licu	On-schedule	None	SHP-SG Plan 2011-2014 & Deliverables

SUMMARY







Attachment B: Acronyms and Definitions

Acronyms

AER	Aeroplanes
ANSP	Air Navigation Service Provider
ATM	Air Traffic Management
CAST	Commercial Aviation Safety Team (US)
CBT	Competence Based Training
CFIT	Controlled Flight Into Terrain
CMA	Continuous Monitoring Approach
COPAC	Spanish Professional Pilot Association
CPL	Commercial Pilot License
EACCC	European Aviation Crisis Coordination Cell
EAPAIRR	European Action Plan for Airspace Infringement Risk Reduction
EAPPRE	European Action Plan for the Prevention of Runway Excursions
EAPPRI	European Action Plan for the Prevention of Runway Incursions
EASA	European Aviation Safety Agency
EASP	European Aviation Safety Programme
EBT	Evidence Based Training
EC	European Commission
ECAC	European Civil Aviation Conference
ECAST	European Commercial Aviation Safety Team
ECR	European Central Repository
EGAST	European General Aviation Safety Team
EHEST	European Helicopter Safety Team
EHFAG	European Human Factors Advisory Group
EME	Emerging
ESP+	European Safety Programme for ATM
ESSI	European Strategic Safety Initiative
EVS	Enhanced Vision System
FAA	Federal Aviation Administration
FCL	Flight Crew Licensing
GA	General Aviation
GRSS	Global Runway Safety Symposium
HE	Helicopters
HFP	Human Factors and Performance
HLSC	High Level Safety Conference
IASCC	International Air Safety and Climate Change Conference
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation
ICATEE	International Committee for Aviation Training in Extended Envelopes
IGPT	Internal Group on Personnel Training of EASA
IHST	International Helicopter Safety Team
IMC	Instrumental Meteorological Conditions
IR	Instrument Rating
JRC	Joint Research Centre
LAPL	Light Aircraft Pilot License
MAC	Mid-air Collision
MS	Member States
NAA	National Aviation Authority

NextGen	Next Generation Air Transportation System
NGAP	Next Generation of Aviation Professionals
NoA	Network of Analysts
O	Oversight
OSC	Operational Suitability Certificate
PPL	Private Pilot License
PRB	Performance Review Body
LOC-I	Loss of Control In Flight
R	Rulemaking
RE	Runway Excursions
RRSS	Regional Runway Safety Symposium
SES	Single European Sky
SESAR	Single European Sky ATM Research Programme
SLD	Super-cooled Large Droplets
SMICG	Safety Management International Collaboration Group
SMS	Safety Management System
SP	Safety Assurance and Promotion
SPI	Safety Performance Indicator
SSP	State Safety Programme
SYS	Systemic
TAWS	Terrain Awareness Warning System
VLJ	Very Light Jets
UAS	Unmanned Aircraft Systems
URT	Upset Recovery Training

Definitions

Aeronautical Information Publication
An Aeronautical Information Publication (AIP) is a publication issued by or with the authority of a State and containing aeronautical information of a lasting character essential to air navigation. (ICAO Annex 15 - Aeronautical Information Services)

Airborne safety nets
Airborne Safety nets provide alerts and resolution advisories directly to the pilots. Warning times are generally short, up to 40 seconds. Pilots are expected to immediately take appropriate avoiding action.

Airspace infringement
Airspace infringement occurs when an aircraft penetrates an area into which special clearance is required without having such clearance.

Controlled Flight Into Terrain
Controlled Flight Into Terrain (CFIT) occurs when an airworthy aircraft under the complete control of the pilot is inadvertently flown into terrain, water, or an obstacle. The pilots are generally unaware of the danger until it is too late.

European Aviation Safety Programme
European regional approach to the ICAO requirements of State Safety Programmes. It contains an integrated set of regulations and activities to improve safety within EASA Member States. It is published as a Commission Staff Working Paper[16] developed jointly by the European Commission and the Agency. The latest version is available at www.easa.europa.eu/sms.

Ground-based safety nets
Ground-based safety nets are an integral part of the ATM system. Using primarily ATS surveillance data, they provide warning times of up to two minutes. Upon receiving an alert, air traffic controllers are expected to immediately assess the situation and take appropriate action.

Ice crystal icing conditions
Ice crystal icing condition exists when all of the liquid water particles in the cloud have frozen into ice particles and may be encountered in high concentrations at higher altitudes in the area of convective weather systems.

Non-precision approach
A non-precision approach is an instrument approach and landing which utilises lateral guidance but does not utilise vertical guidance. (ICAO Annex 6) For pilots of older aircraft, in which use of automated systems to assist in flying the approach is limited, a high degree of piloting skill is required to fly such approaches accurately and the frequent practice which many pilots need to achieve this can be difficult to come by if precision approaches are the normal method used.

Mid-air collision
A Mid-Air Collision (MAC) is an accident where two aircraft come into contact with each other while both are in flight.

[16] EC SEC(2011) 1261 final European Aviation Safety Programme.

Mixed phase icing conditions
Mixed phase icing conditions occur when super-cooled liquid water droplets and ice particles coexist in a cloud, often around the outskirts of a deep convective cloud formation.

Loss of separation
Loss of separation between aircraft occurs whenever specified separation minima are breached. Minimum separation standards for airspace are specified by ATS authorities, based on ICAO standards.

Level bust
A *level bust* occurs when an aircraft fails to fly at the level to which it has been cleared, regardless of whether actual loss of separation from other aircraft or the ground results. Level busts are also known as Altitude Deviations.

Local Runway Safety Team
Local Runway Safety Teams (LRSTs) are aerodrome centric, multi-organisational groups of experts providing practical suggestions to resolve runway incursion causal factors. More than 100 LRSTs have been established at European airports, as a consequence of which, the safety of runway operations has increased although incidents continue to be reported.

Loss of Control In Flight
Loss of control usually occurs because the aircraft enters a flight regime which is outside its normal envelope, usually, but not always at a high rate, thereby introducing an element of surprise for the flight crew involved.

Occurrences
Operational interruptions, defects faults, or other irregular circumstances that have or might have influenced flight safety and that have not resulted in an accident or serious incident.

Runway Excursion
According to the definition provided by ICAO, a runway excursion is a veer off or overrun off the runway surface. Runway excursion events can happen on takeoff or landing.

Runway Incursion
A *runway Incursion* is defined as "Any occurrence at an aerodrome involving the incorrect presence of an aircraft vehicle or person on the protected area of a surface designated for the landing and take off of aircraft". (ICAO Doc 4444 - PANS-ATM)

Safety Management System
A Safety Management System (SMS) is a systematic approach to manage safety, including the necessary organisational structures, accountabilities, policies and procedures (ICAO). ICAO through various Annexes to the Chicago Convention has incorporated requirements for service providers in various domains of aviation to have an SMS.

Space weather
Space Weather is the travel of solar and galactic radiation and their interaction with the Earth magnetosphere and ionosphere. It is a cyclic phenomenon.

State Safety Programme
According to the ICAO definition it is an integrated set of regulations and activities aimed at improving safety. ICAO requires contracting States to implement SSPs.

System Complexity
Complexity is an attribute of systems or items which makes their operation difficult to comprehend. Increased system complexity is often caused by such items as sophisticated components and multiple interrelationships (EUROCAE/ SAE Doc ED-79/ ARP4754)

Attachment C: Working Groups

EAFDM
EASA and NAAs have formed a group of experts called the European Authorities Coordination Group on FDM (EAFDM). It is a voluntary and independent safety initiative with the following objectives:

a. to foster actions by NAAs which contribute to improving the implementation of FDM programmes and to making FDM programmes more safety effective,
b. to contribute to EASA objective of a high and uniform level of safety in Europe,
c. to contribute to a better overview of air transport operational safety in Europe for EASA and NAAs.

EASAC
The **European Aviation Safety Advisory Committee** (EASAC) was established by the Executive Director of the Agency in October of 2009. The main objective of the Committee is to advise on a European Aviation Safety Strategy and propose a European Aviation Safety Programme and Plan. The first Plan is the present document, endorsed by the Committee.

The EASAC is chaired by the Executive Director of the Agency and composed of safety experts' ad persona from Member States, the European Commission, EUROCONTROL, the PRB, Industry and EASA. The Committee reports regularly to the EASA Management Board.

EARPG
The **European Aviation Research Partnership Group** (EARPG) prepares proposals and suggests priorities for research topics to be funded by relevant sources available. Identification of research needs is based on: certification experts' experience, evidence of accumulation of safety related concerns resulting from safety analysis of incident and accident databases, Safety Recommendations stemming from incident and accident investigations and proposals by the European Strategic Safety Initiative (ESSI) and its safety teams ECAST, EGAST, EHEST.

The research results are expected to lead to recommendations and improvements of safety or environmental protection through changes to requirements, compliance and guidance material. The EARPG membership consists of the Agency's research focal points, EASA Member States with an interest in research, the European Commission and EUROCONTROL It shares information with authorities from Non-EASA Member States, particularly the FAA and Transport Canada, on on-going research and where appropriate, co-ordinates future research activities. The group interfaces with Industry and Research Institutions on a regular basis through workshops.

For more information visit http://easa.europa.eu/safety-and-research/european-aviation-research-partnership-group-EARPG.php

ECAST
The **European Commercial Aviation Safety Team** (ECAST) is a component of European Strategic Safety Initiative (ESSI). ECAST addresses **large fixed wing aircraft operations**, and aims to further enhance commercial aviation safety in Europe, and for European citizen worldwide. It was launched in October 2006.

ECAST is a partnership between EASA, other European regulators and the aviation industry. ESSI is based on the principle that industry can complement regulatory action by voluntary committing to cost effective safety enhancements. ECAST cooperates with CAST and with other

major safety initiatives worldwide, in particular under the Cooperative Development of Operational Safety and Continuing Airworthiness Programme (COSCAP).

For more information visit http://www.easa.europa.eu/essi/ecast/

EGAST
European General Aviation Safety Team (EGAST) is a component of European Strategic Safety Initiative (ESSI). General Aviation (GA) is a high priority for EASA. EGAST creates a forum for sharing best practices, improving data sources, and promoting safety.

EGAST's mission is to promote and initiate for all sectors of General Aviation best practices and awareness in order to improve safety, thereby reducing the accident rates. The team may make non binding recommendations. EGAST will help EASA and the industry focus their resources on combined safety promotion efforts to reach the goal of reducing accidents

For more information visit http://easa.europa.eu/essi/egast/

EHEST
Launched on November 2006, the **European Helicopter Safety Team** (EHEST) brings together manufacturers, operators, research organisations, regulators, accident investigators and a few military operators from across Europe. EHEST is the helicopter branch of the ESSI, and also the European component of the International Helicopter Safety Team (IHST).

EHEST is committed to the goal of reducing the helicopter accident rate by 80 percent by 2016 worldwide, with emphasis on improving European safety.

For more information visit http://easa.europa.eu/essi/ehest/

EHFAG
The **European Human Factors Advisory Group** (EHFAG) is an existing body of human factors expertise drawn from national Aviation Authorities (including the FAA), industry, professional associations and research organisations. This Group will be tasked with developing a human factors strategy and action plan on behalf of EASA.

For more information visit http://easa.europa.eu/safety-and-research/european-human-factors-advisory-group-EHFAG.php

ESSI
The **European Strategic Safety Initiative** (ESSI) is an aviation safety partnership between EASA, other regulators and the industry. ESSI's objective is to further enhance safety for citizens in Europe and worldwide through safety analysis, implementation of cost effective action plans, and coordination with other safety initiatives worldwide. ESSI was launched in June 2006 by EASA as a ten year programme and has three pillars: ECAST, EHEST and EGAST

For more information visit http://easa.europa.eu/essi/

IGPT
The Agency's Internal Group on Personnel Training (IGPT) has been set-up by the Agency to follow-up the EASA International Conference on Pilot Training of 29 Nov 2009. Its first meeting took place on 27 Jan 2010. Building on proven internal expertise and competences, the IGPT bridges Design, Certification, Training, and Operations by creating a forum to address training within the Agency and deliver the official Agency's position on the subject. The IGPT is composed of experts from all operational Directorates and adopts a total system approach in

training based on the three pillars Rulemaking, Oversight and Safety Promotion. The IGPT addresses all types of training and checking for all types of personnel and operations. Regarding pilot training, this includes flight and type rating training, including both ab initio and recurrent elements, all categories of aircraft, all types of operations, and pilots with different backgrounds (e.g. those trained on highly automated glass cockpits aircraft and those pilots trained on older generation conventional aircraft).

NoA

The European Aviation Safety Agency has recently established a Network of Analysts (NoA) to provide a formal process to analyse safety data at a European level. The membership of the NoA is drawn from the National Aviation Authorities (NAAs) and Investigation Authorities of all EASA Member States.

The NoA focuses on:

- understanding what barriers exist to the provision of the best possible safety data and developing ways to improve safety data across Europe;
- agreeing the classification of aircraft accidents in EASA MS;
- carrying out analysis of safety data to support the European Aviation Safety Plan (EASp) and State Safety Plans, as well as identifying emerging issues for possible inclusion in the future;
- sharing experiences, good practice and developing safety analysis projects across Europe to enable the European aviation community to exploit the ECCAIRS European Central Repository for the benefit of all and
- providing analysis support to existing EASA groups such as the European Strategic Safety Initiative (ESSI) and the European Human Factors Advisory Group (EHFAG).

For more information visit http://easa.europa.eu/safety-and-research/network-of-analysts.php

PRB

On 29 July 2010, the EC adopted a Decision designating EUROCONTROL acting through its Performance Review Commission (PRC) supported by the Performance Review Unit (PRU) as the **Performance Review Body** (PRB) until 30 June 2015. The EUROCONTROL Organisation accepted to be designated as PRB on 15 September 2010.

For more information visit https://www.eurocontrol.int/articles/european-atm-performance-review-body

SM ICG

The **SMS International Collaboration Group** (ICG) created in Feb 2009 is a collaboration activity between aviation authorities in order to promote the common understanding of SMS principles and requirements in different countries, share lessons learned and encourage progress and harmonisation. The ICG consists of a core group and a participant group. The core group is comprised of authorities with resources and expertise for product development. It includes members from the FAA, EASA (supported by FOCA of Switzerland, the DGAC of France, the CAA of the Netherlands and UK CAA), ICAO, TCCA, CASA of Australia, JCAB of Japan and NCAA of Brazil. The participant group tests and reviews the core group's work products and resources. The ICG interacts with several industry members and groups, including CAST, ECAST and the SMS ARC.