

SMS IMPLEMENTATION THE EUROCONTROL PERSPECTIVE

*EASA Workshop On Safety Management Systems
15 & 16 January 2008*

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EUROCONTROL

Directorate ATM Programmes

Business Division Safety, Security & Human Factors

European ATM Safety Framework



	Safety Regulation	Safety Management
	<ul style="list-style-type: none">- ATM regulation- Independent view- Establish rules- Monitor !	<ul style="list-style-type: none">- Achieve- Assure- Promote
Pan-European	Safety Regulation Commission	EUROCONTROL Agency
National	Civil Aviation Authority (MoT)	Air Navigation Service Provider

JAA/EASA co-ordination for Airborne regulations

International Regulations on ATM Safety

International Standards
and Recommended Practices



Annex 11
to the Convention on
International Civil Aviation

Air Traffic Services

**Air Traffic Control Service
Flight Information Service
Alerting Service**

This edition incorporates all amendments
adopted by the Council prior to 13 March 2001
and supersedes, on 1 November 2001, all previous
editions of Annex 11.

For information regarding the application
of the Standards and Recommended Practices,
see Foreword.

Thirteenth Edition
July 2001

International Civil Aviation Organization

EUROPEAN ORGANISATION FOR THE SAFETY OF
AIR NAVIGATION



EUROCONTROL SAFETY REGULATORY REQUIREMENT
(ESARR)

ESARR 3

**USE OF SAFETY MANAGEMENT
SYSTEMS BY AIR SERVICE
PROVIDERS**

Version : 1.0
Date : 17-07-2000
Status : Released Issue
Classification : General Public

21.12.2005

EN

Official Journal of the European Union

L 335/13

COMMISSION REGULATION (EC) No 2096/2005

of 20 December 2005

laying down common requirements for the provision of air navigation services
(Text with EEA relevance)

COMMISSION OF THE EUROPEAN COMMUNITIES

ing regard to the Treaty establishing the European
Community,

ing regard to Regulation (EC) No 550/2004 of the European
Council and of the Council of 10 March 2004 on the
provision of air navigation services in the single European sky
service provision Regulation⁽¹⁾, and in particular Articles 4
6 thereof,

has:

Pursuant to Regulation (EC) No 550/2004, the
Commission is required to establish common
requirements for the provision of air navigation services
throughout the Community. A Regulation providing
direct application is the most suitable instrument for
this purpose.

The provision of air navigation services within the
Community should be subject to certification by
Member States. Air navigation service providers which
comply with the common requirements should receive
a certificate in accordance with Article 7 of Regulation
(EC) No 550/2004. Those air navigation service providers
which may operate without a certificate should
endeavour to ensure maximum compliance with the
common requirements as far as possible.

The application of the common requirements should be
lay down pursuant to Article 10 of Regulation (EC) No
550/2004. The Commission should ensure that Member
States' arrangements for the application of the
requirements of the Regulation do not lead to public
order, public security or other matters, as set out in
Article 11 of Regulation (EC) No 549/2004 of the
European Council of the Council of 10 March
2004 laying down the framework for the creation of the
single European sky (the framework Regulation)⁽²⁾.

⁽¹⁾ L 96, 11.3.2004, p. 10.
⁽²⁾ L 96, 11.3.2004, p. 1.

The common requirements should not cover military
operations and training within the scope of Article 1(2)
of Regulation (EC) No 549/2004.

(4) The definition of common requirements for the
provision of air navigation services should take due
account of the legal status of air navigation service
providers in the Member States. Furthermore, when an
organisation pursues activities other than the provision of
air navigation services, the common requirements to be
laid down pursuant to Article 6 of Regulation (EC) No
550/2004 should not apply to such other activities or to
resources allocated to activities outside the provision of
air navigation services, unless provision is made to the
contrary.

(5) The application of common requirements to air navigation
service providers should be proportionate to the
risks linked with specific functions, such as
the number of aircraft, the complexity of the
processes involved, the number of air navigation
service providers involved, the complexity of the
procedures, the complexity of the operations and
thereby will be subject to a risk assessment. Within
the single European sky, it is the responsibility of the
supervisory authority to ensure that the common
requirements are applied in a way which reflects the
actual requirements for the provision of air navigation
services and the specific requirements for the
provision of air navigation services. Consequently, the
certification and the certificate should reflect the
actual requirements for the provision of air navigation
services and the specific requirements for the
provision of air navigation services.

(6) In order to ensure the proper functioning of the certifi-
cation scheme, Member States should provide the
Commission with all relevant information on the
certifications granted by their national supervisory authority in
the context of their annual reports.

(7) The different types of air navigation services are not
necessarily subject to the same requirements. It is
therefore necessary to adjust common requirements to
the special features of each type of service.

(8) The onus of proving compliance should lie with the air
navigation service provider, for the period of validity of
the certificate and for all the services covered.



Evolution of the Safety Work in EUROCONTROL



Single European Sky Legislation: Transposition of ESARRs

ESARR 1
ATM SAFETY OVERSIGHT



Regulation

ESARR 2
ATM SAFETY OCCURRENCES



EC Directives

ESARR 3
SAFETY MANAGEMENT SYSTEMS




*Common
Requirements*

ESARR 4
RISK ASSESSMENT AND MITIGATION



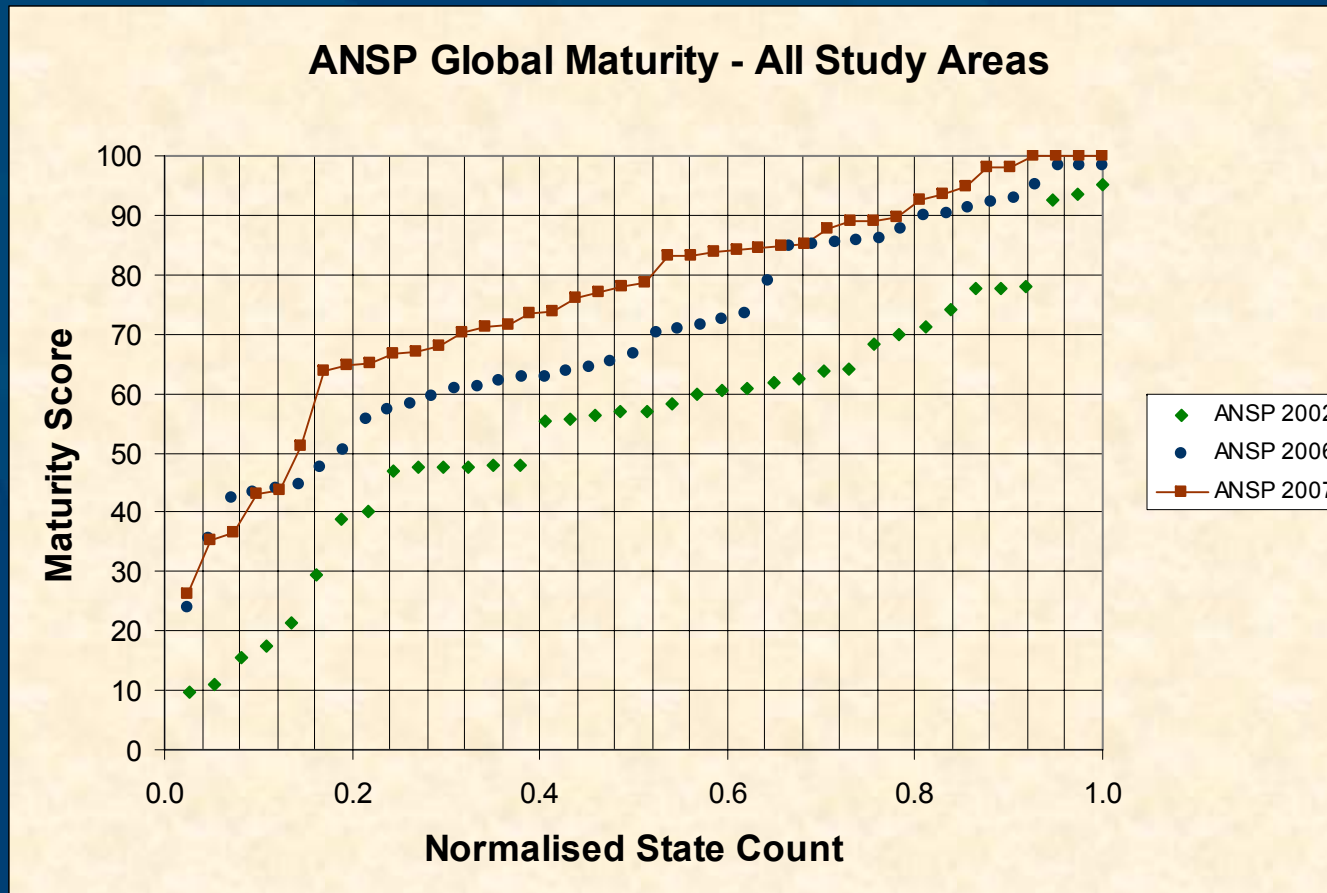
*Common
Requirements*

ESARR 5 
ATM PERSONNEL
*EC Directive &
Common Requirements*

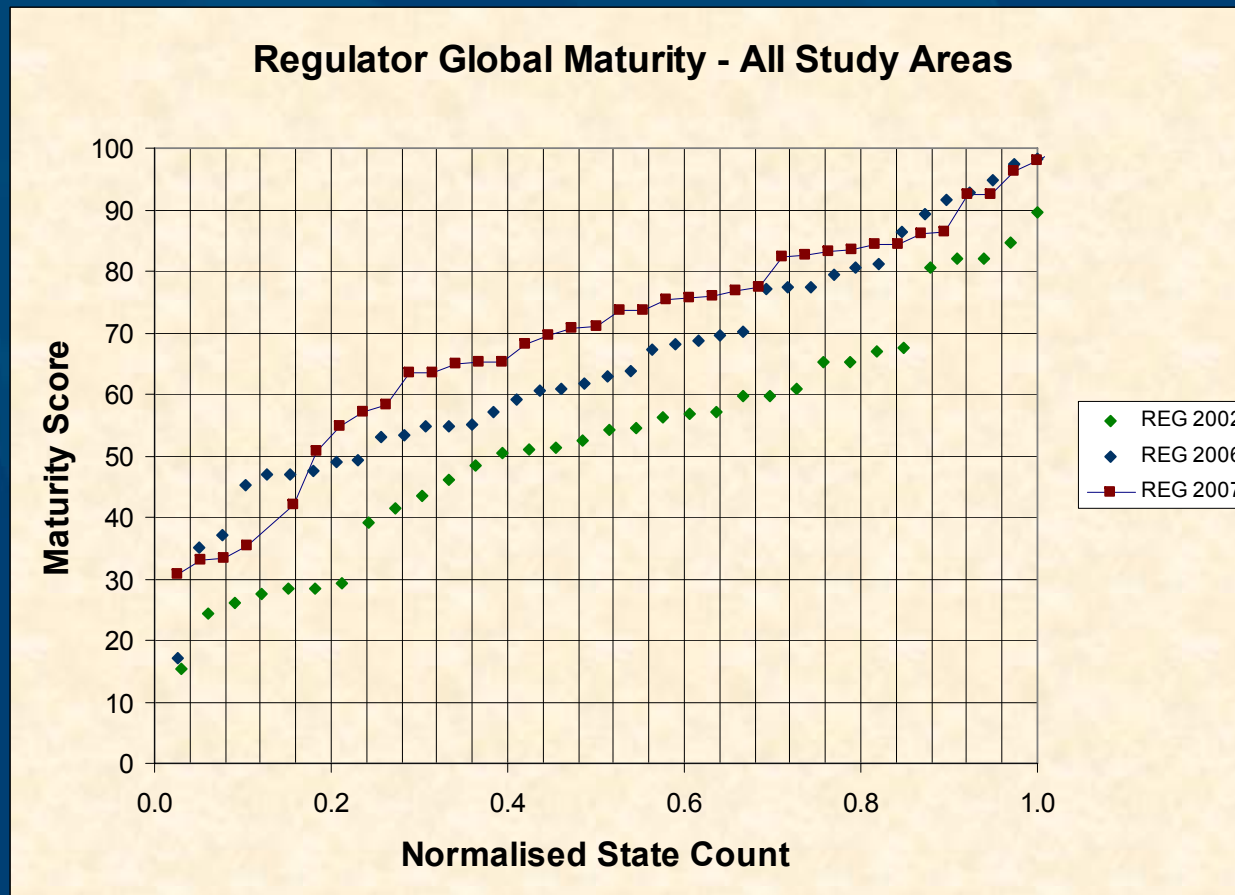
ESARR 6 
SYSTEM SW
Regulation

ESARR 7
ATM PROCEDURES

SMS Maturity in ECAC for ANSPs



SMS Maturity in ECAC for Regulators



European Safety Programme for ATM (ESP)



- Rational:
 - Traffic increase requires sustainable effort
 - Safety Regulation and Safety Management combined for all stakeholders
 - Supports implementation of SES and CR's
- Formally launched 28 Feb 2006
- Short term action driven: 2006 – 2008
- Five areas:
 1. Implementation and Support to European Safety Legislation and Regulation
 2. Incident Reporting and Data Sharing
 3. Risk Assessment and Mitigation in Day-to-Day Operations
 4. System Safety Defenses
 5. Safety Management Enhancement

Examples of the ESP

Needs from ANSPs	Programme scope
Support to help ANSPs understanding and delivering SES	Support module
Lack of skilled resources in safety management for ANPS Europe wide	ATM Safety Training
Better understanding of risks taken when changing ATM constituents (equipment, procedures, airspace design, ..)	Guidance material and sharing best practices
Harmonization on operating ground based safety nets	Developing best practices, harmonization and educating ANSPs

Needs from NSAs	Programme scope
Support to help NSAs understanding and delivering SES	Support module
Lack of skilled resources in safety regulation for NSAs Europe wide	ATM Safety Regulation Training
Assessment of the safety oversight capability of NSAs	ESIMS visits (now co-ordinated with IUSOAP)
Knowledge of the safety performance of the European ATM System	Collection of ATM Safety Data



Support to SMS Implementation

EUROCONTROL Generic Safety Management Manual

EUROCONTROL



EGSMM

EUROCONTROL Generic Safety Management Manual
Part 1 Chapter 1

SMS implementation development plan

(DRAFT)



DAP/SAF

SASI Project

*Support to ANSPs
for SMS Implementation*

Safety Improvement Initiatives

Runway
Incursion



Level Bust



Unauthorised Penetration
of Airspace



Human Factors



Level Bust Tool Kit



Level Bust - An introduction to the Level Bust issue



Enter the Tool Kit



How to use this Tool Kit

EUROCONTROL



Air-Ground Communication Safety Study
Causes and Recommendations



Focus: Incident Reporting and Data Sharing



- SAFREP Task Force and Report :
- Recommendations in 3 areas:
 - Improve ATM incident reporting culture by ATCOs and Pilots
 - Improve and deliver a high quality incident data flow
 - Develop Safety KPI's

Lessons Dissemination, Training & Awareness

EXPECT THE UNEXPECTED!

SAFETY ALERTS
Keeping Your Heads Up!

All EUROCONTROL Safety Alerts available on:
www.eurocontrol.int/safety-alerts

Subscribe to: tzvetomir.blajev@eurocontrol.int



Eurocontrol IANS
Institute of Air Navigation Services

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Training Activities 2008

N°2 HindSight
January 2006

COMMUNICATION
"Hindsight"
The ability or opportunity to understand and judge
an event or experience after it has occurred.

Win a free trip for two to Paris:
See page 26

Report
berg

The Phonological WHAT?
See page 25



Skybrary: The Concept

“The single point of reference in the network of aviation safety knowledge”

SKYbrary

Welcome to Skybrary
The single point of reference in the network of aviation safety knowledge
3437 articles in English

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Go Search

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Operational issues
Enhancing safety
Safety regulations
Book reviews
Accident reports
work in progress
Draft articles
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Featured categories from the Operational Issues Portal

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Go to: Safety Regulations Portal

Air Ground Communication Airspace Infringement Bird Strike Controlled Flight Into Terrain

Fire Ground Occurrences Human Factors Level Bust

Loss of Control Loss of Separation Runway Excursion Runway Incursion

Wake Vortex Turbulence Weather General

Highlighted article
ATCO Work Load
The role of the ATCO is to ensure the safe and expeditious flow of air traffic through the airspace for which he/she is responsible. The controller must remain alert and effective throughout his/her period of duty, whether by day or by night. At all times, he/she must be able to cope with additional unforeseen situations, such as an aircraft emergency, or extreme weather conditions.
[read more...](#)

Skybrary Solutions

- All Clear? Toolkit
- Level Bust Toolkit
- Airspace Infringement Early Action Package
- Skybrary ICAO Search and Solutions Centre

Skybrary is an initiative of EUROCONTROL and ICAO with the sole purpose of safety knowledge exchange.

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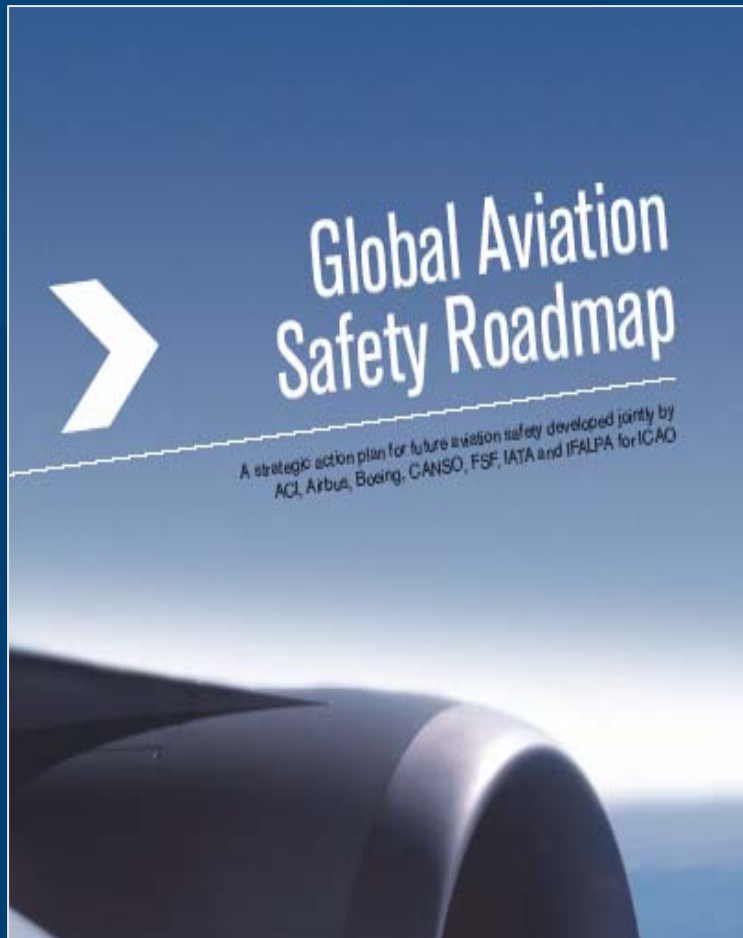
Skybrary: Further Development

- The extensive prototyping is finished.
- ICAO joined as co-founder.
- A project is under progress to allow fast search in all ICAO SARPs and other ATM related documents.
- Flight Safety Foundation joined as co-founder and agreed their knowledge to be used.
- The population of knowledge is under progress.

www.skybrary.aero

www.skybrary.aero

Next Steps ...



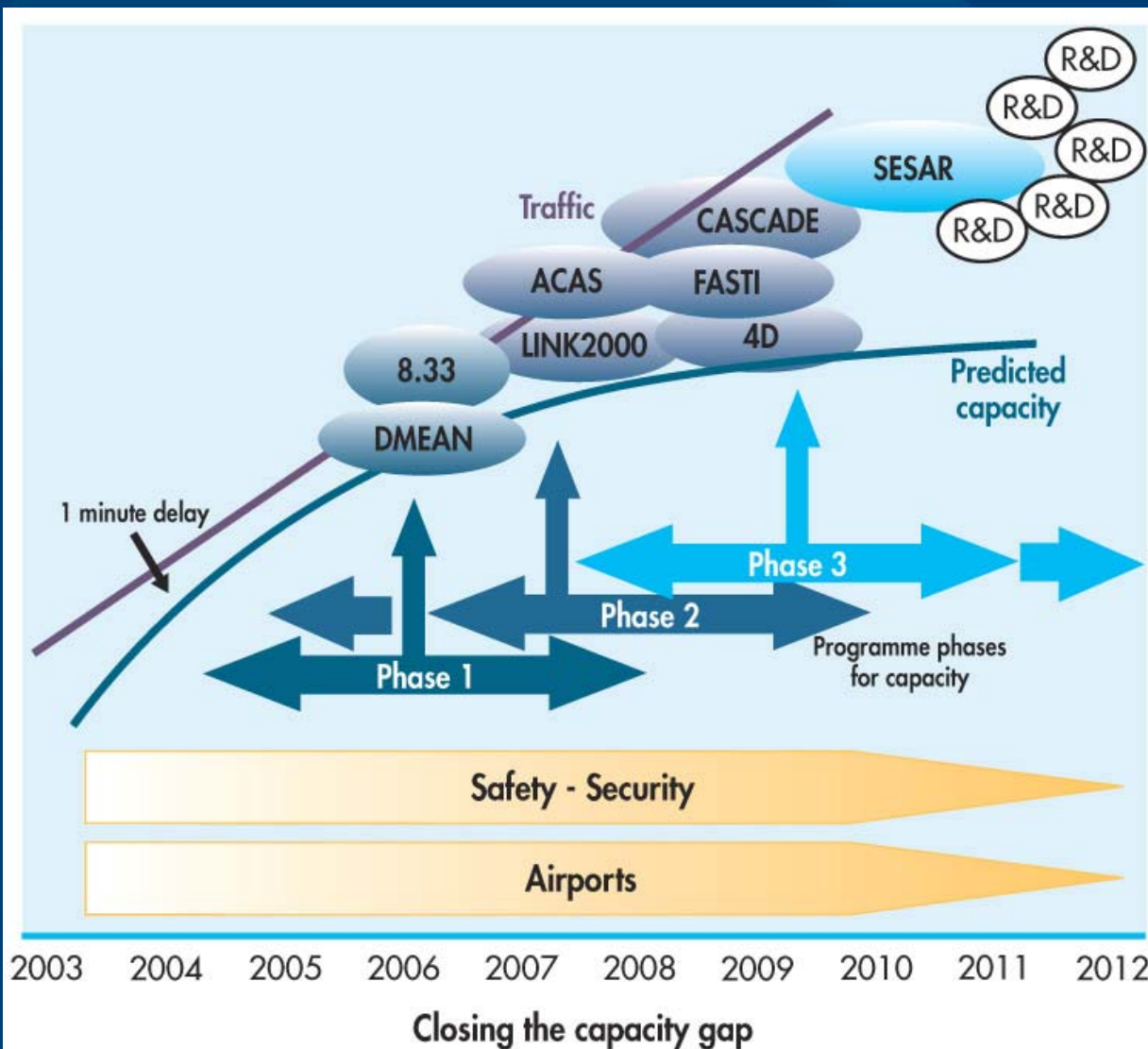
- Implementation of the ICAO Global Aviation Safety Roadmap
- Participation in the European Strategic Safety Initiative (ESSI)

Example of Inconsistent Use of Safety Management Systems

Maturity Level	Capability
Level 1 – Developing	<ul style="list-style-type: none"> • States – Current ICAO SMS requirements not implemented and not communicated to industry • Industry – SMS not implemented
Level 2 – Areas Identified for Improvement	<ul style="list-style-type: none"> • States – Current ICAO SMS requirements are communicated to industry sectors / disciplines • Industry – SMS implemented in those sectors and disciplines currently required to have done so
Level 3 – Evolving – Changes in work	<ul style="list-style-type: none"> • States – National Legislation / Regulations require all sectors and disciplines to implement an SMS. • Industry – SMS implementation programs developed for sectors and disciplines not previously covered by SMS requirements
Level 4 – Highly Evolved	<ul style="list-style-type: none"> • States – <ul style="list-style-type: none"> ◦ ICAO USOAP audit process covers the topic of SMS. ◦ SMS is regulated according to ICAO provisions and industry best practices ◦ States and Regulatory Authorities facilitate the sharing of SMS best practice as it evolves • Industry – <ul style="list-style-type: none"> ◦ Organizations within all sectors and disciplines of the aviation industry including suppliers of goods and services that impact upon aviation safety have their own formal SMS. ◦ Both internal and independent Audits of the SMS take place. ◦ All sectors and disciplines work together effectively in an integrated manner to manage risk across boundaries. ◦ SMS best practice is shared across sectors as it evolves.

- Estimated Maturity: 3+
- Proposed Lines of Actions:
 - Identify those “sectors and disciplines” that need to implement a formal SMS and specify the associated SMS requirements.
 - Design mechanisms to share best practices on SMS across the various sectors of aviation.
 - Review Safety Management principles in the light of SESAR definition of the chain of responsibilities.

ATM Programmes, SESAR and Safety



Any Questions ...

<http://www.eurocontrol.int/safety>

<http://www.eurocontrol.int/esp>

