

N°4

# ESP<sup>®</sup> STAKEHOLDERS' REPORT

May 2008 - European Safety Programme for ATM Stakeholders' Report

## EUROPEAN SAFETY PROGRAMME FOR ATM (ESP) STAKEHOLDERS' REPORT





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# EDITORIAL



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## INTRODUCTION

Welcome to the 4th European Safety Programme for ATM (ESP) Stakeholders' Report. As its name implies this report is aimed very much at you, our Stakeholders and we would like to stress once again the importance we place on the strong, open and transparent relationships we aim to maintain with you throughout the lifetime of the ESP. It is only through this partnership approach that we have, collectively, already achieved so much.

As the results in the centre section show, implementation of LCIP Safety and SRC Objectives, which are strongly linked to ESP recommendations, has once again shown steady and sustained progress. We expect this to be re-affirmed when the results of the recently launched 2008 ATM Safety Framework Maturity Survey are made known later in the Summer. We are sure that we can count on your continued support of this particular activity which enables us to show the tangible improvements that have been, and continue to be, made in European ATM safety.

## STRATEGIC PARTNERSHIPS

Other examples of the partnership approach we strive to maintain include:

- The publication of the EUROCONTROL Agency and IFATCA Yearbook 2008 - ESP

objectives, Just Culture and Human Factors issues are highlighted as important topics in a collaborative approach between IFATCA and the Agency.

- EUROCONTROL organisation and facilitation of the AENA-IATA-EUROCONTROL Safety Improvement Workshop event in Madrid in April 2008.
- The Memorandum of Cooperation (MoC) between the Agency and the Flight Safety Foundation (FSF) agreed in Bucharest in March at the European Aviation Safety Seminar. The MoC aims to strengthen the cooperation between the two organisations in order to reduce aviation safety risk. As noted by the FSF CEO, Mr William Voss, *"this partnership is a great opportunity for the Flight Safety Foundation and I'm very pleased we've been able to formalize the relationship. While we've always had a global focus, this relationship with EUROCONTROL will allow us to work together in a new way that will lead to even more improvements in aviation safety in Europe and worldwide."*
- EUROCONTROL support work for EASA in the Notification of Proposed Amendment (NPA) process for Safety Regulation in ATM. Inputs were progressively provided over several months in defining the first draft essential requirements, and in consolidating the stakeholder comments in response to the NPA.
- The Agency contribution to the European Strategic Safety Initiative (ESSI) and European Commercial Aviation Safety Team (ECAST) - principally in promoting best practices in Safety Management Systems and Safety Culture.

## 'TACTICAL' PARTNERSHIPS

At a more working level, safety initiatives and ECIP Objectives have continued to receive support from the Stakeholder Consultation Group (SCG) whilst at the team level, the

Safety Team has agreed that military ANSPs can and should be represented in the spirit of civil/military cooperation and coordination. The Safety Regulation Commission also maintains a keen interest in all ESP safety regulatory matters. Healthy working relationships are also maintained through the many task forces, working groups, sub committees etc that support the Safety Team and SRC. It is in these fora where the hard work of translating aspirations and recommendations into tangible actions and deliverables takes place thanks to the collaborative nature of the various working arrangements.

## ESP HIGHLIGHTS AND COMMUNICATION

Since the last report there have been significant developments across all 5 ESP Activity Fields and these are alluded to by the Programme Manager in his perspective that follows this Editorial. Even more detailed information is provided in the body of the document. Strong communication is at the heart of the Programme and maintaining and building on the links we have established will remain a priority. Whether it is through reports such as this, formal papers, seminars or workshops we re-affirm our commitment to offer leadership and guidance through whatever channels are available to us and we are confident that we can count on your continued support.

## REACHING THE AIM TOGETHER

ESP has already achieved a lot but there is still much to do. It is only by working together that we will reach our aim of ensuring that all ANSPs and Regulators reach the minimum 70% level of maturity in their safety frameworks by the end of the ESP. We look forward to continuing our work with you.

If you have any queries or comments concerning this Report or about the ESP in general then please contact us via: [esp@eurocontrol.int](mailto:esp@eurocontrol.int).

# ESP PROGRAMME MANAGER'S PERSPECTIVE

by Tony Licu, ESP Programme Manager, May 2008



## THERE IS A NEW NAME IN TOWN - SKYBRARY

Dear Stakeholders,

The momentum and diversity of activities within ESP makes it hard to choose the news of the day. However, a number of notable achievements and some imminent upcoming events could easily make the headlines.

All 5 ESP activity fields are progressing well and we have just started another ATM safety framework maturity measurement. We are all looking forward to seeing where the last efforts need to be orientated to achieve the 70% target by the end of next year.

Those familiar with these ESP Stakeholders' Reports will be used to the pattern of my perspective. I have made a habit to select the main achievements per activity field as an introduction to the articles which follow in the main body of the report.

**Activity Field 1** - SASI, the locomotive that pulls the SMS implementation within ANSPs has not reduced the power of its engine but on the contrary is continuing

the support on three tracks - working sessions, training sessions and on-site coaching. An updated programme for 2008 is available on the SASI web page and I openly encourage our stakeholders, civil and military, to check the number and contents of the remaining SASI events and the seating capacity for each at [http://www.eurocontrol.int/safety/public/standard\\_page/sasi.html](http://www.eurocontrol.int/safety/public/standard_page/sasi.html). I am also heartened at the growing popularity of SASI beyond the European borders and outside our industry. In the past months we have been contacted by people starting the SMS from all around the world (e.g. Africa, Thailand, Central and South America, Fiji, Indonesia). The ATM SMS European experience is setting an example. The forward-looking approach is slowly but steadily occupying the front-row seats and the approach of 'Fly-Fix-Fly' is being pushed into the background of history.

**Activity Field 2** - Since the last ESP Stakeholders' Report much ground has been covered. For the first time ever we have published, in partnership with our legal service, Just Culture guidelines on how to interface with the judicial system and we are nearing completion of guidelines on how to work with the media. Another informal workshop with States' prosecutors and legal advisors is planned before summer and we remain confident that we initiate the essential dialogue between aviation and administration of justice. Building on the increased trust, the EUROCONTROL voluntary ATM incident reporting system (EVAIR) has finally taken off and a first EVAIR Safety Bulletin based on the 2007 collected data was published in April.

Another important chunk of the work deals with the wider concept of Safety Culture. Safety Culture has been described as "the way safety is done around here - emphasising that it is concerned with the realities of

safety, and not necessarily what people say should be done". All Safety Culture pundits say that Safety Culture works best top-down. We are therefore planning to organise, in partnership with ANSPs, a Workshop that will bring together CEOs of ANSPs across Europe to discuss Safety Culture best practices, and to demonstrate Leadership and Commitment in 'Unleashing its Power' for the benefit of the aviation industry as a whole. Safety should not be seen as a cost, but as an opportunity to achieve superior business performance - good safety also drives good business outcomes. I hope to see the majority if not all CEOs at this important event.

**Activity Field 3** - The work on contingency planning and safety culture of degraded modes of operations is continuing very pragmatically. A third document (Guidance for Design of Contingency Strategies) within a series of contingency planning guidelines was released in February and is now available for use. Its aim is to present a number of potential contingency strategies, based around a common high-level framework, which can be used to help ANSPs' decision making process as they consider how to mitigate against a broad range of threats and hazards. A series of case studies are presented. These have been constructed following site visits to a number of ECAC ANSPs and reflect a variety of different strategies available to ANSPs to meet their contingency needs. Whilst some of the detail is based on theoretical plans of what ANSPs plan to do in the event of contingency, much of it is based on actual contingency provision hence the inclusion in the title of "Current Practices"

The SCG (Stakeholder Consultation Group) has given the green light to move on to the difficult subject of 'service continuity'. We are embarked with stakeholders in a num-

ber of fast-time simulations to start understanding the broader network effect of total or partial failure of services in certain pieces of airspaces. It is a joint effort with our colleagues from the DAP APN (Airspace and Navigation) division and CFMU and, crucially, a number of ANSPs who have volunteered to participate. This is a good example of 'partnership' in action and I am extremely grateful to all those involved.

**Activity Field 4** - Within the system safety defences activity field, the activities of the well known SPIN TF were successfully wrapped up in March. Preparations for a new approach of working with stakeholders (the Safety Nets Performance Improvement Network Sub-Group (SPIN SG)) and organisation of a second Safety Nets Workshop (27 May 2008) are well advanced. The safety assurance documentation package for STCA has been reviewed and work has started on the MSAW generic safety case. Finally, to get the very latest practical information, I strongly recommend

you to read the NetAlert Newsletter to get the pace and the news in Safety Nets.

**Activity Field 5** - As indicated in my perspective headline, there is a new safety management name in town and that name is 'SKYBRARY'. But what is SKYBRARY? Initially targeted at ATM professionals (controllers, safety managers, trainers, etc), SKYBRARY is now a growing electronic encyclopedia for the wider subject of aviation safety, enjoying interest from across many sectors of the industry. The concept initially developed by EUROCONTROL, now also enjoys the patronage of ICAO and the Flight Safety Foundation, and is built on the mediawiki platform and consists of a hyperlinked network of aviation safety articles. These articles form the prime content item in SKYBRARY and each one contains links to related articles or external documents and sources. All articles follow the semantics and style of classic encyclopedia entries - i.e, they are precise, concise and concept-related.

## SKYBRARY HOMEPAGE

Launched on 9 May 2008, during the Provisional Council session, SKYBRARY already contains hundreds of articles on aviation safety. The SKYBRARY team felt that it was necessary to build up a core knowledge base of substantial size prior to launch, so as to offer its target audience a valuable resource right from the start. It took several months of careful authoring and editing to ensure a balanced and high quality portfolio of articles on a wide variety of aviation safety-related subjects.

My final words of this piece are in fact a guide towards a simple destination. Type [www.skybrary.aero](http://www.skybrary.aero) and become part of the aviation safety knowledge community.

*John*

# ACTIVITY FIELD 1

## IMPLEMENTATION & SUPPORT TO EUROPEAN SAFETY LEGISLATION/REGULATION



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Thread Leader



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### SASI 2008



DAP/SSH

2008 SASI PROJECT PROGRAMME

*SASI - The Way Forward*



### NEW MANAGEMENT

2007 was a year of change for the SASI project as it came under 'new management' with Anthony Francis Seychell replacing Gilles Le Galo as SASI coordinator and Leila Ben Chaib taking over Leila Ilkan's support role.

### WORKING AND TRAINING SESSIONS

Approximately 100 delegates attended the SASI Working Sessions during 2007. A similar number of participants also took part in the Training Sessions. Up to now SASI has received almost 100 registrations to its Training Sessions for 2008 while about 25 delegates attended the first joint SASI/EATM Working Session.

The success of SASI continues to spur on the good work that has already been done. The true and trusted methods of SASI - the Working Sessions and the Training Sessions shall continue. However, we feel that these are not enough. The increased Safety Maturity of the participating States compels us to seek other methods of how EUROCONTROL could improve the help and support to our stakeholders.

### ON-SITE STAKEHOLDER SUPPORT

The way forward is to go for even more on-site support. The last year saw EUROCONTROL DAP/SSH personnel conducting numerous on-site sessions and support in several states. Such on-site coaching is beneficial to all concerned as it reflects the local environment and is more specific, unlike the Working and Training Sessions which tend to be generic since they have to address the needs of all States. During 2007 the SASI team carried out more than fifteen on-site support

missions in eight states. Two on-site missions plus a number of off-site services have already been provided to SASI states during the first few months of this year.

### GENERIC SAFETY MANAGEMENT MANUAL

2007 saw the issue of the first draft of the EUROCONTROL Generic Safety Management Manual. Work will continue on this document to clear any grey areas and expand on what has already been provided.

### SAFETY TOOLS

Over the years new safety tools have become available and the SASI team do their utmost to introduce the SASI States to the latest tools in Occurrence Analysis Methodology, building Safety Cases, Assessing Procedures and Software and distributing the Best Practices regarding the assessment of external services. In addition SASI has launched a course in Human Factors for ATM Safety Actors.

### SASI PROGRAMME 2008

The SASI Programme for 2008 has already proved highly popular. To find out when and where the next SASI Training and Working sessions will take place, please visit the SASI website at [http://www.eurocontrol.int/safety/public/standard\\_page/sasi.html](http://www.eurocontrol.int/safety/public/standard_page/sasi.html). From there you will also be able to register directly for courses and download the project information.

**SASI PROGRAMME 2008**

<b>SASI Working Sessions</b>						
N°	SASI Session	Subject	Target audience	Duration	Hosting offers / Location	Dates
1	WS1-08 <i>Completed</i>	Safety Made Easier Safety Assessment of FABs	- Safety managers - Safety specialists of assessments (OPS and TECH) - NSA (bring along if you wish)	3 days	Brussels	Feb 26-28
2	WS2-08	Development of Safety Indicators and targets External Services and SLAs	- Safety Managers - Legal advisors - Procurement staff - Safety specialists (OPS and Tech) - NSA (bring along if you wish)	3 days	VEGA Meeting Room EUROCONTROL HQ Brussels	Jun 23-25
3	WS4-08	ESARR 5	- Safety managers - Safety specialists (OPS and Tech) - NSA (bring along if you wish)	3 days	Zagreb	Oct 8-10
4	WS5-08	CEOs meeting Contingency Planning	CEOs and Directors safety/ safety managers	2 days	Rome	TBN
5	WS3-08		- Safety Managers - Operations Managers - Technical Managers - Contingency Managers - Contingency planning Specialist	3 days	Malta	Nov 17-19

**SASI Training Sessions - 1<sup>st</sup> semester 2008**

N°	Session	Subject	Target audience	Duration	Hosting offers / Location	Dates
1	TRG1-08 <i>Completed</i>	SAF-AOI	Investigators	5 days: Starts 09.00 End 13.00	Cyprus	April 7-11
2	TRG2-08 <i>Completed</i>	SAF-SOAM	Investigators	3 days: Start 10.00 End 16.00	Zagreb	April 23-25
3	TRG3-08 <i>Completed</i>	SAF-SOAM	Investigators	3 days: Start 10.00 End 16.00	Zagreb	April 28-30
4	TRG4-08 <i>Completed</i>	SAM1-FHA	Safety specialists assessments (OPS and TECH)	5 days: Start 09.00 End 12.00	Luxembourg -IANS	May 05-09
5	TRG5-08 <i>Completed</i>	Human Factors for ATM Safety Actors	Safety Directors, Safety Managers, Safety Specialists, Safety Assessment Facilitators, Safety Auditors, ATM Occurrence Investigators and Members of Safety Committees	5 days	Malta	May 05-09
6	TRG6-08 <i>Completed</i>	SAF-TOOLS	- Investigators - SMS support staff	4 days: Start 09.00 End 17.00	Luxembourg IANS	May 13-16
7	TRG7-08	SAM2-PSSA	Safety specialists assessments (OPS and TECH)	5 days: Start 10.00 End 13.00	CRDS Budapest	June 02-06
8	TRG8-08	SAF-E21	POSTPONED SEE 2nd SEMESTER 2008			
9	TRG9-08	SAM3-SSA	Safety specialists assessment (OPS and TECH)	5 days: Start 10.00 End 13.00	Malta	June 30-July 4

**SASI Training Sessions - 2<sup>nd</sup> semester 2008**

N°	Session	Subject	Target audience	Duration	Hosting offers / Location	Dates
10	TRG10-08	SAF-TOOLS	- Investigators - SMS support staff	4 days: Start 09.00 End 17.00	Luxembourg IANS	Oct 13-16
11	TRG11-08	SAF-SOAM	- Investigators - SMS support staff	3 days: Start 10.00 End 16.00	Luxembourg IANS	Oct 15-17
12	TRG12-08	SAF-SOAM	- Investigators	3 days: Start 10.00 End 16.00	Luxembourg IANS	Oct 20-22
	TRG8-08	SAF-E21	ANSP staff involved in day-to-day ESARR 2 implementation and application	5 days: Start 10.00 End 13.00	Luxembourg IANS	Nov 17-21

## DOUBLE REGULATION - DRAHG

The arrival of the European Commission's Single European Sky Programme has presented many States with the issue of "Double Regulation". EUROCONTROL Member States who are also committed to SES (either via EU membership or other arrangements) face the dual responsibility of complying with ESARR requirements and with SES legislation. Though transposition of ESARRs into Community law has progressed well, there nevertheless remain several situations in which these two sets of rules differ.

The SRC addressed this issue and established an Ad-Hoc Group, co-chaired by the SRC Chairman and the EC, to make proposals for resolving the problem. The aim is to achieve consistency of requirements, including harmonisation of texts and taxonomies, without reducing safety levels and while maintaining an equivalent, ideally identical, basis of regulation between those ECAC states who are subject to SES rules and those who are not. To achieve this SRC made proposals to the EUROCONTROL Provisional Council and to the European Commission's Single Sky Committee. These were accepted and EUROCONTROL will be working with the European Commission during 2008 to overcome the Double Regulation issue and prevent a recurrence. The first steps will be to update ESARR 1 to align precisely with European Commission Regulation "1315/2007 - Safety Oversight in Air Traffic Management". Work will also be undertaken with the EC during the development of the 2nd SES Package.

## ESIMS 2008 PROGRAMME

Article 9 of European Commission Regulation (EC) 2096/2005 establishes the Peer Review system for National Supervisory Authorities. Under this system, Peer Reviews will be carried out to ensure the correct and effective operation of national supervisory responsibilities. Recital 10 of the same regulation recognises that the peer reviews should be co-ordinated with the activities undertaken by ESIMS and IUSOAP.

At present the ESIMS Programme focuses on auditing the State's safety oversight

capabilities with regard to ATM and has been applied in thirteen States between December 2005 and the end of 2007. It also involves close cooperation with the ICAO USOAP, through which relevant information on many further States has been gained.

When considering the legal basis, regulations and processes of the State's safety oversight framework, ESIMS is no longer solely confined to ESARR implementation, but considers other applicable rules used by States, including those established at EC level, to establish the required safety benchmark. As a result, ESIMS is already checking aspects related to EC provisions where they relate to the safety oversight function.

States have demanded that international bodies collaborate to reduce the overall level of audit interventions at national level. In this context, the SRC is therefore reviewing the possibility of co-ordinating and integrating the ESIMS and Peer Review programmes. The transposition of ESARR 1 into Commission Regulation 1315/2007, defining the ATM safety oversight process implemented by NSAs, is a key turning point which opens the door for co-ordination, support and integration of activities. The alignment of ESIMS with future EASA standardisation needs in ATM is also being considered.

In 2008 ESIMS visits are planned in 7 States (Bulgaria, Croatia, FYROM, Ireland, Latvia, Lithuania, and Serbia). The SRU will also participate in eight ICAO IUSOAP audits in Austria, Denmark, Hungary, Poland, the Russian Federation, Sweden and Ukraine.

## ANNUAL SUMMARY TEMPLATE - TWICE-YEARLY SAFETY REPORTING - THE TRIAL PERIOD

A survey undertaken in early 2007 indicated that the majority of States are willing to undertake at least bi-annual reporting, though some States indicated that this would be difficult due to resource limitations. The bi-annual reporting through the AST mechanism was started with a trial reporting-cycle in September 2007 with the intention to have full implementation from September 2008.

Each September AST reporting session would produce two reports per State:

- one AST to update the data for the year before (if needed),
- one AST containing the initial data covering the first half of the respective year.

This will allow intermediate reporting to PC in May of each year in addition to the analysis presented in the SRC's Annual reports each November.

The first trial took place in September 2007 with 15 States reporting, and meant that:

- The 2007 SRC Annual Report, submitted to the Provisional Council in November 2007, had therefore already benefited from this additional reporting session by including the latest updates received covering the reporting year 2006 (up to the closing deadline of the report in mid-October), and
- The September 2007 AST reporting session has enabled feedback (based on this increased frequency of reporting) to be presented as an SRC Intermediate Safety Report for 2008 (see Attachment to this Action Paper)
- A safety analysis report has been built to compare the safety data of the first half of 2007 with the same period of 2006, covering the States which reported in September 2007.

The increase in the reporting frequency of ASTs to twice a year and the continuous improvement of data quality are two big steps forward in the implementation of the **Safety Analysis Function** **EUROCONTROL** and associated **Repository - SAFER**, which is EUROCONTROL's response to the SAFREP Task Force Report Recommendation 7 that a system should be created to gather, collate and analyse all available safety information.

The initial sample of States participating was encouraging, and was sufficiently statistically significant to enable the meaningful analysis. The system now needs to be extended to all States, in order to provide a more timely ECAC-wide measurement of safety performance.

# ACTIVITY FIELD 2

## INCIDENT REPORTING AND DATA SHARING



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### EUROCONTROL VOLUNTARY ATM INCIDENT REPORTING (EVAIR)

#### SAFER

The Safety Analysis Function EUROCONTROL and Associated Repository (SAFER) concept was developed in answer to the Safety Data Reporting and Data Flow Task Force (SAFREP)'s Recommendation No. 7 'to bring rationalisation in European ATM safety data collation and analysis...'. This includes the development of a European ATM Safety Data Repository, fed by a system of structured regulatory and voluntary data flows, together with relevant data management processes and procedures, and incorporating a comprehensive safety analysis function.

#### EVAIR

A part of the SAFER system, the EUROCONTROL Voluntary ATM Incident Reporting System (EVAIR) has been set up to enable all stakeholders to be proactive in fixing identified problems quickly rather than waiting for a year or two (as was frequently the norm in the past).

The first EVAIR Safety Bulletin has just been published and provides:



- an insight into the workings of the EUROCONTROL Voluntary ATM - Incident Reporting system (EVAIR) - one of the key elements of SAFER, and
- an overview of the statistics accumulated over a fifteen month period from September 2006 to December 2007.

This bulletin will be issued quarterly and will provide the progress made within the reporting arena. The first edition is inevitably lengthier because it provides the background for setting the scene. There are immense benefits in sight - with no price to pay. Aircraft are the fastest means of transportation. We must stay ahead of them to continue improving safety. Further bulletins will also bring into picture the safety information collected through regulatory data flows which run at a slower pace. A pdf version of the EVAIR Safety bulletin can be down-

loaded from the ESP website: [www.eurocontrol.int/esp](http://www.eurocontrol.int/esp)

The EVAIR team consists of four ATM experts who deal with incident analysis and TOKAI database management:



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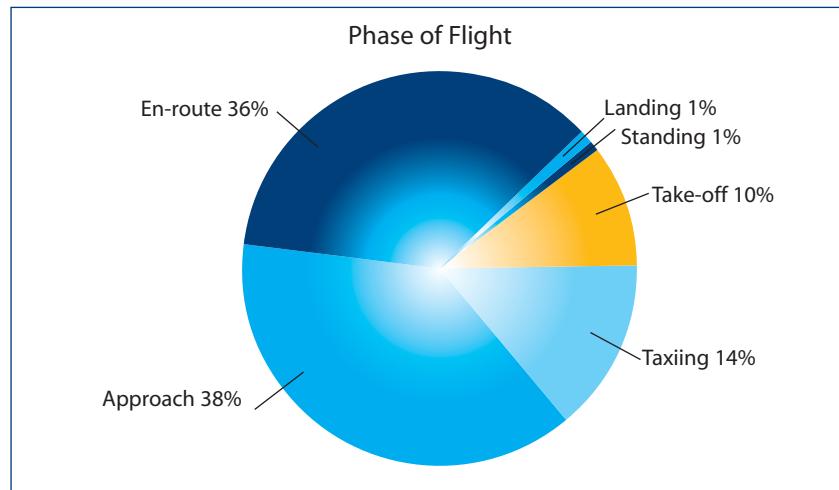


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## BENEFITS

Participation in EVAIR provides a number of benefits to those submitting ATM incident reports, such as:

- Quick responses:
  - Identification of safety concerns
    - Local
    - Regional
    - Pan-European
  - provision of feedback information
  - problem fixing
- Support to the organisation of Ad-hoc meetings to identify local problems and possible corrective actions
- Quick access to the safety focal points
  - Airlines
  - ANSPs
  - Regulators ...
- Assistance in interfacing between SMSs of Airlines and ANSPs
- Access to the reporting data for
  - Deeper expert analysis and identification of causal factors
  - Planning of future improvements
- Compatibility and complementarities with other safety databases
- Monitoring of the implemented Safety Action Plans
- Periodical statistics
- Customised analyses on the request of the participating stakeholder
- ACAS simulations by using different tools EVAIR has on its disposal (Interactive Collision Avoidance Simulator (InCAS), Automated Safety Monitoring Tool (ASMT))
- Sharing of best practice and lessons learned.



## STATISTICS

Analysis of voluntarily provided ATM incident reports enables the generation of graphs highlighting trends in a number of areas. An example is the following graph showing incidents per phase of flight, which further enables identification of the main contributors to ATM incidents.

The above graph shows that 64% of the ATM occurrences fall within APP/TWR, and 36% of them within Area Control.

The most frequent incidents related to APP/TWR are Level Bust, and Runway and Taxiway Incursions.

## AUTOMATIC COLLECTION AND ANALYSIS OF ACAS RESOLUTION ADVISORIES (RAS)

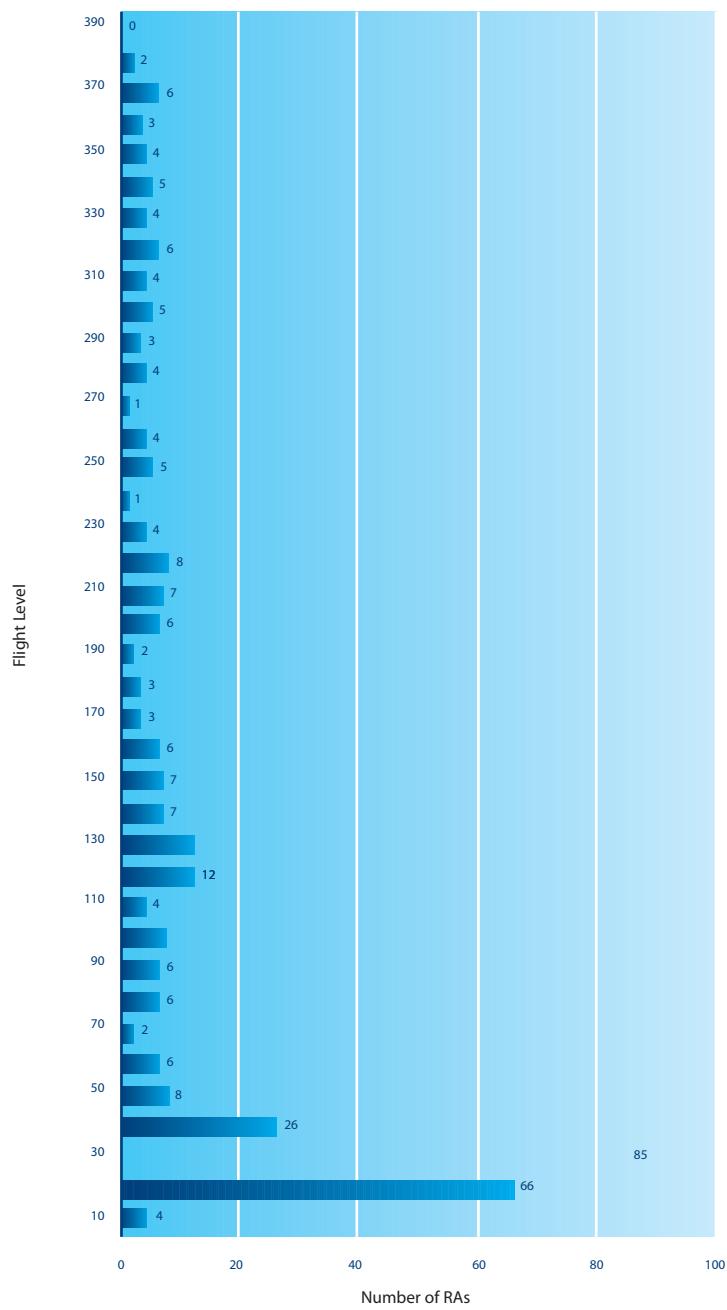
The Automatic collection of ACAS Resolution Advisories is being trialed within the EVAIR system. The data is collected from a single Mode-S radar station and is collected by a tool called the ATM Safety Monitoring Tool (ASMT). Statistics provided by this tool give an overview of ACAS RAs detected by monitoring RA downlink messages with the ASMT.

The graph on the next page shows RA occurrences during the last quarter of 2007.

A total of 354 downlink messages were assessed as real RAs.

We are negotiating with some ANSPs who will join on a voluntary basis and will provide RAs collected by their ASMT.

Vertical Distribution of RAs



## PILOT/CONTROLLER WORKSHOP - MADRID BARAJAS AIRPORT

Analysis of data from the EVAIR system provided valuable input to an initiative launched in 2007 by AENA and IATA, to improve operational and safety issues at Madrid Barajas Airport. A Task Force was set up and was supported and chaired by Dragica Stankovic, DAP/SSH, Thread Leader of ESP Activity Field 2.

The work of the Task Force culminated in the development of an Action Plan in December 2007. A key action from the findings of the Task Force was to organise a workshop for pilots and controllers on operational and safety issues.

The workshop, held in April, attracted over 140 aviation experts from airlines, AENA, the Spanish Directorate General of Civil Aviation, institutes, professional associations, and EUROCONTROL. It confirmed that there is an urgent need for operational and safety experts to work together, an agreement also reached at the recent EUROCONTROL Safety Team meeting in February 2008.



*This article continues on page 23 >>>*

# ESP IMPLEMENTATION AND MONITORING IMPLEMENTATION PROGRESS REPORT

By The ESP Programme Management Team



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LCIP Manager



**David Marten  
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ESP Safety Maturity Survey Coordinator

## INTRODUCTION

With the ESP now well into its third year, this Stakeholders' Report is a means to inform you of not only how much has already been achieved, but also how much is left to be done.

2008 will continue to see detailed monitoring activity. The prime means of doing this are by the LCIP Process and the annual ATM Safety Framework maturity Survey (more of which follows this introduction). In addition, we receive feedback on progress, problems and issues through the various meetings, conference, workshops etc that we hold and we are undertaking liaison visits (although fewer in number last year to some states in conjunction with our LCIP colleagues).

## ECAC/ICAO 2008 ATM SAFETY FRAMEWORK MATURITY SURVEY

It is once again time to see what improvements have been achieved in meeting safety requirements over the past 12 months. The 2008 ATM Safety Framework Maturity Survey was launched in February by the DG EUROCONTROL writing to each ECAC DGCA to elicit their continued support for this activity.

These surveys were first commissioned by

EUROCONTROL in 2002 as independent studies of ATM safety system framework maturity among ECAC Member States. The first study showed that the level of maturity of ATM Safety Systems was uneven across the ECAC area and leadership and commitment was lacking in some States. The study was repeated in 2004, 2006 (within the scope of the SSAP Implementation Programme), in 2007 (within the scope of the European Safety Programme for ATM (ESP)) and again this year. The 2002 survey is used as the benchmark for improvement. Since the benchmark study was undertaken considerable improvement has been noted by both ANSPs and Regulators. The ANSP average has risen from a baseline 55% in 2002, 69% in 2006 to 76% in 2007. For the Regulators these figures are 52%, 65% and 70% respectively. In particular, there has been strong growth in the mid-range (50%-80%). Indeed, the upward trend in 2007 is the most significant recorded in the history of the survey and is notable because it covers only one year as opposed to the 2-year gap of previous surveys. Several ANSPs are now reporting 100% maturity and are aiming to move onto the next level in the spirit of continuous improvement.

The reasons attributed to the increases include improved familiarity with the requirements, the additional impetus pro-

Global average maturity	ANSPs %	% Change	REGs %	% Change
2002 SSAF Survey	55		53	
2004 SSAF Survey	62	7	62	9
2006 SSAP Survey	70	8	65	3
2007 ESP Survey	76	6	70	5
<b>Total change 2002-2007</b>	<b>21</b>		<b>17</b>	

Table 1: Global Average Maturity – 2002-2007

vided by the Single European Sky (SES) need for certification of ANSPs, and activities previously described as 'developing' are now maturing. Less positively, some States still report difficulties with transposing ESARRs into national legislation and understanding the requirements relating to Target Levels of Safety and associated Safety Key Performance Indicators. These factors have been further complicated by the emergence of SES regulations and ESARRs have now been transposed to ensure that there is only a single set of ATM safety regulations within EU States.

Work is ongoing in these areas and is reported in the relevant Activity Field areas of the European Safety Programme (ESP). In addition, there remains a dearth of suitably qualified personnel to undertake Safety functions in a number of States. This affects Regulators to a larger extent than the ANSPs, with many Regulators struggling to obtain the necessary budgets to enable them to offer attractive remuneration and career prospects for potential applicants.

Coincident with launching the ECAC study ICAO (Paris) sent State letters to 10 additional ICAO EUR Region States that are not Members of ECAC but whose airspace abuts the ECAC Area. The States include seven Russian speaking States and three French speaking North African States. Those States were requested to participate in the survey and, as in 2007, it is intended to present a joint ECAC/ICAO report to the EUROCONTROL Provisional Council and ICAO's EANPG.

For this year's survey Questionnaires were sent to all Regulators and ANSPs in mid-April with a request to return them by mid-

May. Questionnaires were also sent to selected Users such as IFATCA, IFALPA and IATA. Once the questionnaires have been returned a telephone, or face-to-face, interview will be held with all respondents to validate the responses. Once that is complete the data will be analysed and the final report prepared. Before reporting to the Provisional Council and EANPG at the end of the year presentations on the outcome of the survey will be made to the Safety Team and SRC.

The maturity survey will be repeated in 2009 by when all participants will be expected to have achieved the 70% maturity level. From 2010 a revised questionnaire is being developed with stakeholders that will concentrate on assessing Safety Key Performance Indicators. A fresh benchmark will be defined.

### ESP MONITORING

There are two main vehicles used to enable us to monitor the ESP:

#### ● ECIP/LCIP PROCESS

As many of the ESP activities are already contained in existing ECIP objectives we work closely with the LCIP team to determine progress on the ESP activities. This collaboration has been in place since September 2006 and is working well. Wherever possible we combine visits to States and share the workload. These visits also provide the ESP Programme Management Team with an opportunity to spread the awareness of the programme's activities and requirements. Further refinements were made to our internal monitoring processes during 2007 ensuring an even better flow of

even higher quality data. The collaboration between the two teams also benefits our Stakeholders in that they are not asked for the same information from a number of different programmes having similar information requirements.

The LCIP and ESP Focal Points in States provide a great service in coordinating the responses within their individual States.

#### ● ATM SAFETY FRAMEWORK Maturity Survey

Many requirements not met by monitoring through the ECIP/LCIP process are met via analysing the results of the ATM Safety Framework Maturity Survey.

Once we have the input from these two monitoring vehicles we analyse the data to spot inconsistencies and trends. We are a proactive programme and, as such, want to identify the 'hotspots' and address these before they become real issues.

The LCIP 2008-2012 cycle is nearing completion and to date we have analysed the majority of the reports. A synopsis of the results of the **LCIP objectives that affect the ESP** is as follows:

## ECIP/LCIP MONITORING

ECIP OBJECTIVE AND STATUS	
<b>AOP03</b>	<b><i>Improve Runway Safety by Preventing Runway Incursions.</i></b>
	Currently, the majority of States are progressing well with no real issues.
<b>ATC02.2</b>	<b><i>Implement Ground Based Safety Nets - STCA Level 2.</i></b>
	Steady progress has been maintained but it appears that not all actions will be completed by the finish date of 12/08.
<b>ATC02.5</b>	<b><i>Implement Ground Based Safety Nets - Area Proximity Warning - Level 2.</i></b>
	This objective is currently Tentative and so progress has been minimal.
<b>ATC02.6</b>	<b><i>Implement Ground Based Safety Nets - Minimum Safe Altitude Warning - Level 2.</i></b>
	This objective is currently Tentative and so progress has been minimal.
<b>ATC02.7</b>	<b><i>Implement Ground Based Safety Nets - Approach Path Monitor - Level 2.</i></b>
	This objective is currently Tentative and so progress has been minimal.
<b>SAF01.2</b>	<b><i>Update existing SMS to comply with ESARR2 and Common Requirements.</i></b>
	There has been a significant progress of this objective in 2007: around 90% of the ANSPs report having fully or partially implemented a conforming Safety Management System. The Support to ANSPs for SMS Implementation (SASI) - provides support to those ANSPs who are in the early development phase of SMS implementation.
	While the objective applies to both civil and military ANSPs, around 63% of the States have identified the objective as not being applicable to military authorities. In most of these States Military do not provide ATS for GAT. However, it should be noted that Military organisations have in general a well established safety network controlled by military safety supervisory authorities.
	Ahead of ECIP 2009-2013, the SCG has been submitted a postponement of the completion date to 12/2009, because ANSPs have been requested to achieve the ATM Safety Framework Maturity target of 70% by that date.
<b>SAF03</b>	<b><i>Implement a harmonised methodology for incident reporting and data sharing.</i></b>
	In 2007, the objective was upgraded from 'Harmonisation' to 'Multi-National' to encourage the implementation of the European methodology. 15 ECAC States committed to implement.
	There has been some progress: around 50 % of the regulators and 65 % of the ANSPs have fully or partially implemented the objective. However, while the purpose is to implement the existing EUROCONTROL tools (e.g. TOKAI) several States report completed as they comply with national regulations. Around 10 % of the ANSPs and 15 % of the regulators consider it not applicable either because there is not yet an AMC for ESARR2 or they use different means of compliance.
	To foster the implementation of a harmonised methodology in the ECAC area and reduce the variety of interpretations, an improvement of the definition is being submitted to the SCG for endorsement by the PC in ECIP 2009-2013. Accordingly, the deployment date would be postponed to 12/2009.

## ECIP OBJECTIVE AND STATUS

### **SAF04** *Implement measures to reduce the risk of level bust occurrences.*

This safety improvements activity is undertaken in the European Safety Programme (ESP) - Activity Field 5 - Safety management Enhancement.

On the regulatory side, although the promulgation of a national documentation on the basis of the action plan was due by the end of 2006, only 40 % of the regulators have promulgated this documentation and more than 30% have no plans yet to do it. At the planned deployment date, around 60 % of ANSPs have totally or partially completed the implementation of the action plan. Most of the remaining ANSPs have plans to implement the action plan in 2008 and only 2 have no plans because no "level bust occurrences" have been reported so far. Although there is a large awareness and buy-in of the action plan on the ANSP side, some States continue to have problems with implementing this objective. Where this is the case, the action plan allows for ad-hoc EUROCONTROL Agency support to stakeholders in the form of implementation workshops.

Problems still exist where Military ANSPs are concerned. While also applicable to the Military users, only 10 Military ANSPs have completed, partially completed or are planning for implementation.

### **SAF05** *Implement measures to prevent air/ground communications induced safety occurrences.*

This safety improvements activity is undertaken in the European Safety Programme (ESP) - Activity Field 5 - Safety management Enhancement.

Involved aviation stakeholders have to implement and apply measures to improve the overall air/ground communications domain in order to reduce the risk of incidents and accidents due to air/ground communications errors. Such occurrences cover pilot/controller communications, via voice and/or data link, communication infrastructure and related interfaces, air and ground systems and sub-systems, human factors, application of regulations, standards and operating practices.

In 2007, the supporting ALLCLEAR toolkit has been disseminated to support the implementation of this objective. At the end of the year, more than 25 % of the ANSPs have totally or partially completed the actions and 40% have plans. Around 60% of the regulators have either totally or partially completed or planned the actions. The remaining ANSPs and regulators are still reviewing the objective. After a first year of activity, results are positive enough to demonstrate that a large awareness and buy-in of this action plan has been reached both in ANSPs and Regulators.

### **SAF06** *Facilitate the implementation of the SES safety provisions, along with ESARRs through improved awareness and commitment.*

Facilitate the implementation of the SES safety provisions, along with ESARRs through improved awareness and commitment.

This objective provides supplementary information for the monitoring activity pertaining to Activity Field 1 (Implementation and Support to European Safety Legislation/Regulation) of the European Safety Programme for ATM (ESP).

The objective aims at supporting stakeholders to demonstrate improved commitment and to acquire greater understanding and awareness of SES and ESARRs safety obligations by participating in European, Regional and National Workshops.

At the end of 2007, around 60 % of the ANSPs report to have totally or partially implemented this objective compared to 39% during 2006. However, a few ANSPs still have no plans to internally disseminate information to their management on SES and ESARRs.

## ECIP OBJECTIVE AND STATUS

### **SAF07    *Implement a 'Just Culture' environment for supporting incident reporting and data sharing in ATM.***

This objective provides supplementary information for the monitoring activity pertaining to Activity Field 2 (Incident Reporting and Data Sharing) of the European Safety Programme for ATM (ESP).

The two most significant SLoAs for this ECIP edition are:

For the regulators to establish forum between ANSPs, investigators and airspace users to encourage 'Just Culture' during investigation: 42 % of the States report to have partially or totally completed this action. Several regulators have plans to complete this action in 2008; the remaining ones are still reviewing the action or still have no plans.

For the ANSP to establish an interface with national judicial system: 30 % have reported to have established this interface, 35 % are planning to establish it while the remaining 35% are still reviewing the action. The latter result confirms the information gained through ESP visits that indicate a lack of understanding of what is required and/or difficulties to progress on this matter.

Whilst being widely subscribed to, the major problem with the progression of this objective is the fine line between defining a legal definition between 'omission' and 'gross-negligence'. Work is ongoing in this area, but until this lack of clarity is resolved, it is anticipated that the implementation of this objective will overrun the deployment date.

### **SAF08    *Implement best practices with regard to risk assessment mitigation in day-to-day operations***

This objective provides supplementary information for the monitoring activity pertaining to Activity Field 3 (Risk Assessment and Mitigation in Day-to-Day Operations) of the European Safety Programme for ATM (ESP).

For this edition of the ECIP the most significant actions are:

For the ANSPs to develop, adapt and implement Safety Management System procedures on risk assessment and mitigation for changes to ATM system constituents (by end of 2008) in addition to ATM procedures. Around 62% of the ANSPs report to have completed the action. Most of the remaining States plan to complete the action in due time and a number are reviewing the objective. As far as procedures are concerned, for the ANSPs to develop, adapt and implement SMS procedure for safety assessment of ATM procedures, around 54 % of the ANSPs report to have completed the action and 14 % partially. Most of the remaining States plan to complete the action in due time. These figures are well up on the same period last year.

Both previous results demonstrate a large maturity of the ANSPs on risk assessment gained through the implementation of ESARR4 and, as necessary, re-enforced by the SES certification.

Regarding the development, adaptation and implementation of SMS procedure to be applied in the event of degraded working conditions within ATM system, there has been some progress in 2007: 35% of ANSPs have completed and 25% partially completed the action. However, there is some variety of understanding of this action that should be clarified with the release (planned in 2008) of the EUROCONTROL "Guidance for Degraded modes of operation".

## ECIP OBJECTIVE AND STATUS

**SAF09** *Adapt and implement best practices to enhance safety management performance and processes associated with key risk areas*

This objective provides supplementary information for the monitoring activity pertaining to Activity Field 5 (Safety Management Enhancement) of the European Safety Programme for ATM (ESP).

After a second year of reporting, two paths of progress appear in the implementation of the actions:

- Between 48 % and 53 % of the ANSPs have fully or partially adapted and implemented generic best practices in local ATM Safety Management system awareness material, safety surveys, critical shift work safety issues (e.g. Single Person operations), relationship between SMS and QMS. In addition, around 50 % of the ANSPs report to have partially or totally developed generic local Safety improvement initiatives procedures and processes.
- Around 33 % of ANSPs have fully or partially adapted and implemented generic best practices into local guidance material on SMS costs including staffing and on Safety Culture measurement and advancement.

However, it should be noted that the number of States that have fully implemented all the actions is quite low (20%) while the number of States that are still reviewing the actions is significantly high (between 20 and 30%) for all the different SLoAs.

Similarly, the implementation oversight of the generic national safety Improvement process is quite low (around 25%) and almost 35 % of the regulators are still reviewing the action. Some explanatory action towards the concerned Regulators may be considered in 2008.

**GEN01** *Implement European ATS contingency measures for Safety critical modes of operation*

This new objective is benefiting from the certification process for the States concerned by SES regulations: in line with the Commission Regulation (EC) n° 2096/2005 of 20/12/2005 laying down common requirements for the provision of air navigation services, contingency plans shall be implemented at the latest by end of 2007 (or by mid 2008 in cases where an extension of 6 months has been granted by the State to certify the ANSP).

The Agency has delivered in November 2007 the "Eurocontrol Guidelines for Contingency Planning" to support the implementation of this objective. At the beginning of 2008, around 65% of the ANSPs report to have fully or partially implemented contingency measures. Only 4 ANSPs report reviewing the objective. All the remaining ANSPs plan to implement (or to update) contingency measures by end of 2008. Several of them mention they will benchmark their plans against the EUROCONTROL guidance material.

The situation is similar concerning the training of the Air Traffic Controllers for the application of the contingency measures. The progress is far less advanced for the enactment of the national contingency regulations and the oversight of ANSPs contingency plans: only 35 % of the regulators report to have fully or partially completed the action and several are still reviewing the objective.

## ECIP OBJECTIVE AND STATUS

### **SRC01    *Implement ESARR 1 on safety oversight in ATM***

With regard to civil NSAs 15 (36%) States report SRC01 as completed. A further 12 (29%) report the status as Partially Completed whilst the remaining 15 States report Planned (1State) and Late (14).

Main delays to implementation are caused by the wait for the transposition of ESARR 1 into community law. Commission Reg. 1315/2007 now addresses the problem of double regulation issues which will assist with the objective's progress.

The majority of the States yet to complete implementation of SRC01 report some difficulty with the compliance with the core SLoA: SRC01-REG06 (Develop and implement the procedures and capabilities to conduct the actions required in ESARR 1), i.e. to undertake required safety regulatory auditing and safety oversight functions. The main problem being the unavailability of trained & competent personnel to fulfil the requirements.

Whilst also applicable to the military regulators almost 60% of the military regulators are not subscribing to this objective.

### **SRC02    *Implement ESARR2 on reporting and analysis of safety occurrences in ATM***

This objective remains behind schedule. For 2007, 22 States (51%) report the objective as completed, 10 (23%) as partially completed whilst 8 (19%) are late. (74% of States have either partially or fully implemented the provisions of ESARR 2).

For those States that report partially completed or late, the main barrier to completion is the regulator's difficulty in auditing and verifying compliance due to human resource issues. Dates to ensure full compliance vary from 2008 to 2010.

### **SRC03    *Implement ESARR3 on the use of safety management systems by ATM Service Providers***

The progress of this objective was significant during 2007, in parallel to the certification of ANSPs required in Commission regulation (EC) No. 2096/2005.

23 (53%) States now report this objective as complete; a further 9 (21%) as partially complete and 9 (21%) as late which means all States have commenced action in implementing this objective.

For those States that are late/partially complete, the delay is mainly caused by regulatory hurdles, either in transposing ESARR 3 into national legislation or HR issues resulting in the inability to properly verify compliance. However, for 3 States the delay in full compliance is due to military SLoAs which are still to be completed.

## ECIP OBJECTIVE AND STATUS

### **SRC04** *Implement ESARR4 on risk assessment and mitigation in ATM*

The transposition of ESARR 4 into Community law has been addressed through Commission Reg. (EC) No. 2096/2005. The certification of ANSPs required in that rule has facilitated the progress of this objective during 2007.

However, with a need for additional effort and resources required by ANSPs and State Regulators, only 8 (19%) of States report this objective as fully completed. A further 16 (37%) States are reporting it as partially complete with the remaining 15 (35%) States reporting as being late.

Within 31 States reporting a partially complete or late status, the ANSPs of 19 States now report the objective as complete.

The regulatory bodies of 13 States report that defining national ATM safety minima is the only remaining objective to be completed and a further 5 report both defining ATM safety minima and verifying compliance as the remaining objectives to be completed.

3 States report the Military objectives as late.

### **SRC05.1** *Implement ESARR5 on ATM services' personnel (Air Traffic Controllers)*

The transposition of ESARR 5, sections 5.1 and 5.2 has now been addressed through Directive 2006/23/EC on ATCO Licensing which has facilitated further implementation of this objective.

However, only 18 States currently report this objective as being complete. A further 12 report it partially completed and 11 States as late.

Of the 41 States reporting on this objective the ANSPs of 33 States report having implemented the requirements of ESARR 5; although in 15 States this has yet to be formally verified by the Regulator.

Significant progress has been made by States in drafting and publishing regulations in 2007 and the majority of the States have only the oversight objectives (i.e. to verify that the new or modified objectives are being applied) to complete. In most cases this is planned for 2008.

While most of States declare the objective as not being applicable to the military, 3 States report the objectives as completed whilst a further 10 States report the military objectives as partly completed or late.

### **SRC05.2** *Implement ESARR5 on ATM services' personnel (engineering and technical personnel)*

Only 13 States report that this objective is completed. A further 9 report it partially completed and 19 States as late. The statistics indicate steady progress by States with 21% reporting the objectives as partially completed compared to just 9% in 2006 and 44% reporting the objective as late compared to 60% in 2006.

Within the SES framework, this progress may be attributed to the direct applicability for the SES related States of the Commission Regulation (EC) No 2096/2005 in EU Member States. This regulation fully transposes the ESARR 5 requirements for technical and engineering personnel undertaking operational safety-related tasks.

For those States that have still to complete this objective all (except for 4) report a completion date of 2008.

ECIP OBJECTIVE AND STATUS	
<b>SRC06</b>	<b><i>Implementation of ESARR6 on Software in ATM Systems</i></b>
<p>Only 1 State reports this objective as completed by both Service Provider and Regulator. 8 States report the objective as partially completed and 22 States as late.</p> <p>With regard to the ANSP objective 10 (25%) of ANSPs report the objective as complete and 4 (10%) of Regulators report the Regulator objectives as complete. This indicates that the ANSP is more advanced than the Regulator (e.g. when ESARR6 has been applied on new ATM systems or included in internal SMS procedures/handbooks). Some ANSPs report dependency on regulation before being able to progress further.</p> <p>19 (46%) of States report that this objective will be completed by December 2008. However, this seems to be an arbitrary figure in many cases and inevitably slippage will occur. 4 (10%) of States plan completion by December 2009 and 1 State by 2011. 10 (25%) of States have not given a planned completion date at all.</p> <p>Within the SES framework, the text of an implementing rule to address the transposition of ESARR 6 into Community law has been agreed. This is expected to be enacted in 2008 and should facilitate and improve the rate of implementation.</p>	

## ESP SAF OBJECTIVES

- ATC02.2/02.5/02.6/02.7 - The implementation dates of the last three objectives has been changed and the start and end dates for 02.5, 02.6 and 02.7 at now 01/09 and 12/13 respectively. EUROCONTROL Specifications and associated guidance material is being produced to assist with the implementation under the auspices of the new SPIN SG.
- SAF06/07/08/09 - These objectives are being reviewed to ensure further refinement of the requirements.
- SAF10 - There is a proposal to create a new Pan European Agreed objective to cover the Airspace Infringements initiative. A European Action Plan for Airspace Infringement Risk Reduction will be produced (and endorsed by the PC) and in line with previous European Action Plans (e.g. Runway Incursions and Level Busts) will cover all sectors of the aviation industry. Implementation will start in 01/09 and finish in 12/11.

## ESP DELIVERABLES

During 2007, and thus far in 2008, a number of deliverables in the form of documents were achieved, notably:

- Double Regulation AD-HOC Group Report
- SRC Annual Safety Report 2007
- Guidance Material EAM5/AMC- Acceptable Means of Compliance with ESARR 5
- SRC DOC 13 - Assessment of the European Manual of Personnel Licensing - Air Traffic Controllers as a Means of Compliance with ESARR 5
- SRC DOC 21 - ESARR Implementation Monitoring and Support Programme - Audit Guidelines
- SRC DOC 28 - Assessment of EATM Requirements for European Class 3 Medical Certification of Air Traffic Controllers as a Means of Compliance with ESARR 5, Edition 2.0
- SRC DOC 42 - Assessment of the EATM 'ATCO Development Training-OJTI' and 'OJTI Refresher' Courses as Acceptable

## Means of Compliance with ESARR 5, Edition 2.0

- EUROCONTROL Voluntary ATM Incident Reporting (EVAIR) Safety Bulletin No1
- Systemic Occurrence Analysis Method (SOAM) Quick Reference Guide
- Roadmap for the Development of Safety Key Performance Indicators in ATM
- Just Culture Guidance Material for Interfacing with the Judicial System
- Airspace Infringement Safety Improvement Initiative - Safety Letters 3 and 4
- Airspace Infringement Safety Improvement Initiative - Part 1 Safety Analysis of Airspace Infringements
- Airspace Infringement Safety Improvement Initiative - Part 2 General Aviation Airspace Infringement Survey
- Airspace Infringement Safety Improvement Initiative - Part 3 Case Study - Switzerland
- Airspace Infringement Safety Improvement Initiative - Flight

**Information Services Survey**

- EUROCONTROL Guidelines for Contingency Planning of Air Navigation Services
- Reference Guide to EUROCONTROL Guidelines for Contingency Planning of Air Navigation Services
- EUROCONTROL Guidance for Design of Contingency Strategies (based on Current Practices and Common Modes of Failure)
- Safety Assessment Methodology V2 - Electronic version
- Safety Assessment Methodology Newsletters Nos 16 to 18.
- EUROCONTROL Specification and Guidance Material for Short Term Conflict Alert released
- STCA and ACAS Interaction and Interoperability Workshop Report
- ESP Stakeholders' Reports 2 and 3
- Hindsight Magazine 5 and 6
- European Safety Programme for ATM (ESP) - Implementation Report on Implementation Progress to mid 2007
- DVD - ASSIST - ATCO Training for Emergency and Unusual Situations
- CD - ALLCLEAR Toolkit

All of the above deliverables can be obtained from either the SRC website at:

[http://www.eurocontrol.int/src/public/site\\_preferences/display\\_library\\_list\\_public.html](http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html)

for safety regulatory material or the ESP website at:

[http://www.eurocontrol.int/esp/public/standard\\_page/documentation\\_dis.html](http://www.eurocontrol.int/esp/public/standard_page/documentation_dis.html)

for safety management material. At the latter address you will find a registration form you can fill in if you would like us to send you hard copies. If you have problems downloading or ordering a document,

please let us know at: [esp@eurocontrol.int](mailto:esp@eurocontrol.int).

A number of ESP related workshops were held during 2007 and other so far in 2008; documentation from these can also be found on our websites.

**KEEPING YOU INFORMED**

These ESP Stakeholders' Reports are produced twice a year in May and November. To supplement this report, we have developed an ESP e-Bulletin, which will be issued in between these publication dates. The first e-Bulletins have already been distributed and are intended to bring you up-to-date with what's happening on the programme. The intention is for the e-Bulletin to be bite-sized to raise awareness and to bring you 'hot off the press' items. We also welcome contributions from our Stakeholders.

**SUMMARY**

In general, States have made very good progress towards achieving their activities, but there are still some areas for concern and we are tackling these with the States concerned. Once the remaining LCIP reports have been reviewed and the 2008 Safety Framework Maturity Survey is complete, we will consolidate our findings and will provide a more detailed update in the next Stakeholders' Report.

# ACTIVITY FIELD 2

## CONTINUED FROM PAGE 12

The direct outcome of the workshop is a set of high level and technical recommendations aimed at improving safety and operations at Madrid Barajas Airport. Specifically, participants and stakeholders were recommended to:

- Form Operational and Safety Partnerships.
- Encourage the implementation of EUROCONTROL European Safety Programme (ESP) for safety improvements.
- Stabilise adequate mechanisms for providing feedback and recommendations from incident reports.
- Monitor the effects of the implementation of agreed actions from the Action Plan "Madrid operational and safety improvements". Consider the best way of combining information from Aena's incident reporting and investigation system and EVAIR.
- Promote opportunities for joint pilot/controller TRM/CRM training.
- Continue joint efforts for improvement and integration of stakeholders' voice under unified and agreed actions.

As can be seen from the first recommendation, it is very important that this WS demonstrated that it is possible, and necessary, to have a cooperative approach to solving issues and a partnership between different stakeholders (Airlines Associations and their members, Service providers, EUROCONTROL etc) in order to have mutual understanding regarding problems that different stakeholders are faced with.

More information about the workshop can be found on the following website: [http://www.eurocontrol.int/esp/public/event/080415\\_PilotATCO\\_WS.html](http://www.eurocontrol.int/esp/public/event/080415_PilotATCO_WS.html)

## SOAM - SYSTEMIC OCCURRENCE ANALYSIS METHODOLOGY

### WHY SOAM ?

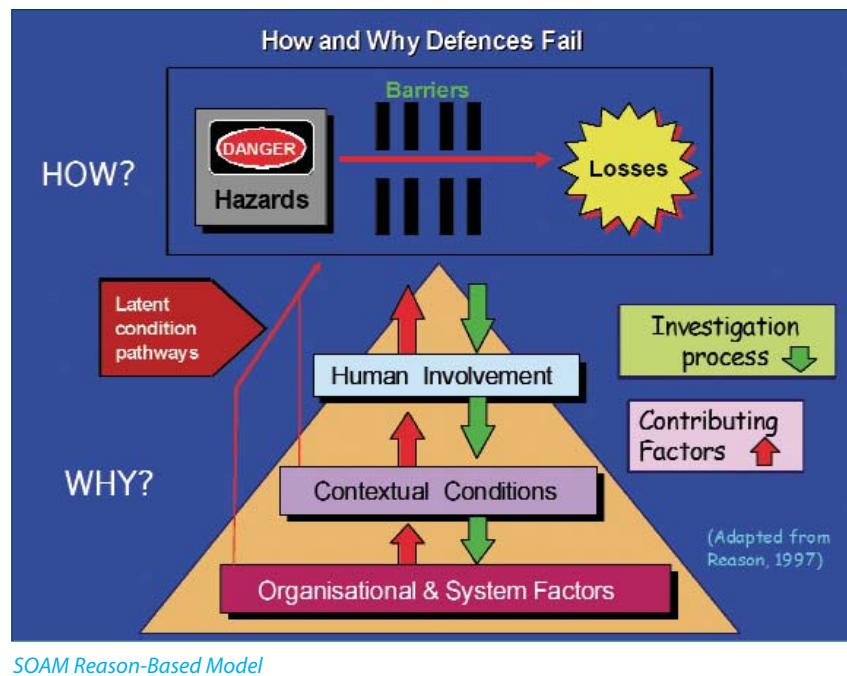
The basis of the development of a methodology for systemic, practical and pragmatic analysis of occurrences in ATM was identified during the implementation phases of ESARR 2. Some of the issues encountered in the implementation of ESARR 2 stimulated the advancement of the SOAM methodology for ATM and the subsequent development of SOAM training:

- the lack of uniform and comprehensive reporting and assessment of safety occurrences;
- significant variations in the quality and quantity of safety data collected and reported;
- the absence of clearly identified causes of reported safety occurrences;
- the lack of distinction between contributing and incidental factors in existing analysis
- the absence of a systematic method-

ology for managing in-depth investigations in a short time.

Indeed, Investigation of occurrences is an essential contributor to improving ATM safety by enabling appropriate actions to be taken to prevent similar events in the future and to permit lessons learned to be shared with others. Analysing the event in a systematic and consistent manner helps to ensure that all contributory factors, many of which often are not immediately apparent, are identified and that the output from the investigation properly focuses the remedial actions in an effective way. SOAM provides a proven method of analysing occurrences effectively and enables the key elements of the investigation to be presented in an easily understandable way.

Although the methodology is principally designed to facilitate the analysis of safety-related occurrences, it can also be effective when used as part of a hazard identification process, for generic types of occurrences or hypothetical events.



## SOAM DEVELOPMENT

The SOAM methodology was derived from the Reason Model ~ circa 1990, Tripod Delta ~ circa 1994 (Shell Petroleum) and ICAM ~ circa 2000 (BHP Billiton) at first and customized for EUROCONTROL by Dedale Asia.

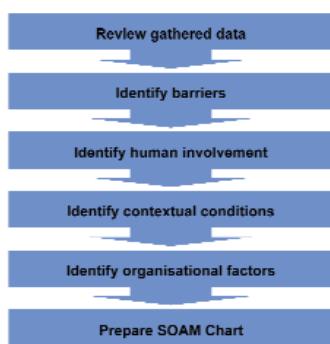
EUROCONTROL SOAM (EAM2/GUI8) Guidelines were first released in November 2005. Since then further refinements have been made and a SOAM training course (see later for details) has been developed.

## SOAM PROCESSES

The SOAM methodology includes structured processes in order to ensure:

- identification and classification of four types of contributing factors;
- sorting out of irrelevant, non-contributing facts;
- moving from a focus on human error to identification of systemic causes (supporting the "Just Culture" principles);
- analysing simple events through to high severity incidents and accidents;
- linking clearly the recommendations to the facts of the analysis.

These can be visualized in the following diagram.



The process can be applied to any new occurrence, and is also suitable for the retrospective analysis of previously investigated occurrences in an attempt to extract additional learning for the promotion of safety. SOAM can also be applied proactively to generic occurrences (e.g. level busts, separation minima infringements, runway incursions etc) or hypothetical events. ***These applications result in a comprehensive analysis of absent or failed barriers and latent conditions that are commonly found to contribute to such events, thereby identifying areas of organisational weakness that need to be strengthened to improve safety and prevent future occurrences***

## SOAM OUTPUTS - THE SOAM CHART AND RECOMMENDATIONS

The end result of the SOAM Processes is the preparation of a SOAM Chart from which generic recommendations can be developed. The SOAM chart on page 25 is the result of how SOAM could be applied to an occurrence such as the Ueberlingen accident in 2002.

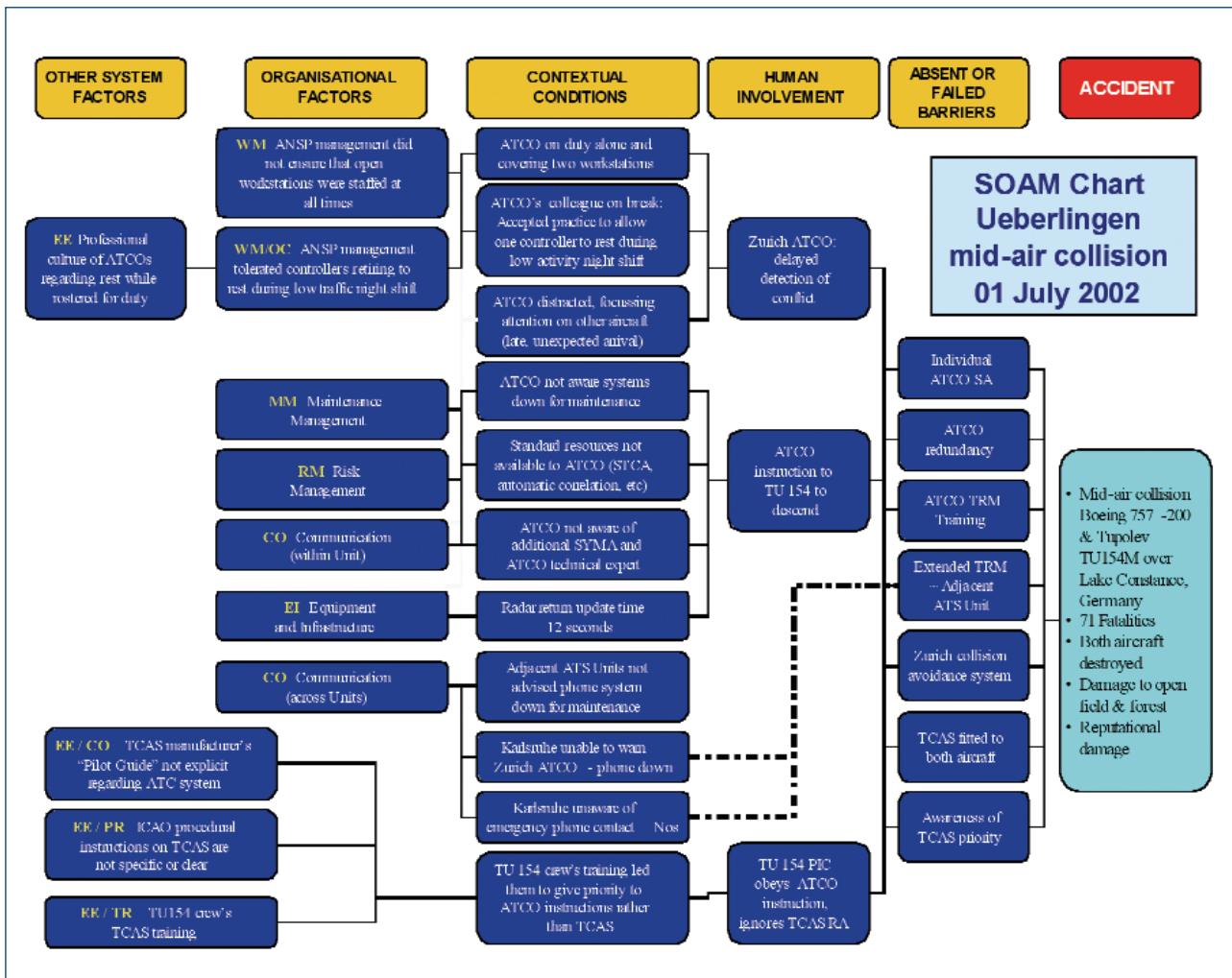
## SOAM TRAINING AND COURSES

SOAM is an important tool that is now available to those involved investigating safety-related occurrences.

Implementation and consistent application of the methodology is expected to improve the overall objectives of the assessment of ATM occurrences. The available training course (SAF-SOAM) provides a basic understanding of how SOAM can be used and is suitable both for individuals whose primary role is occurrence investigation and for those who may be invited to participate in the analysis of an occurrence investigation. The knowledge gained through the training also increases awareness of many sources of risk in the ATM environment and can play an important part to support the development of a good safety culture within organisations.

The course is based on theoretical modules, case studies of past occurrences and practical experience in applying the methodology. Two pilot courses were successfully conducted in October 2007 with a wide range of participants having a mix of operational and safety background. The first public courses were completed in April 2008 at Crocontrol in Zagreb under the umbrella of the ESP (SASI) and co-sponsored by the EUROCONTROL Agency and the SRC (Safety Regulation Commission). Details of future courses are shown below.

The SOAM methodology as introduced and practised in the course is suitable for application in operational, engineering and support environments. Those seeking to broaden their knowledge of tools that can be used within a safety management system, or involved in the promotion or development of a good safety culture within an organisation, are also likely to find the course useful.



Example SOAM Chart

## SOAM INFORMATION

**Guidelines:** SOAM EAM2/GUI8  
 Guidelines are available through the SRC website at:  
[http://www.eurocontrol.int/src/public/standard\\_page/esarr2.html](http://www.eurocontrol.int/src/public/standard_page/esarr2.html)

**SOAM Quick Reference Guide:** The SOAM Quick Reference Guide can be requested from the ESP Coordination Office at:  
[http://www.eurocontrol.int/esp/public/standard\\_page/documentation\\_dis.html](http://www.eurocontrol.int/esp/public/standard_page/documentation_dis.html)

**Training Courses:** Details of the SAF-SOAM Training Courses can be found on the IANS website at: [http://www.eurocontrol.int/ians/public/standard\\_page/training\\_catalogue.html](http://www.eurocontrol.int/ians/public/standard_page/training_catalogue.html)

The dates for the next 2 courses to be held at IANS, Luxembourg are:

- 15 - 17 October 2008 (Code C02).
- 20 - 22 October 2008 (Code C09 (Lab))

# ACTIVITY FIELD 3

## RISK ASSESSMENT AND MITIGATION IN DAY-TO-DAY OPERATIONS

by Patrick Mana & Françoise Girard



**Patrick Mana**  
(DAP/SSH)  
ESP Activity Field 3  
Thread Leader



**Françoise Girard**  
(SRU)  
ESP Activity Field 3  
Thread Leader

### ACTIVITIES:

#### ESARR 4 Implementation :

- Development of a Design Risk Classification Scheme
- SAM (Safety Assessment Methodology)
- Guidelines:
  - ATM Procedure Safety Assessment
  - Safety Case Development
  - Assess and Manage Degraded Modes of Operation
  - Define and Assess Changes to ATM System
  - Human Factors Aspects of Safety Assessment
  - Promote Safety Assessment Practices

### ESARR 4 IMPLEMENTATION

#### RISK CLASSIFICATION SYSTEM (RCS) TO SUPPORT ATM SYSTEM DESIGN (ESP REC 3.1.1)

#### EUROPEAN RISK CLASSIFICATION SCHEME

EUROCONTROL was requested to support the European Commission (EC) in developing appropriate regulatory material for a Risk Classification Scheme (RCS) for the design of the ATM functional system. A Mandate formalising this request (the RCS Mandate) was accepted by EUROCONTROL in April 2006.

In response to the Mandate, EUROCONTROL has developed a draft SES Implementing Rule in consultation with stakeholders and technical experts. The Regulation lays down the requirements for the definition and implementation of a RCS at European, national and organisational levels. The rule will be supported by non-binding advisory material, identifying *inter alia* the values of the safety targets for each severity class of risk. Improved safety benefits are expected to accrue from the setting of safety targets at European, State and Organisation levels, as well as from the requirements for the implementation of a structured, quantified approach to risk assessment and mitigation applicable to the whole ATM system, providing the necessary assurance that the safety targets are met. A draft Implementing Rule, Advisory Material and Justification was sent for formal consultation in early 2008 using the

EUROCONTROL Notice of Proposed Rule-Making (ENPRM) process. This process allows all States, stakeholders and other interested parties to express their views. A workshop to discuss the outcome of the formal consultation will take place at the end of April 2008 and EUROCONTROL expect to submit the final report to the EUROPEAN Commission by July 2008. the Commission will then decide when the Regulation should be published.

#### SAFETY ASSESSMENT METHODOLOGY (SAM) (ESP REC 3.2.1)

##### SAM NEWS LETTER

Four additional On-Line SAM Newsletters (N° 16-19) have been released; they provide a wealth of useful information and guidance on SAM related activities - see:

[www.eurocontrol.int/safety/public/subsitehomepage/homepage.html](http://www.eurocontrol.int/safety/public/subsitehomepage/homepage.html) to subscribe.



## GUIDANCE MATERIAL FOR SAFETY

### CASE (ESP 3.2.2)

#### WHAT IS A CHANGE?

The SAMTF (Safety Assessment Methodology Task Force) is finalising the development of guidance material aimed at proposing a common interpretation of what can be considered as a change subject to ESARR4 application (and Common Requirement 2096/2005) and to be submitted for review as per ESARR1 and its transposition into EC Regulation.

It includes a process for determining if an event is a change as per ESARR4 and provides guidance for performing ad-hoc safety assessment (Type1) for certain changes for which some aspects of ESARR4 may not apply as well as criteria to decide which changes should be subject to the usual SAM Process (Type2).

#### CROSS BORDER CHANGE

#### INFORMATION

SAMTF has initiated the development of a guidance material to support the coordination of the entry into operations of a change as per ESARR4 that impacts not only the ANSP initiating the change but also adjacent ANSPs.

#### SAFETY ASSESSMENT MADE

#### EASIER (SAME)

The aim of Safety Assessment Made Easier is to present a clear, complete, coherent and integrated approach to safety assessment that will meet the needs of EUROCONTROL and its Stakeholders, now and in the future. It has been produced in response to:

- Stakeholder requests for a clearer, more complete and holistic view of the way to conduct safety assess-

ments

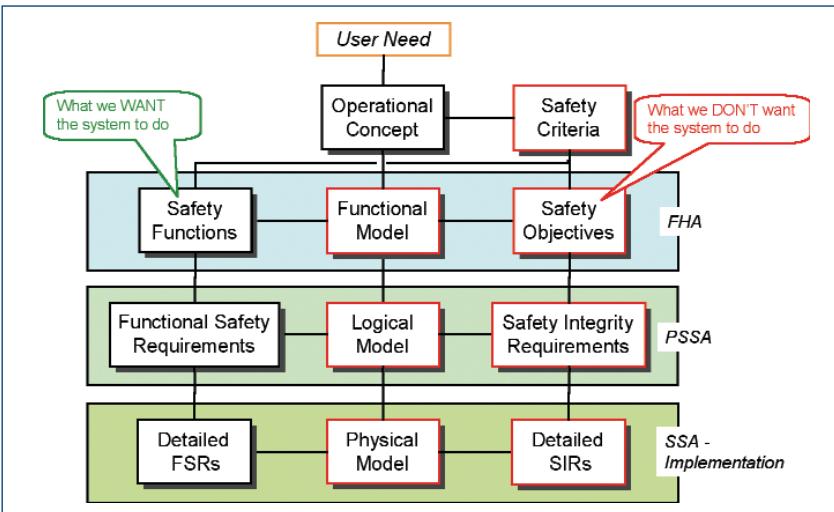
- EUROCONTROL's own realization that new concepts currently being addressed by EATM and SESAR required a broader approach to safety assessment.

It seeks to provide a broader framework on to which the SAM-defined processes, and the associated safety, human-factors and system-engineering methods, tools

developed and will be delivered from the 2008 to an extended audience of up to 50 persons to replace the previous SAM-FHA.

#### COMMUNITY SPECIFICATION (CS):

The CS on Software Assurance Levels (SWAL) is being developed by CEN TF191 and will make reference to EUROCAE WG64 ED-153. ED-153 will be submitted to EUROCAE approval by September 2008. ED-153 is a transposition of the



and techniques are mapped in order to explain their purpose and interrelationships.

The SAME initial version has been completed and will be submitted to SAMTF for approval.

#### SAFETY ASSESSMENT

#### TRAINING COURSES:

An updated SAM-FHA course has developed and will be delivered from the second semester 2008 onwards. It will focus only on the FHA step of SAM and will be delivered to max 20 persons. A new course "Introduction to SMS" is being

SAM-Recommendations for ANS SW into a EUROCAE document.

This CS highlights the difficulty of developing CS under the SES Interop Regulation 552/2004 though some aspects are related to safety stated through Essential Requirement N°3 of 552/2004 as well as SES Common Requirements 2096/2005.

#### R&D ON TARGET SETTING AND APPORTIONMENT (ESP 3.3.1):

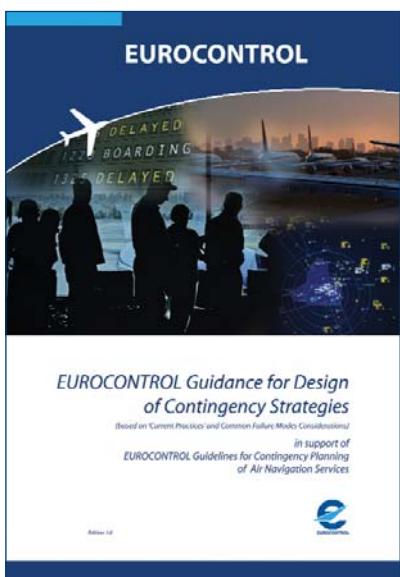
The EEC is producing a CBT and a leaflet to support the use of guidance material on the Target Level of Safety apportionment.

## CONTINGENCY PLANNING

### ESP RECOMMENDATIONS 3.2.3, 3.4.2 AND 3.5.2

#### FURTHER GUIDELINES RELEASED FOR DESIGN OF CONTINGENCY STRATEGIES

Following the release of EUROCONTROL Guidelines for Contingency Planning and an accompanying Reference Guide in October 2007, an additional complementary deliverable was published in February 2008 - **EUROCONTROL Guidance for Design of Contingency Strategies.**



The purpose of this new guidance material is to help Air Navigation Service Providers (ANSPs) to design contingency strategies and operational practices to best deal with challenging circumstances. This document is based on a study to identify best practice in Air Traffic Management (ATM) contingency planning, with the aim of producing information that will help ATM organisations prepare for the potential loss of a major

unit, such as an Area Control Centre. The strategies presented in the guidance material are based on a common high level framework that can be used by ANSPs to mitigate against a broad range of threats and other vulnerable scenarios (e.g. pandemics) and 'common failure' modes (software bugs, power supply failures etc). Moreover, there is a section providing a view of contingency from the system engineering perspective which can play a critical role during contingency and be a major influence on the strategy(ies) taken by ANSPs.

Copies of the document and the other two Contingency Planning guidelines can be downloaded from:

[http://www.eurocontrol.int/ses/public/standard\\_page/sk\\_sesis\\_guidelines.html](http://www.eurocontrol.int/ses/public/standard_page/sk_sesis_guidelines.html)

Alternatively, hard copies can be ordered by filling in the ESP Portfolio Literature form at:

[http://www.eurocontrol.int/esp/public/standard\\_page/documentation\\_dis.html](http://www.eurocontrol.int/esp/public/standard_page/documentation_dis.html)

You are invited to give feedback on the documentation or to subscribe to be kept informed of the future developments on: [http://www.eurocontrol.int/ses/public/standard\\_page/sk\\_sesis\\_guidelines.html](http://www.eurocontrol.int/ses/public/standard_page/sk_sesis_guidelines.html)

#### SCG APPROVES CONTINGENCY PLANNING 2008 WORK PROGRAMME

During the development of the edition 1.0, all CTF members agreed that more guidance on "Service Continuity" issues should be given in future editions of the Guidelines especially on the "network" aspects of contingency, FABs and economical and funding issues.

Edition 1.0 of the "Guidelines" was seen as 'work in progress' and real added value would only be gained by addressing

those outstanding "Service Continuity" issues that were only partially covered in the first phase of the project.

In March 2008, the Stakeholder Consultation Group (SCG) approved the proposed Contingency Planning work Programme for 2008. Consequently, the Agency in concert with the Contingency Task Force is now progressing nine Work Packages which will inform the development of revised Guidelines to be published at the end of the year:

The Core activities are inter-related tasks addressing "Service Continuity" aspects: "Service Continuity" (WP1), "Regional and Pan-European" aspects (WP2) and "Costs and Sharing of Costs" (WP3).

The developments will be supported by a series of fast-time simulations of "Contingency Scenarios" (WP4) to study the effects of total failure of ATS units and various recovery stages for four volunteer ANSPs. The output will also be used to inform the work in WP3 as well as providing information on the environmental aspects of contingency.

A second group of WPs are mainly required to complement the existing Guidelines on the following aspects: Legal & Regulatory aspects (WP 5); Testing, Exercising CP & Training (WP 6); Security (WP 7); Safety (WP 8); COM (WP9).

#### DEGRADED MODES OF OPERATION

As a consequence of these WPs, some work associated with the development of guidance on Degraded Modes of Operation will be delayed into next year. However, it is still intended to release initial guidance covering the safety cultural aspects of working in degraded modes in the coming months.

# ACTIVITY FIELD 4

## SYSTEM SAFETY DEFENCES



**Ben Bakker**  
(DAP ATS)  
ESP Activity Field 4  
Thread Leader

**Scope:** *ESP Activity Field 4 concentrates on supporting controllers with system safety defences in a more complex traffic environment with demanding traffic increases. This includes material on cost/benefit analysis, harmonized specifications and operational requirements for ground based safety nets and best practices, including training support, as well as the remaining work of ACAS RA downlink.*

### SHORT TERM CONFLICT ALERT (STCA)

After completion of the formal consultation using the EUROCONTROL Notice of Proposed Rule-Making (ENPRM) process, the EUROCONTROL Specification for STCA was approved by the Director General and notified to the Provisional Council. The resulting Edition Number 1.0 was published on 22 November 2007 - a symbolic date as this was also the day when Amendment 5 to the ICAO PANS-ATM (Doc 4444) entered into force. As from this day the ICAO and EUROCONTROL documentation for STCA are fully aligned. STCA is confirmed as being only a safety net and not an ATC tool.

**STCA is a ground-based safety net, intended to assist the controller in preventing collision between aircraft by generating, in a timely manner, and alert of a potential or actual infringement of separation minima.**

STCA is not intended or accepted to alter the way of working of the controller. As other ground-based safety nets, STCA is an integral part of the ATM system and as such can only be part of a combination of mitigations for identified hazards in the ATM system.

The different Stakeholder Lines of Action of ECIP Objective ATC02.2 regarding pan-European implementation of STCA in accordance with the EUROCONTROL Specification in 2007 and 2008 is now progressing. An early look at the status information shows encouraging progress but also that the implementation will not be complete by the end of 2008.

But even if this would be the case, the operational use of STCA will need continuing monitoring to ensure its effectiveness in the face of ever increasing traffic levels and complexity.

Development of an awareness creation and computer-based training package has commenced to help promote best practices. Furthermore a second safety nets workshop is taking place on 27 May 2008.

### MINIMUM SAFE ALTITUDE WARNING (MSAW), APPROACH PATH MONITOR (APM) & AIRSPACE PENETRATION WARNING (APW)

Development of EUROCONTROL Specifications and Guidance Material for the remaining three ground-based safety nets is progressing according to schedule. The main tasks still to be completed are:

- Development of safety assurance documentation. Before deriving such docu-

mentation from the existing safety assurance documentation for STCA, that documentation is being improved using the experience gained from its use in IANS courses and also aligned to the latest version of the EUROCONTROL Specification for STCA.

- The Case Study related to MSAW in the Swiss ANSP skyguide area of responsibility explores key questions regarding, amongst others, the advantages and drawbacks of using manually defined polygons or automatically captured Digital Terrain Elevation Data (DTED) has been extended to also address APM.
- A new Case Study related to APW has started in cooperation with the Belgian Military ATC at ATCC Semmerzake.

The complete package will be released at the end of 2008. The implementation period for the related ECIP Objectives ATC02.5/6/7 will run until the end of 2013. The Agency will continue to support implementation during that period.

### OVERALL, COORDINATED CONCEPT

The FARADS project (in particular the consultation of Teams at the end of the project) and the STCA & ACAS Interaction and Interoperability Workshop (27-28 March 2007) have provided the justification to now commence the development of an overall, coordinated concept for airborne and ground-based safety nets without delay. At the same time the I-AM-SAFE project has indicated a feasible approach for starting this development.

Hence, the PASS project commenced October 2007. PASS stands for Performance

and safety Aspects of STCA - full Study. The purpose of the project is to assess the performance and safety aspects of STCA, including human performance elements, and including consideration of interactions between STCA and ACAS. The PASS project is carried out in three partly overlapping phases:

- The monitoring phase studies the behaviour of STCA and ACAS in European airspace. This phase, ending in 2008, not only provides input for the following phases but also aims to provide insight in the safety benefits that could be achieved from displaying ACAS Resolution Advisories to controllers.

Monitoring is carried out in two French ACCs and two French APPs, while arrangements to carry out monitoring in other European centres are being finalised with Maastricht UAC, DFS and skyguide.

- The analysis phase will perform model-based performance evaluation and requirements determination. If necessary, complementary real-time experimentation will be performed. This phase includes operational safety assessment and will end in 2009.
- The synthesis and guidelines phase will then consolidate the findings. This phase and the project will be completed mid 2010.

## WORKING ARRANGEMENTS

The SPIN Task Force conducted its 15th and final meeting in March 2008 (see photo). An important aspect of those meetings was to allow significant time for exchange of experience. To that end 11 of these meetings were conducted on location to allow visits to operational centres.

This demonstrated the need for a working arrangement with a longer lasting mandate to continue providing opportunities for exchanging experience. Hence, the SPIN Sub-Group was established to:

- Complete and maintain the EUROCONTROL Specifications and Guidance Material for STCA, MSAW, APM and APW.
- Develop the overall, coordinated concept for airborne and ground-based safety nets including, if appropriate, development of minimum operational performance specifications for ground-based safety nets.
- Address enhancement of ground-based safety nets using new surveillance technologies, down-linked aircraft parameters or other means.

More information on all of the above topics can be found at : [www.eurocontrol.int/safety-nets](http://www.eurocontrol.int/safety-nets)

The new meaning of the acronym SPIN is "Safety nets Performance Improvement Network" and, in order to maximise the reach of the Network, a four-monthly newsletter NETALERT is being published.



# ACTIVITY FIELD 5

## SAFETY MANAGEMENT ENHANCEMENT



**Tzvetomir Blajev**  
(DAP/SSH)  
Eurocontrol  
Co-ordinator  
Safety Improvements  
Initiatives

### SKYBRARY IS NOW LAUNCHED!

#### THE CHALLENGE

How to collect, organize and deliver to the practitioners the cumulative aviation safety knowledge of the industry? After all we hear very often in the aftermath of an accident - "We have already known about these problems. Didn't they know...?"

How can I know what we all collectively know?

How to organize this knowledge not to remain static but to actively find way into our behaviour - to change the everyday working habits? And how to shape behaviour for statistically very rare events - for which everyday working habits can not be created?

The challenge posted by the questions above can be de-composed in 4 dimensions - each represented by the following tensions:

- **Defining the scope** - How to provide to the aviation community the "good to know" but not losing the focus of the "need to know"?
- **Knowledge Acquisition** - How to involve the community in generating knowledge and at the same time preserve the credibility of the source?
- **Organization** - How to allow the knowledge to grow organically and at the same time to have it neatly organised?

- **Shaping Behaviour** - How to accumulate the global "big picture" about aviation safety and simultaneously to influence the local "everyday habits" of the practitioners.

To respond to this challenge, EUROCONTROL initiated a project to build a Sky Library - **Skybrary**. Currently the **Flight Safety Foundation (FSF) and ICAO** contribute to the project as well as many professionals from the industry. Skybrary was officially launched on 9 May 2008 - you now have the unique opportunity to visit it and benefit from the accumulated safety knowledge.

#### WHAT IS SKYBRARY?

Imagine the well known Flight Safety Foundation Approach and Landing Toolkit - ALAR Toolkit:

- Multiply it by 14 - for there are 14 operational issues categories (CFIT, Runway Incursions, Runway Excursions, Loss of Control, Level Bust, Fire, Ground Operations, Human Factors, Airspace Infringement, Bird Strike, Air-Ground



Communications, Loss of Separation, Wake Vortex Turbulence and Weather);

- Make it universally accessible - Skybrary is available (both for use and providing instant feedback and contributions) free of charge to the aviation community via the Internet;
- Provide a tool for instant location of the information - Skybrary gives 3 different ways to search:
  - (1) Google-like search engine
  - (2) categories search
  - (3) mind-map graphics - <http://dev2.mijnlieff.nl/wikiMindMap/index.php?topic=CFIT>.

Skybrary also gives to the user an unique opportunity to search in ICAO documents - [www.skybrary.aero/sissy](http://www.skybrary.aero/sissy).

- Link the knowledge elements with more dynamic interactive behaviour shaping modules, - Skybrary provides a coherent link from knowledge articles to direct behaviour influencing applications like e-learning modules, videos, posters, presentations.

The result you will get will be in the direction of Skybrary - [www.skybrary.aero](http://www.skybrary.aero).

#### WHO IS THE TARGETED AUDIENCE?

Skybrary is aimed at anyone interested in aviation safety. Being a single and most comprehensive portal for aviation safety it should also serve as an easy-to-find tool for aviation professionals. The production process is, however, targeted in explicitly bringing value to three groups of stakeholders:

- Safety - Safety Managers, Incident Investigators, Flight Safety Officers, Safety Experts, Safety Regulators.

- Operations - Air Traffic Controllers, Pilots, ATC Operations line managers, Chief pilots, Operations experts.

- Training - Training Experts, Instructors.

Some typical questions for the above three groups are along the lines:

- Know-what:

- “What the others do for this hazard?”
- “What the regulations say about it?”
- “What exactly this safety management process should look like?”
- “What training material exists?”

- Know-why:

- “Why the regulations are like this?”
- “Why do we have to follow the procedures”

- Know-how:

- “How to increase safety?”
- “How the others do this?”
- “How to comply with the regulations”
- “How to change the trainee’s behaviour to last long time?”
- “How to balance the quality of the training versus the available time?”



Skybrary Pre-Launch Promotion at ATC Amsterdam 2008

# AIRSPACE INFRINGEMENT INITIATIVE - OVERALL PROGRESS

by Alexander Krastev, Airspace Infringement Initiative Project Manager

## INTRODUCTION

The Airspace infringement safety improvement initiative was launched in the beginning of 2006. The main goal is to reduce the risk to aircraft operations caused by airspace infringements by developing and implementing a Europe-wide action plan. The initiative received wide support by the aviation safety stakeholders and became an important thread within the European Safety Programme (ESP) Activity Field 5.

To ensure the necessary solid base for the development of the Airspace Infringement Action plan a number of risk analysis project were carried out in 2007. They led to the establishment of 118 potential safety improvement measures, defined at different level of granularity and allocated to 7 domains - AIM, AGC, AOM, ATS (FIS), NAV, Safety awareness & culture and Pilots skills and airmanship.

The draft safety measures were submitted to a wide consultation process with the objective to identify those, which should be included in the action plan. All risk stakeholders were included in the consultation - general aviation, airlines, military aviation; regulators (civil and military), ANSPs (civil and military) and Air Accident Investigation Boards, international organisations and associations.

## AIRSPACE INFRINGEMENT WORKSHOP

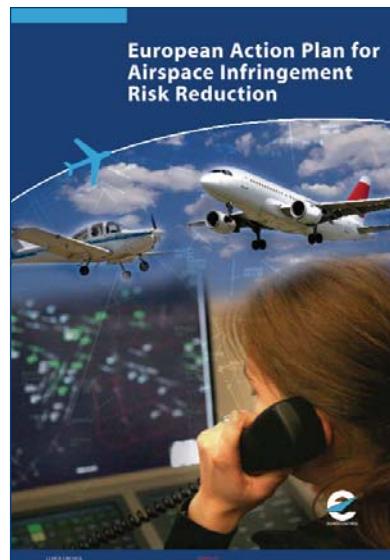
The Airspace Infringement Workshop was held on 24 January 2008 at EUROCONTROL HQ in Brussels. It was the last milestone of the risk analysis phase of the Airspace Infringement Initiative. Over 100 representatives from around Europe participated and contributed to the elaboration of the risk reduction strategy and recommendations. The stakeholder groups represented were

airspace users (general aviation, airlines, military aviation); regulators (civil and military), ANSPs (civil and military) and Air Accident Investigation Boards.

The workshop facilitated the establishment of a common understanding and awareness of airspace infringement risk dimensions and enabled the identification of a number of safety improvement measures that are widely supported by the stakeholders for implementation by means of a common Action plan.

The workshop participants agreed that practicable safety improvements are possible, but making a significant difference across Europe will take time and effort. EUROCONTROL should take the leading role in developing the Action plan and provide guidance and support to stakeholders for its implementation.

The excellent and focused presentations, the constructive discussions and the dominating collaborative spirit ensured the success of the workshop.



## THE EUROPEAN ACTION PLAN FOR AIRSPACE INFRINGEMENT RISK REDUCTION

The workshop results and the ensuing consultation of workshop recommendations led to further refinement and consolidation of supported safety improvement measures into the draft European Action Plan for Airspace Infringement Risk Reduction.

The Action plan establishes a number of safety improvement actions to be implemented by civil and military airspace users, ANSPs, national authorities and EUROCONTROL Agency in the timeframe 2008 - 2011. It recognises the need to ensure flexibility for action owners to design their implementation strategy in accordance with their particular operational environment and safety needs. It also acknowledges that different owners will start from different positions.

The Action plan provides further detailed information and explanation of the recommended and harmonisation actions, as well as indication of existing projects, best practices and guidance material in support of their implementation. Similarly to previous safety improvement initiatives, a toolkit is being developed to facilitate the Action plan implementation.

## ECIP 2009-2013 - NEW SAF 10 OBJECTIVE

Implementation monitoring will be carried out via the proposed new ECIP objective SAF 10 which, subject to final endorsement by the SCG and PC, will come into effect in ECIP version 2009-2013.

# SAFETY CULTURE

by Barry Kirwan and Rachel Gordon



**Barry Kirwan**  
(EEC)  
Coordinator Safety R&D Activities



**Rachel Gordon**  
Safety R&D Activities  
Specialist

## SAFETY CULTURE

The Safety Culture work in 2008 follows three main strands: Safety Culture Measurement, Safety Culture Improvement and Safety Culture in Degraded Modes

## SAFETY CULTURE MEASUREMENT

Work is continuing with the refinement and application of the Safety Culture Measurement Tool (SCMT). Four ANSPs are being surveyed in 2008, but first the tool has been enhanced following a detailed analysis of it based on 2007 results. Key changes include refinement of questions, and separating the questionnaire into three different sections: for controllers & assistants & ATC supervisors; for technical/engineering/maintenance personnel and their supervisors; and for managers. The refinement process has also drawn on some work for the FAA in the maintenance and engineering sector, as well as related EUROCONTROL work on degraded modes safety culture (linked to the Contingency work area). This refinement will maintain the integrity of the original questionnaire, but also will make it easier to complete, as different groups will find it more tailored to their situation.

## SAFETY CULTURE IMPROVEMENT

The second thread of work in 2008 concerns the development of guidance on how to address and improve safety culture. This guidance is first consolidating ideas from other fields where safety culture as an approach is older, such as in the petrochemical and nuclear power domains. This work is culminating in a joint EUROCONTROL and FAA White Paper on Safety Culture, to be produced before the summer. Additionally, guidance material is being gathered to develop a 'toolbox' for ANSPs in mid-2009. This toolbox will allow other non-Eurocontrol approaches to safety culture, but will aim to help steer ANSPs through the process in what is sometimes a daunting and confusing field.

## CEOS' SAFETY CULTURE WORKSHOP

One key initiative arising from the work is the CEO Workshop on Safety Culture scheduled for later this year. This workshop will aim to enhance CEO's understanding of the

field, and what it means to them and their organisations. This key event is being run as part of the SASI initiative, but may also act as a watershed event for the industry. Two smaller workshops with ANSPs are also being planned to prepare for the CEO workshop.

## SAFETY CULTURE - DEGRADED MODES

The third strand is the safety culture work on degraded mode operations, which was a highlighted aspect from the Überlingen accident; it is intended to publish guidance for this specific area during 2008.

## IAEA PARTNERSHIP

Lastly, the International Atomic Energy Agency (IAEA), who created the concept of Safety Culture back in 1986 after the Chernobyl accident, wish to collaborate with EUROCONTROL in the area of safety culture. We welcome this approach which could prove to be a useful alliance for the industry as a whole.





# FUTURE EVENTS

## JUNE 2008

- 10 / 11 - SAFREP Ad Hoc Gp - Brussels
- 11 / 12 - Safety Team 32 - Brussels
- 17 / 18 - Contingency Task Force 7
- 18 / 19 - SRC 32 - Brussels

## JULY 2008

- 22 / 23 - SAFREP Ad Hoc Gp - Brussels

## SEPTEMBER 2008

- 10 / 11 - SAFREP Ad Hoc Gp
- 17 / 18 - Contingency Task Force 8 - Amsterdam
- 29 - SAFREP Task Force - Leuven
- 30 - Safety Team 33 - Leuven

## OCTOBER 2008

- 1 - Safety Team 33 - Leuven
- 1 / 2 - SRC 33 - Brussels
- 7 / 8 / 9 - SISG 23 - Portugal

## NOVEMBER 2008

- 17 / 18 / 19 - Contingency SASI Training Event- Malta
- 20 / 21 - Contingency Task Force 9 - Malta

## WEBSITE *info* [www.eurocontrol.int/esp](http://www.eurocontrol.int/esp)

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May 2008

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Published by :

**EUROCONTROL Headquarters**

General Secretariat Directorate

96, rue de la Fusée

B - 1130 Brussels, Belgium