European Strategic Safety Initiative (ESSI): Report on 2008 achievements by ECAST

Michel Masson, PhD,
EASA Safety Action Coordinator,
ESSI Secretary

EASS 09, Nicosia, Cyprus, 16-18 March

EASA in Cologne, Germany since 2004
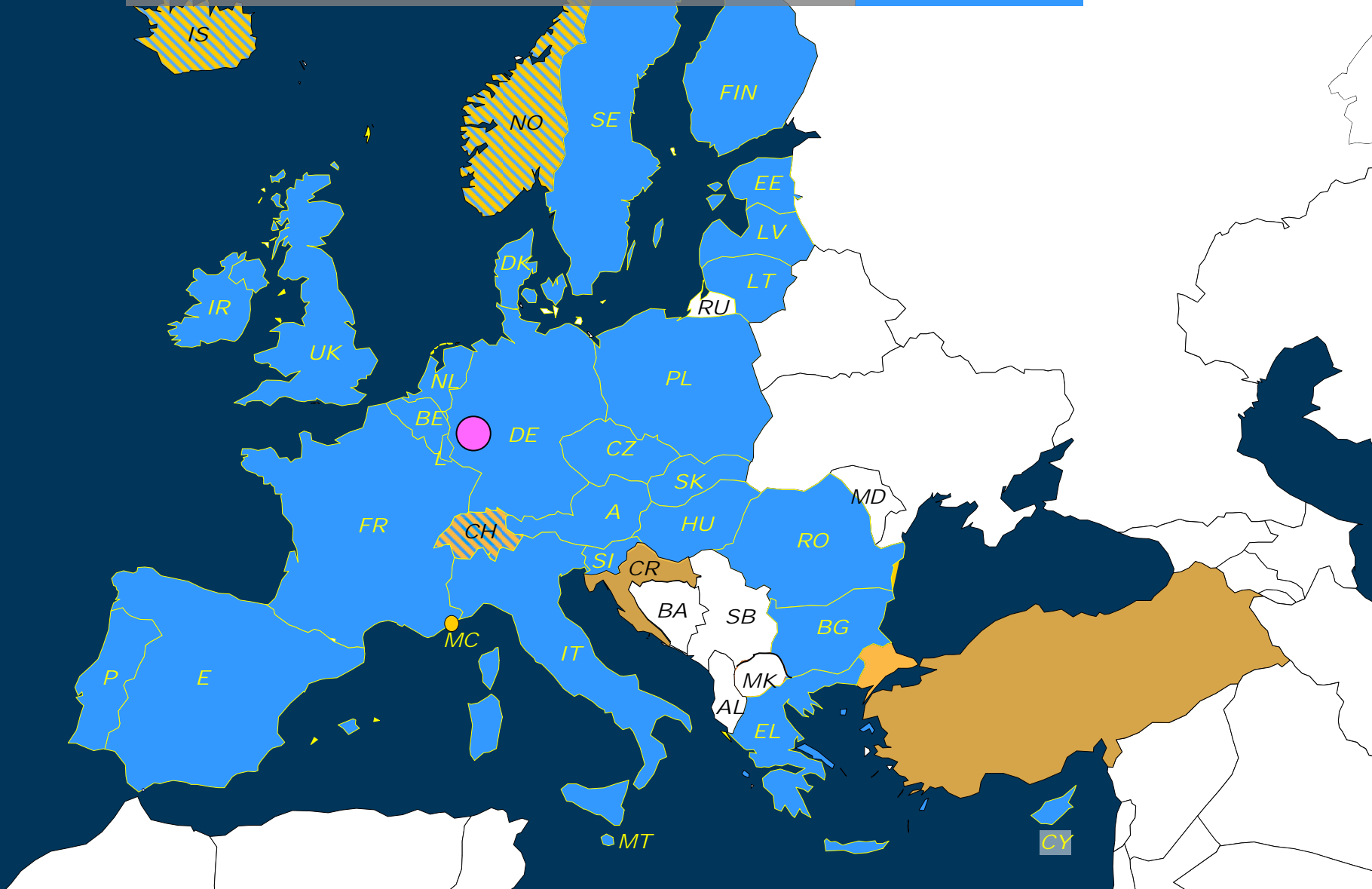
5 years

European Aviation Safety Agency

- Independent legal status
- Operational since 28 September 2003
- Offices in Cologne since 1st November 2004

EASA Member States
EU 27 + 4

EASA Annual Safety Review 2008
Preliminary results

A selection of preliminary results addressing fixed-wing Commercial Aviation

The EASA Annual Safety Review 2008 will be published on: http://easa.europa.eu/

ESSI
The European Strategic Safety Initiative

- 10 year programme (2006-2016) aimed at improving aviation safety in Europe, and for the European citizen worldwide

- Partnership, with more than 150 organisations

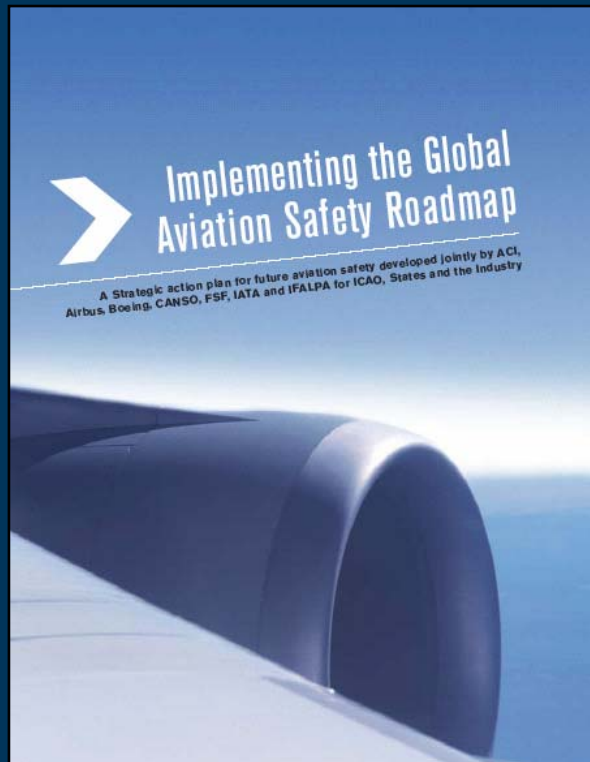- Powered by industry and facilitated by EASA

www.easa.europa.eu/essi
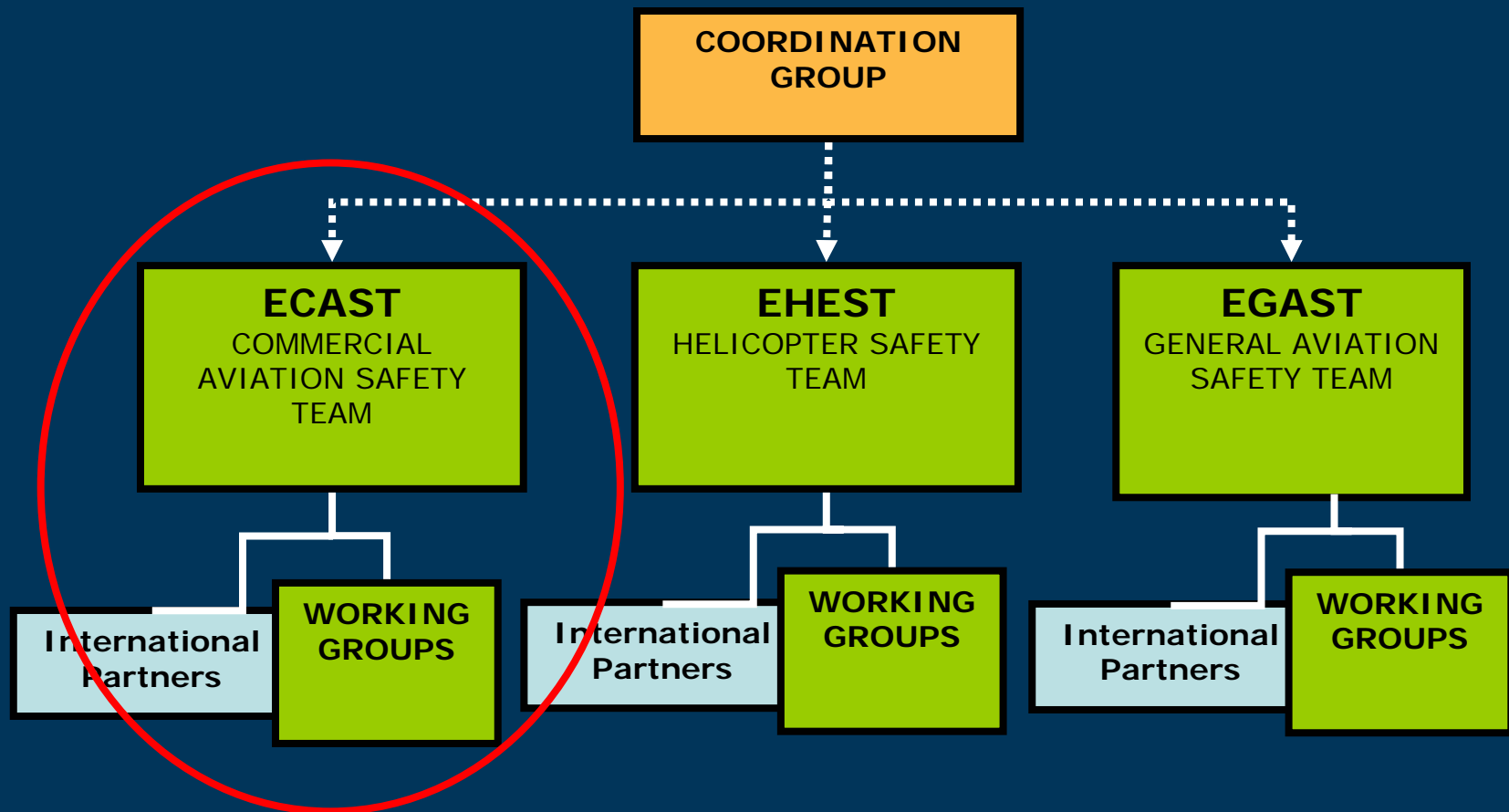
ESSI
One of the major safety teams worldwide

CAST
IHST
FSF SI's

PAAST

ESSI

COSCAP
CIS

COSCAP
Gulf States

COSCAP
North Asia
South Asia
Southeast Asia

COSCAP
BAG,
CEMAC,
UEMOA

ESSI
In line with the Global Aviation Safety Roadmap

Implementing the Global Aviation Safety Roadmap

A Strategic action plan for future aviation safety developed jointly by ACI, Airbus, Boeing, CANSO, FSF, IATA and IFALPA for ICAO, States and the Industry

➤ ICAO GASRM - 2006

✳ Frame of reference for stakeholders, including States, regulators, airline operators, airports, aircraft manufacturers, pilot associations, safety organisations and air traffic service providers

✳ To improve coordination and sharing

✳ To minimise duplication

essi European Strategic Safety Initiative

COORDINATION GROUP

ECAST
COMMERCIAL AVIATION SAFETY TEAM

EHEST
HELICOPTER SAFETY TEAM

EGAST
GENERAL AVIATION SAFETY TEAM

International Partners

WORKING GROUPS

International Partners

WORKING GROUPS

International Partners

WORKING GROUPS

ECAST Process

COMMUNICATION

Phase 1.
Identify and Select Safety Priorities

Phase 2.
Analyse Safety Issues

Phase 3.
Develop, Implement, and Monitor Actions Plans

COORDINATION

Programme Reviews – 2012 and 2017

ECAST
Prioritisation (2006-2007)

- ✦ **Safety importance**
- ✦ **Coverage**
- ✦ **High-level costs-benefits considerations**

In line with the Global Aviation Safety Road Map, to avoid duplication <u>priority is modified when topics are already covered.</u>

In such case, <u>coordination</u> is recommended.

The ECAST priorities list therefore is <u>not</u> a list of major safety issues in Europe.

ECAST
Priorities 2008-2009

Priorities
1. Ground Safety
2. Runway Safety
3. SMS & Safety Culture
4. Flight Crew Performance
5. Loss of Control (General)
6. Approach & Landing
7. Aviation System Complexity
8. Fire, Smoke and Fumes
9. Air-Ground Communications
10. Mid Air Collision
11. CFIT
12. Icing
13. Bird Strike
14. Loss of Control (Weight & Balance)
15. Air Navigation
16. Airworthiness (Maintenance & Design)
17. Maintenance (HF)
18. Automation

1. ECAST Ground Safety WG
➤ KO meeting 10 Feb 2009

2. Runway Safety
➤ Through coordination with the Flight Safety Foundation Runway Safety Initiative (RSI)

3. ECAST SMS / Safety Culture WG
➤ Launched in 2008

Focus of this presentation

ECAST SMS WG
And the regulatory framework

ICAO

Annex 6 amdt 30

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States Safety Letter

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Safety Management Manual

Basic Regulation

216/2008

EASA IRs

NPA 2008-22c

AMCs and GMs

NPA 2008-22c
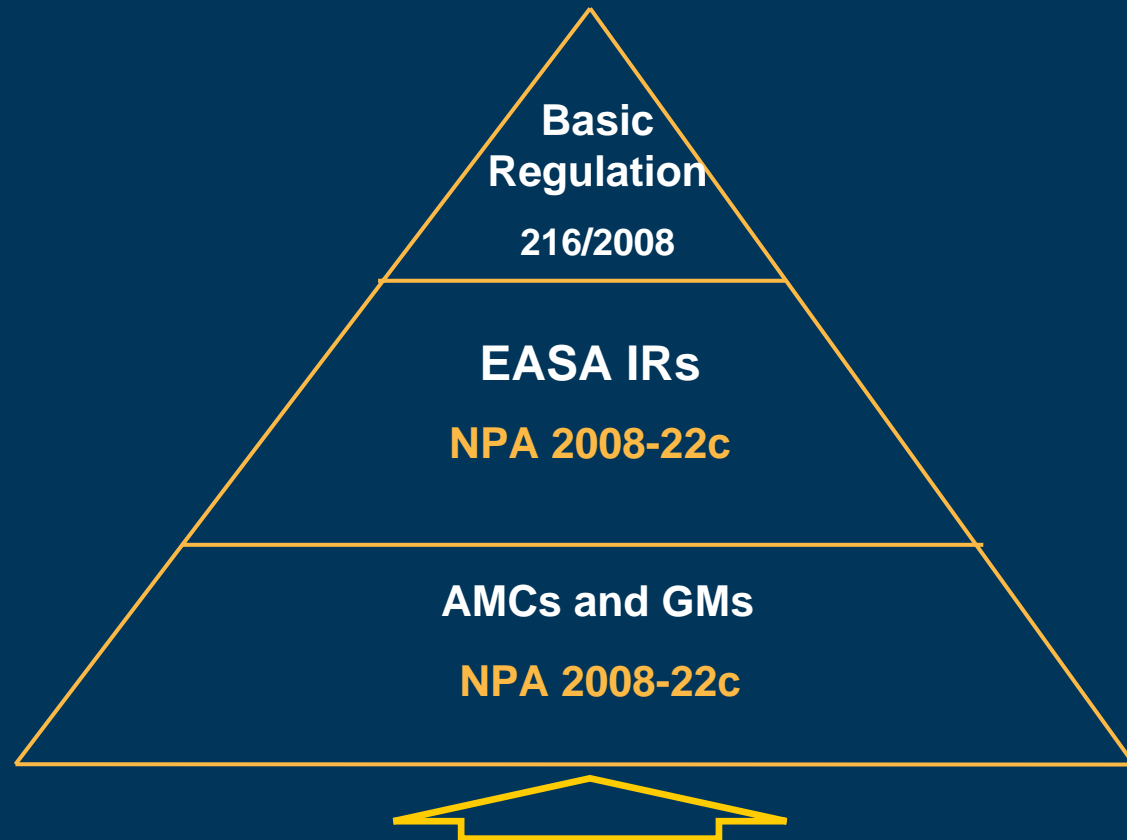
ECAST SMS WG provides (website based) practical guidance mainly based on existing materials and initiatives

ECAST SMS WG - 4 Work Packages

WPs	WP Leaders
WP 1 - Review current SMS/Safety Culture initiatives and materials	J. Beaufays, EUROCONTROL, and M. Piers, NLR
WP 2 - Identify best practices and examples of organisations	S. Clark NATS, with support from P. Sorensen, IATA, and V. Gray, UK CAA
WP 3 - Hazard Identification	I. Maragakis, EASA and D. Prior, easyJet
WP 4 - Risk Assessment	J. Nisula, AIRBUS, *Chair of ARMS*

➤ All deliverables to be published on www.skybrary.aero and www.easa.europa.eu/essi

ECAST SMS WP 1 – Review of SMS and Safety Culture materials

➢ **References to Existing Regulations and Materials related to (Safety) Management Systems**

➢ **Safety Management Best Practices in ATM, Airline and Airport Operations**

➢ **Published on SKYbrary**

➢ **Safety Management page: http://www.skybrary.aero/index.php/Category:Safety_Management**

➢ **Contact: jacques.beaufays@eurocontrol.int**

ECAST SMS WP 1 – Review of SMS and Safety Culture materials

- Consolidated Safety Culture definition and framework developed by NLR
  - Framework of frameworks
  - 6 mutually exclusive components, expressed in measurable indicators:

  1. Commitment to safety
  2. Behaviour with respect to safety
  3. Awareness
  4. Adaptability
  5. Information
  6. Justness

- Contact: mpiers@nlr-atsi.nl

ECAST SMS WP 2 – Best practices and examples of organisations

- **Practical guidance on organisation for safety**

- **Method:**
  - *Questionnaire to airlines*
  - *Literature review*

- **Deliverables:**
  - *Golden Rules*
  - *Example of organisational charts for small, medium and large organisations*

- **Contacts:** stephen.clark2@nats.co.uk
  sorensenp@iata.org

'Golden Rules'

- 1. Full Safety Accountability at the Top (the Accountable Executive – e.g. Chief Executive Officer)

- 2. Supported by independent Safety Support Function with full authority from the Top

- 3. Individuals within the Safety Support Function should have respect and influence

- 4. Formal communications from the Top to the Safety Support Function

- 5. Actions necessary to support the SMS should be managed throughout the organisation

- 6. Safety accountabilities and responsibilities should be documented and understood by the incumbents

Example – Small organisation
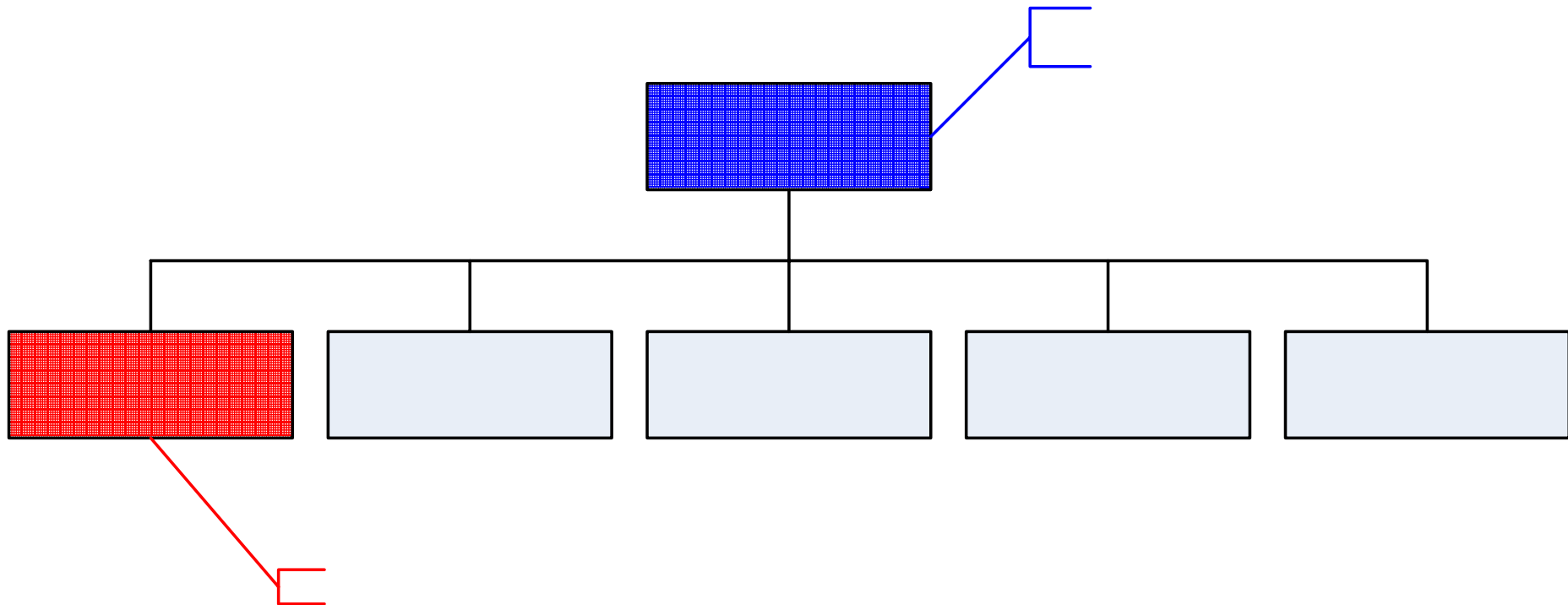
Example – Medium organisation
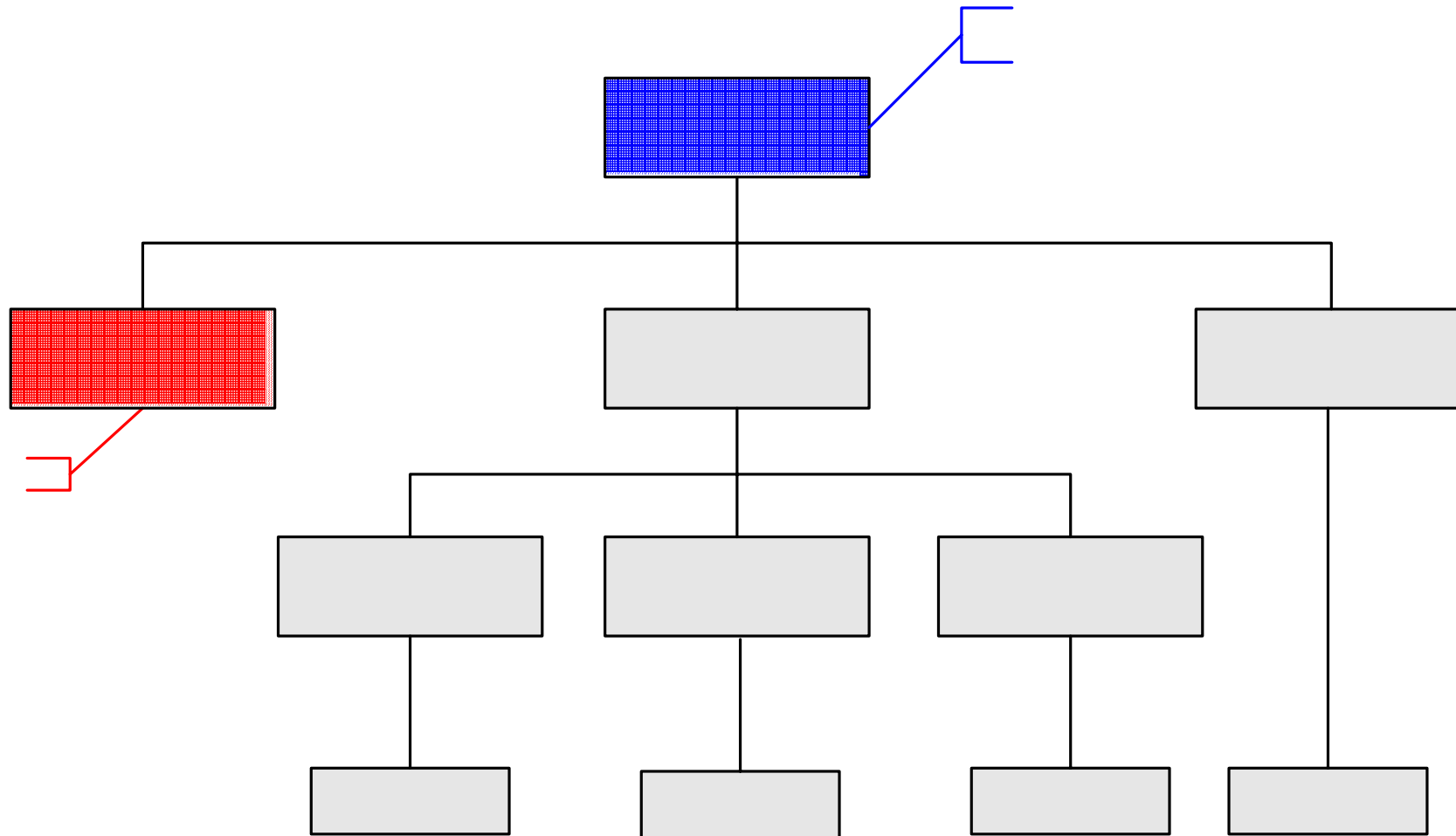
Example – Large organisation
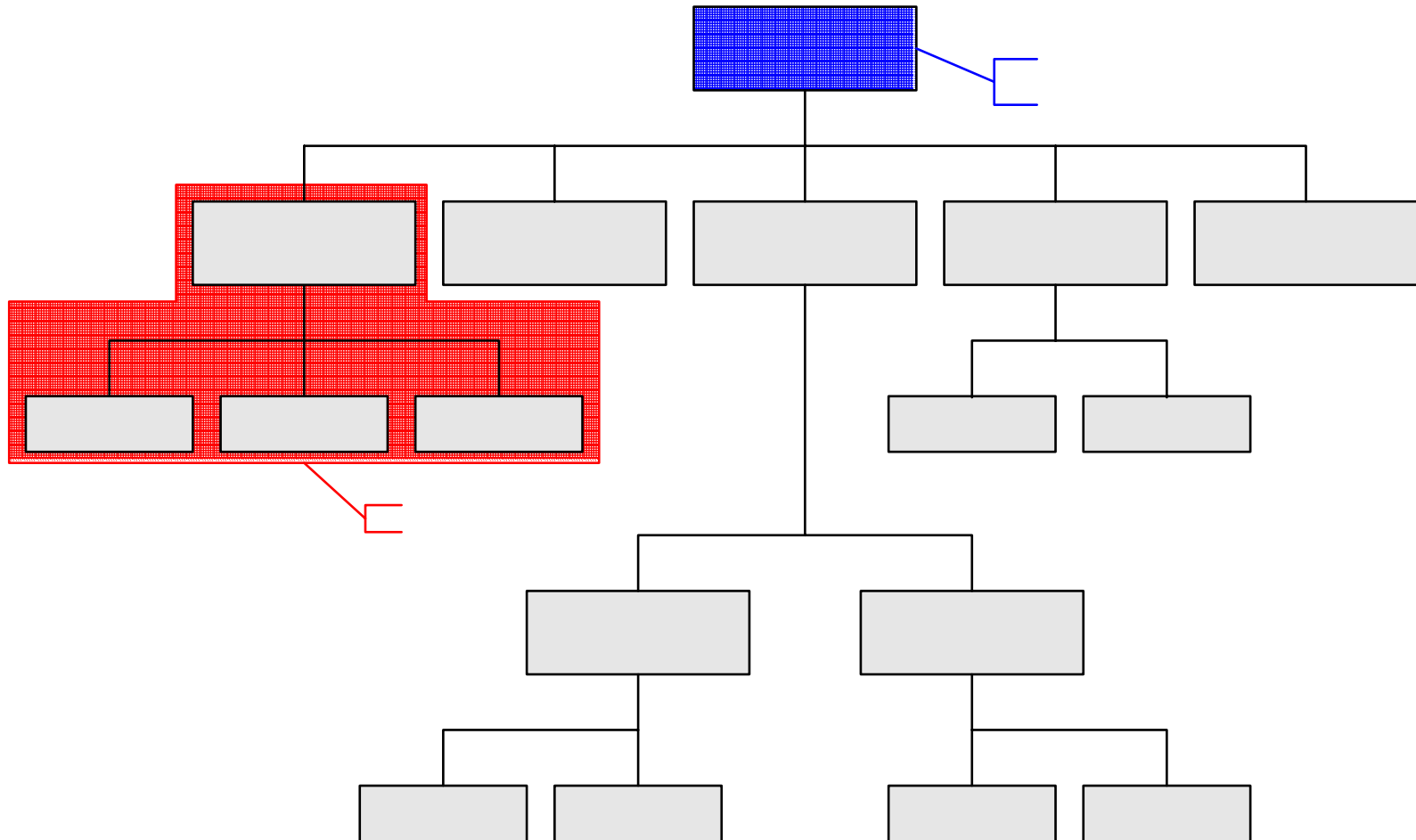
ECAST SMS WP 3 –
Hazards Identification
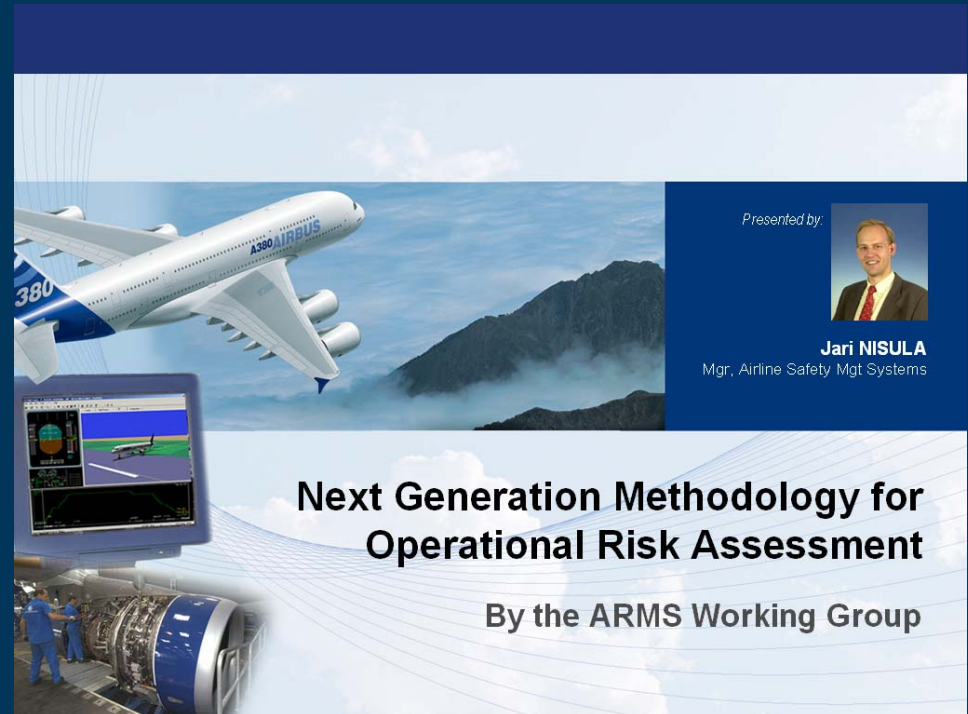
Where guidance is probably most needed (Part 1)

➤ **Guidance on Hazards Identification**

➤ **Simple, concise and useful material and references on:**

  ✦ **Definitions (hazard, risk, etc.);**

  ✦ **Bow Tie representation used as concepts organiser**

  ✦ **Hazards identification process**

  ✦ **Methods for hazards identification**

  ✦ **Tools and Techniques: Brainstorming, HAZOP, checklist, FMEA, SWIFT, Dynamic methods, and the FAST method for identification of future hazards**

  ✦ **Compatible with ARMS *(next slide)* and other Risk Assessment methodologies**

➤ **Contact: ilias.maragakis@easa.europa.eu**

ECAST SMS WP 4 –
Risk Assessment

Where guidance is probably most needed (Part 2)

➤ **A new methodology**

  ✱ **Developed by the industry**

  ✱ **Compatible with ICAO**

  ✱ **Publicly available**

Presented by:

Jari NISULA
Mgr, Airline Safety Mgt Systems

Next Generation Methodology for Operational Risk Assessment

By the ARMS Working Group

➤ **Presented in EASS 09, Session IV Risk, Wed. March 18**

➤ **Contact: jari.nisula@airbus.com**

European Commercial Aviation Safety Team

Contacts:

John Vincent
EASA Safety Analysis and Research Dept. Head, co-Chair
john.vincent@easa.europa.eu
Tel: + 49 221 89990 2012

Peter Sorensen

IATA, Assistant Director S, Op. and I., Europe, co-Chair
sorensenp@iata.org
Tel: + 32 26261806

Michel Masson, PhD
EASA Safety Action Coordinator, Secretary
michel.masson@easa.europa.eu
Tel: + 49 221 89990 2024

Clement Audard
EASA Safety support Action Coordinator, Assistant Secretary
clement.audard@easa.europa.eu
Tel: + +49 221 89990 2038

Mailbox
ecast@easa.europa.eu

EASA
Ottoplatz 1
D-50679 Köln
PO Box 101253
D-50452 Köln, Germany
Tel: 49-221-89990000

Annex

In support to the questions and answers session

Draft EASA Requirements
For (Safety) Management
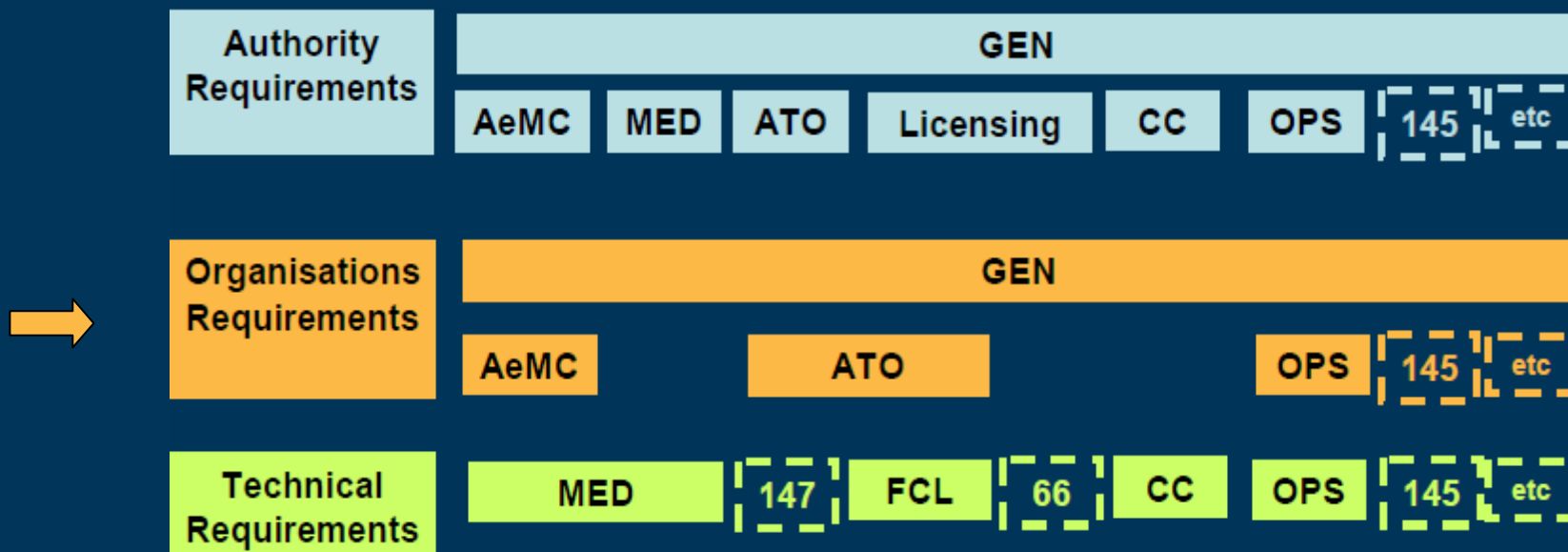
➤ **Organisation Requirements (NPA 22-2008) will provide legal grounds for Safety Management**

EASA / EC Rulemaking planning
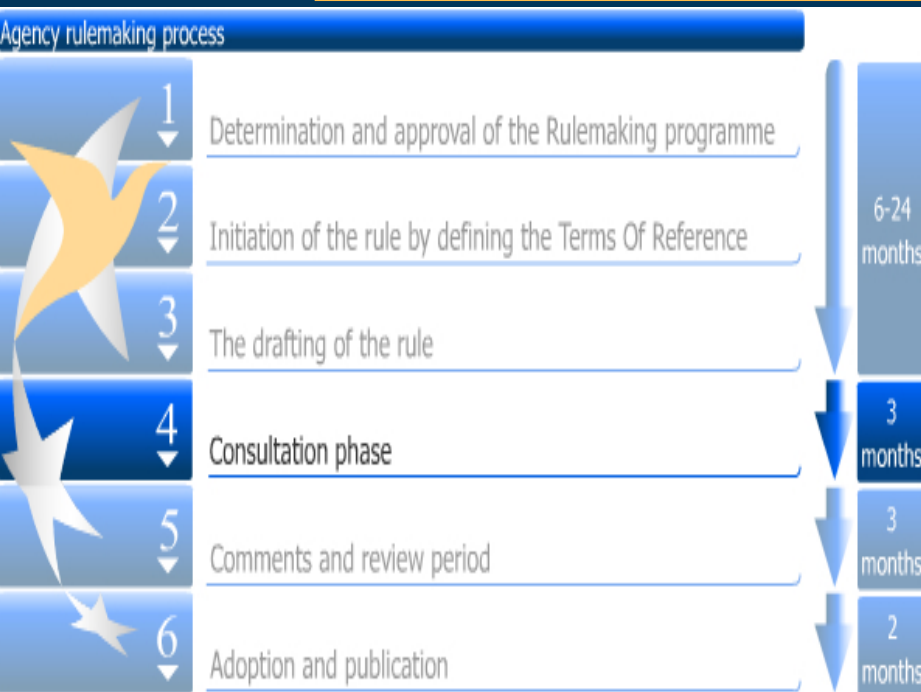
	AR/OR Gen+FCL+MED	AR/OR OPS
	Nov 08-Feb 09	Feb 09-May 09
	Mar-May 2009	Jun-Aug 2009
	Jun-Jul 2009	Sep-Oct 2009

Then EC **Comitology Process** (for the Implementing rules)

Publication expected from May 2010

ECAST Definition of Safety Culture – WP1

➢ **Safety Culture** is the set of enduring values and attitudes regarding safety, shared by every member of every level of an organisation.

➢ *Extended definition:* **Safety Culture** is the set of enduring values and attitudes regarding safety issues, shared by every member of every level of an organisation. Safety Culture refers to the extent to which every individual and every group of the organisation is aware of the risks and unknown hazards induced by its activities; is continuously behaving so as to preserve and enhance safety; is willing and able to adapt itself when facing safety issues; is willing to communicate safety issues; and consistently evaluates safety-related behaviour.

Results of the questionnaire - WP2

➤ The role of the **Accountable Manager** as the person ultimately responsible for safety appears to be the norm. In some cases the Accountable Manager is also the Chief Operating Officer or Chief Executive Officer.

➤ The **Safety Departments**, where they exist, all appear to be organised to be separate from operational delivery.

➤ There appeared to be a general lack of any formal arrangements for **communications** between the Safety Department and the Accountable Manager.

➤ No respondent appeared to have a fully functional **Risk Management Programme**.

ICAO SMM First edition 2006
- WP2
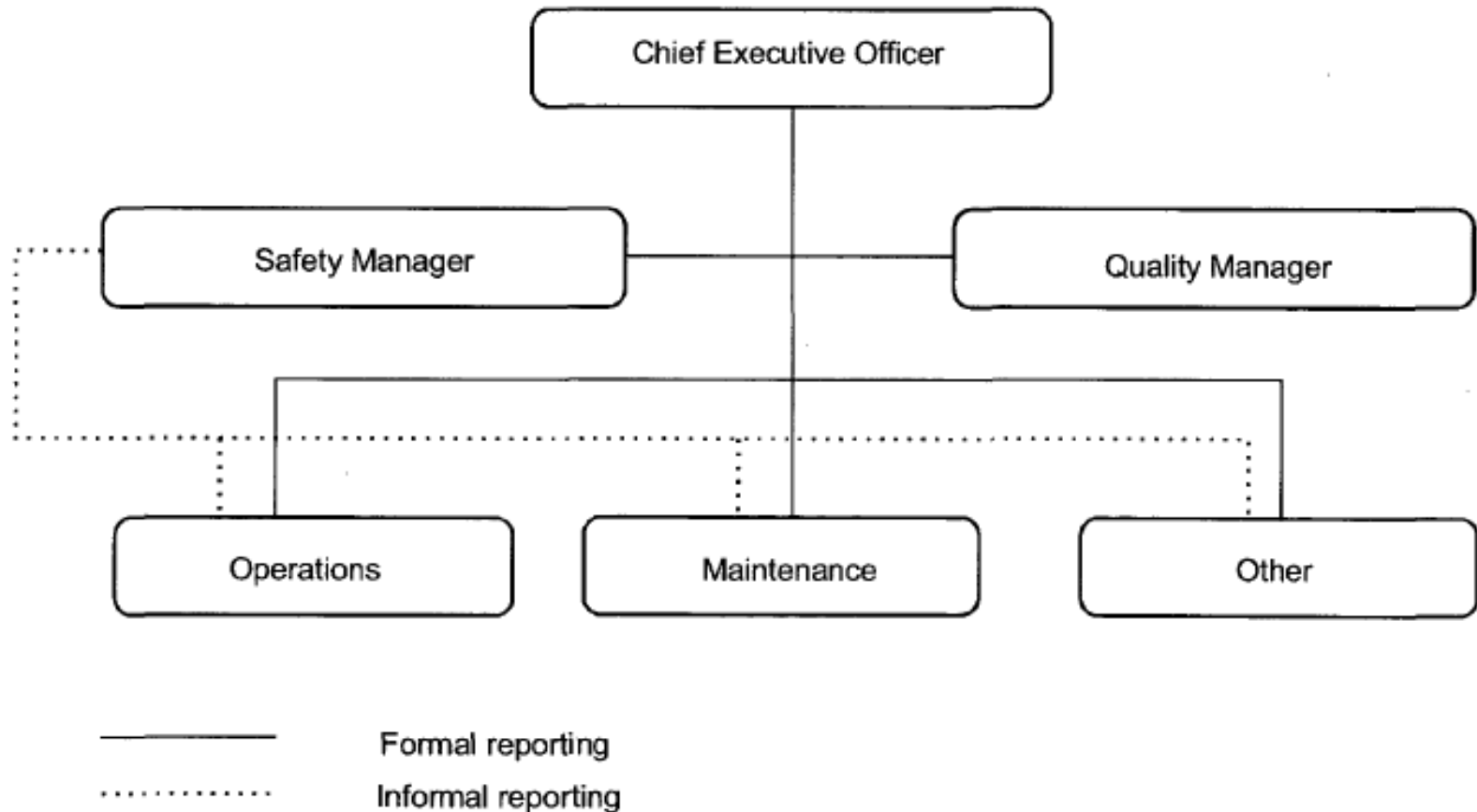
ICAO SMM Second Edition (Draft) - WP2

IATA Integrated Management System - WP 2

Bow Tie representation
- WP3

3. What safety event could release the hazard?

1. What is the hazard?

6. How do we recover if the event occurs? How can the potential outcome likelihood or consequence severity of the outcome be limited?

Barrier

Hazard

Safety Event 1

Safety Event 2

Safety Event 3

Undesirable Event

Potential Outcome

Potential Outcome

Potential Outcome

Mitigation

5. How do we avoid the undesirable event? How do we keep control on the hazard?

2. What happens when hazard control is lost?

4. How can the accident scenario develop?
What are the potential outcomes?

ESSI/ECAST Pledge Signatories

- Airbus S.A.S.
- Aircraft Engineers International (AEI)
- Alenia Aeronautic S.pA.
- Boeing Commercial Airplanes
- Civil Aviation Authority UK
- DGAC France
- Dutch Ministry of Transport, Public Works and Water Management
- Embraer - Empresa Brasileira de Aeronáutica
- Ente Nazionale Aviazione Civile Italy
- European Transport Safety Council
- European Aviation Safety Agency (EASA)
- Federal Office of Civil Aviation Switzerland
- Fokker
- International Air Transport Association (IATA)
- International Federation of Airworthiness (IFA)
- National Aerospace Laboratory (NLR)
- Rolls-Royce plc

- *More than 50 member and partner organisations*