



The European Strategic Safety Initiative

the key partnership to enhance Commercial aviation, Helicopter and General Aviation safety in Europe

John Vincent

Head of Safety Analysis & Research, EASA

Michel Masson

Safety Action Coordinator, EASA

Clement Audard

Safety support Action Coordinator, EASA



European Aviation Safety Agency

ESSI

European Strategic Safety Initiative (ESSI)

- 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

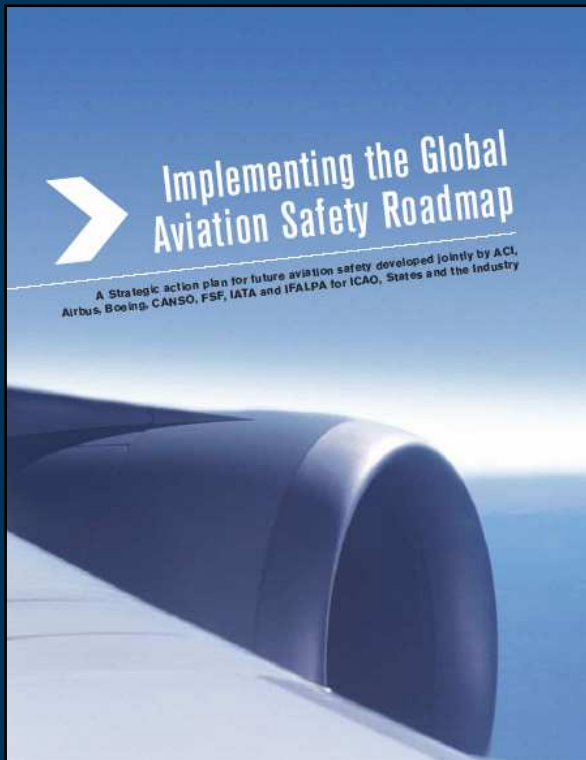


www.easa.europa.eu/essi



European Aviation Safety Agency

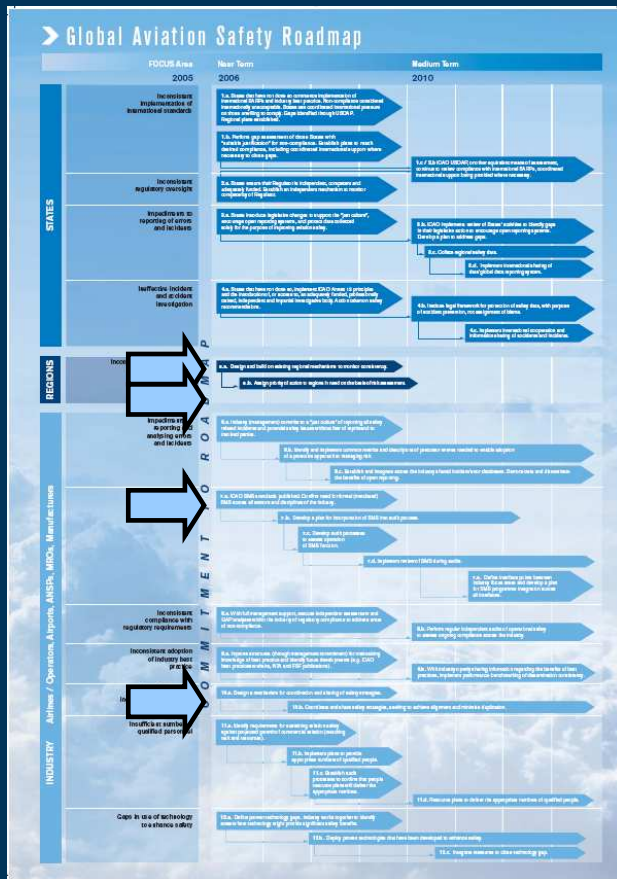
ESSI in line with the ICAO Global Aviation Safety Roadmap



- 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 link to ICAO Global Aviation Safety Roadmap



- ICAO Focus area 5a:
 - ✦ Design and build on existing regional mechanisms in order to foster consistency.
- ICAO Focus area 5b:
 - ✦ Assign priority of action to regions in need on the basis of risk assessment.
- ICAO Focus area 7a:
 - ✦ ICAO SMS standard published. Confirm need for formal (mandate) SMS across all sectors and disciplines of the industry.
- ICAO Focus area 10b:
 - ✦ Coordinate and share safety strategies, seeking to achieve alignment and minimize duplication.



European Aviation Safety Agency

ESSI

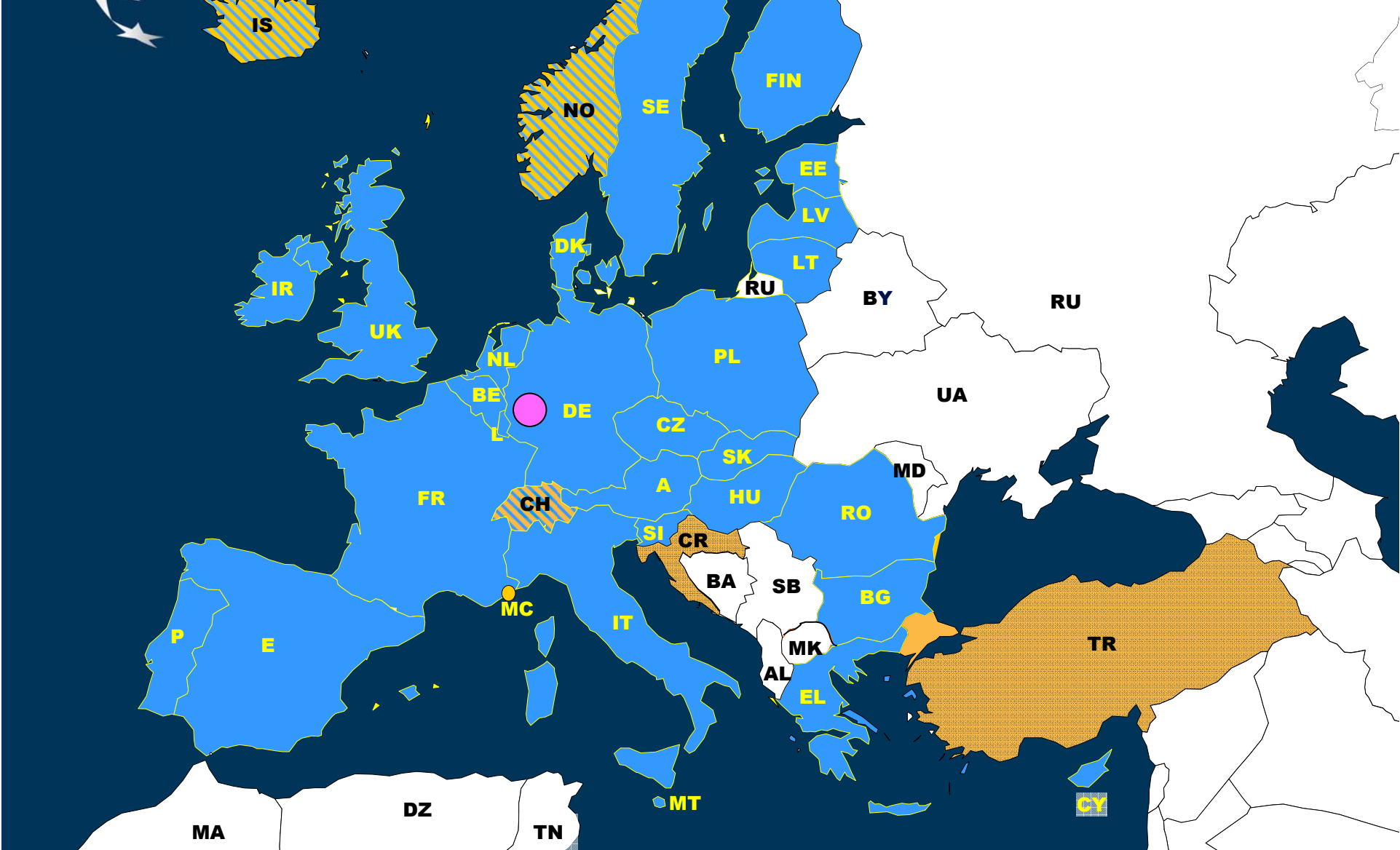
One of the Major Safety Teams worldwide





EASA Member States

EU 27 + 4





- Distribution of all airline transport operations (scheduled traffic)

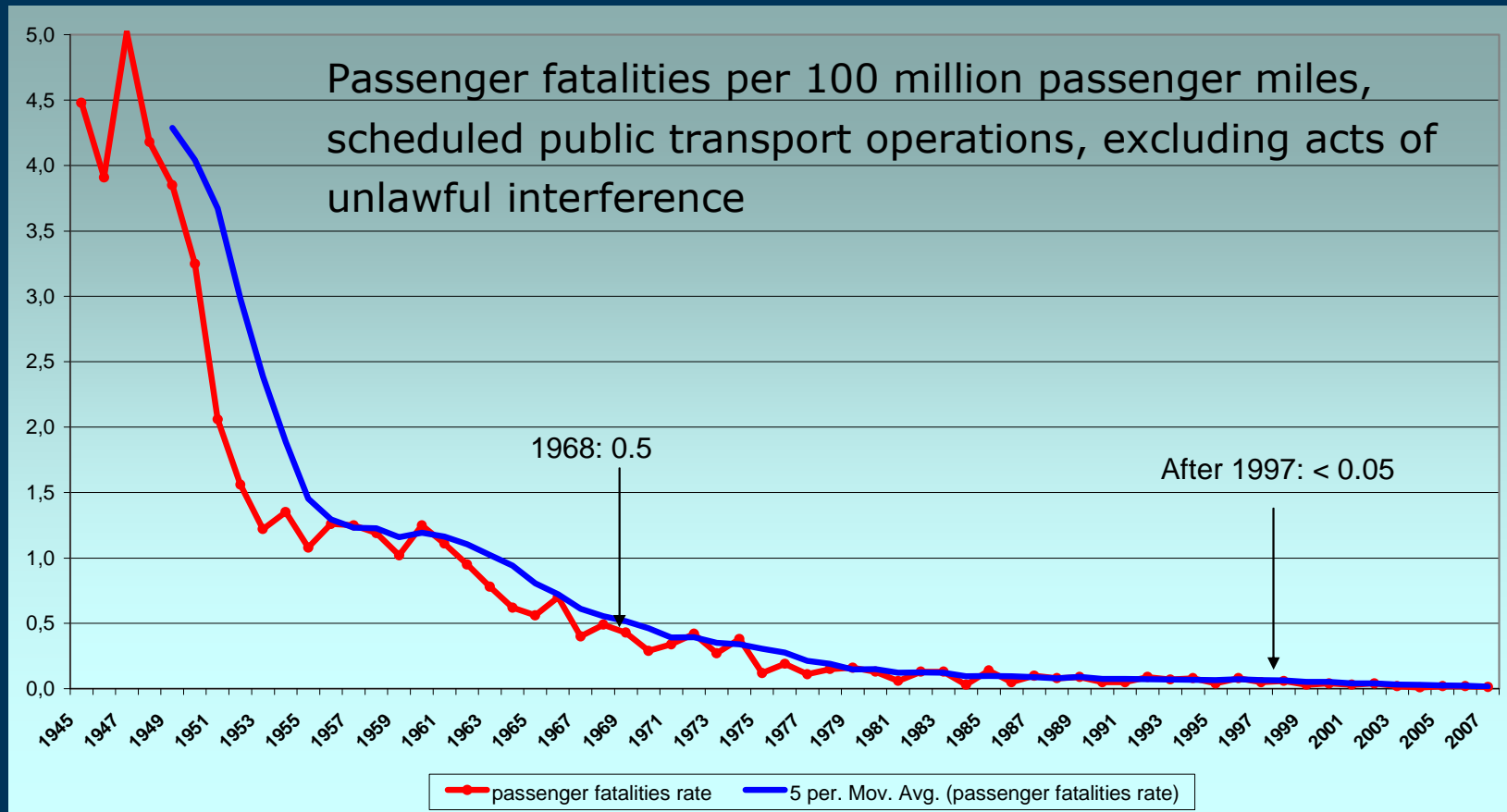




European Aviation Safety Agency

ESSI

Historical development of worldwide safety 1945 - 2007

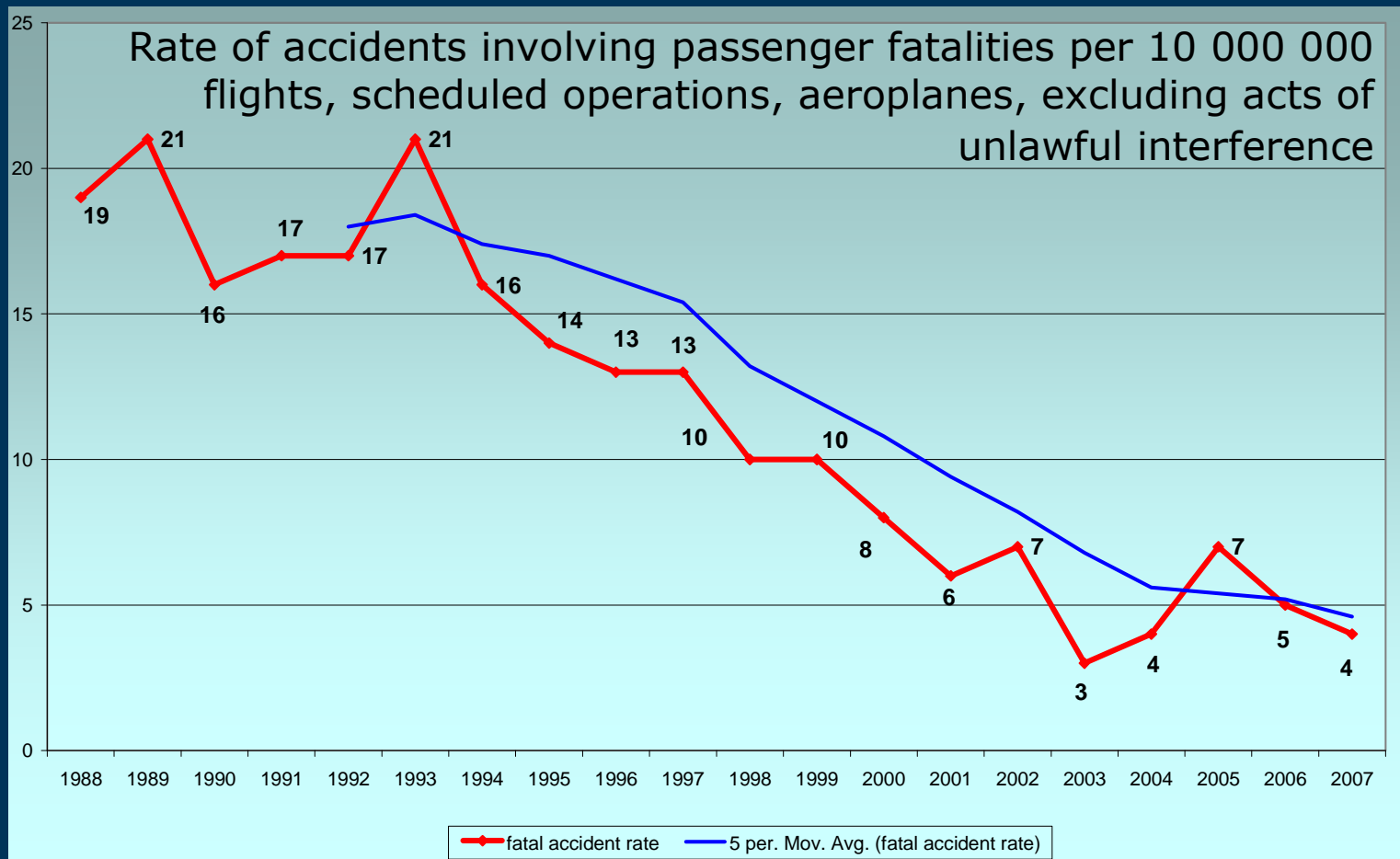




European Aviation Safety Agency

ESSI

Historical development of worldwide safety 1988 - 2007

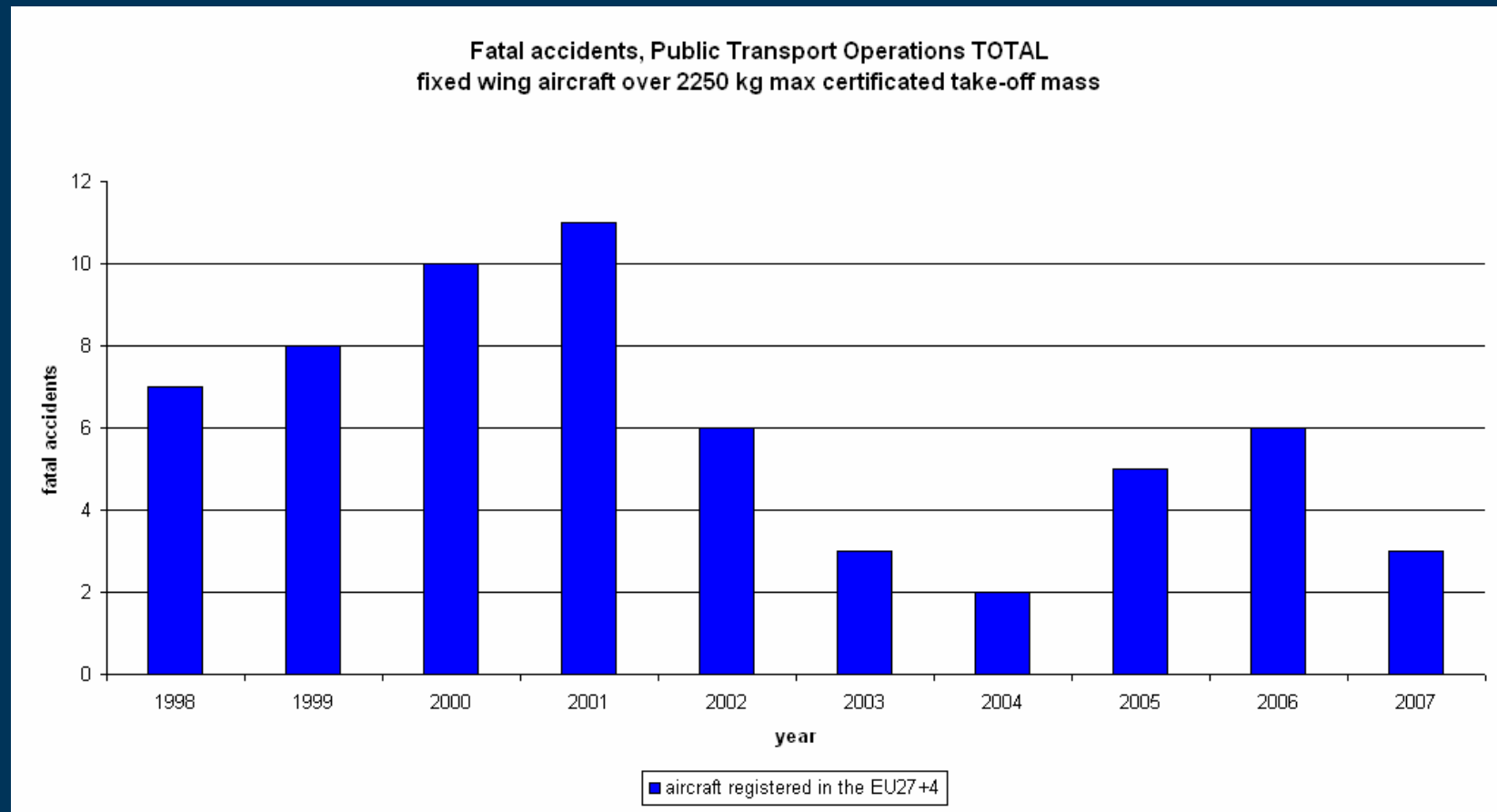




European Aviation Safety Agency

ESSI

Europe fatal accident - EU27 plus 4





ESSI/ECAST Pledge

- Represents high-level commitment
- Signatory organisations are:
 - ★ Equal partners within the ESSI
 - ★ Provide, in partnership, reasonable resources to ensure that the ESSI be effective, and
 - ★ Take reasonable actions as a result of ESSI recommendations, guidance and solutions in the ESSI area(s) in which they participate



European Aviation Safety Agency



European Commercial Aviation Safety Team ECAST





European Aviation Safety Agency

ESSI/ECAST Pledges registered

PLEDGE OF COMMITMENT FROM ESSI MEMBERS

We the undersigned acknowledge that:

- through our positions and by means of our organisations we each have key roles to play in maintaining and enhancing the level of safety within the European aviation system, and can achieve this more effectively through joint cooperation,
- experience has shown that there is need for active, frequently reviewed and updated safety programs,
- in many areas these safety programs have common goals, and the sharing of experience and knowledge between our organisations would enhance aviation safety programs within Europe,
- a European partnership of interested, expert and affected parties guiding a coordinated European aviation safety initiative with strategic plans can be effective in identifying these common goals and coordinating the sharing of experience and knowledge,
- such a European aviation safety initiative can be used to provide recommendations, guidance and solutions on safety matters to all concerned parties,
- aviation within Europe can benefit from safety program experience and knowledge from the global aviation community,
- a common European partnership can avoid duplication and be used to coordinate European safety programs with other safety initiatives elsewhere and
- for a European Strategic Safety Initiative (ESSI) to be effective sufficient expert resources (both human and material) are required to conduct the work at both decision-making and working levels.

We the undersigned therefore agree to:

- be equal members within the ESSI;
- commit to providing, in partnership reasonable resources to ensure that this initiative is effective and
- take reasonable actions necessary to enhance safety within our own organisations as a result of ESSI recommendations, guidance and solutions in the ESSI area(s) in which we participate (commercial aviation, rotorcraft and/or general aviation).

Patrick Goudou
EASA Executive Director

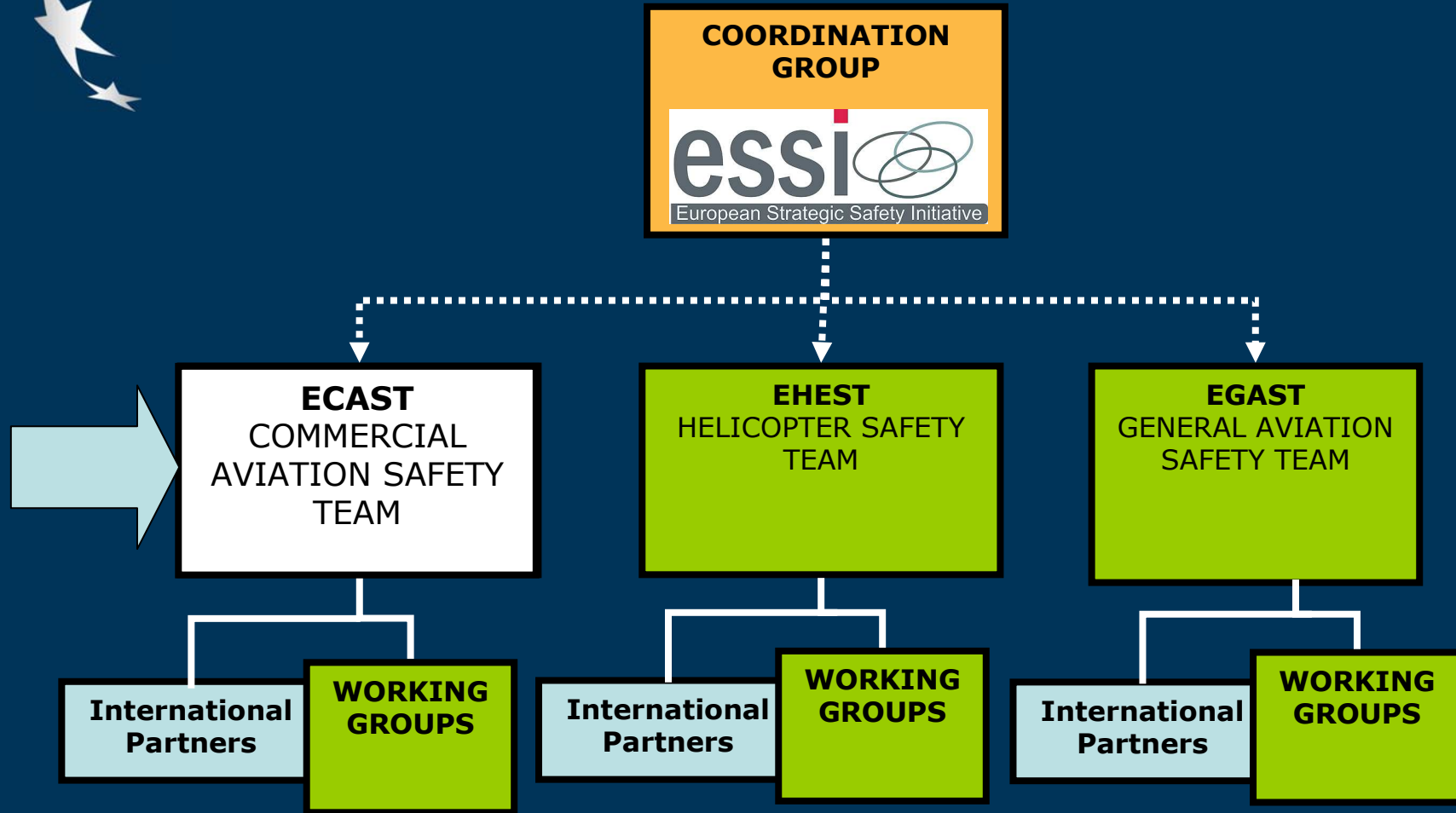


- **Airbus S.A.S.**
- **Aircraft Engineers International (AEI)**
- **Alenia Aeronautic S.p.A.**
- **Boeing Commercial Airplanes**
- **Civil Aviation Authority UK**
- **DGAC France**
- **Dutch Ministry of Transport, Public Works and Water Management**
- **Embraer - Empresa Brasileira de Aeronáutica**
- **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 in total



European Aviation Safety Agency





ECAST Introduction

- Regulators-industry partnership, sealed by a pledge
- Co chaired by IATA and EASA
- Coordinates with:
 - ✦ US Commercial Aviation Safety Team (CAST)
 - ✦ COSCAP under the ICAO Technical Co-Operation Programme
 - ✦ EUROCONTROL European Safety Program (ESP)
 - ✦ Flight Safety Foundation Runway Safety Initiative (RSI)
- Has defined and enacts a new safety improvement process



European Aviation Safety Agency

ECAST

Monitors JSSI actions plans

- ECAST Monitors JSSI actions plans adapted from CAST
 - ✦ CFIT, ALAR, LoC
 - ✦ Current status: 23 APs; 20 Complete; 3 Underway
 - ✦ 2007-2008 actions:
 - **Survey of Action Plans with NAAs: *completed***
 - **Survey of Action Plans with airlines: *completed***



ECAST CAST "Remaining Risks" action plans

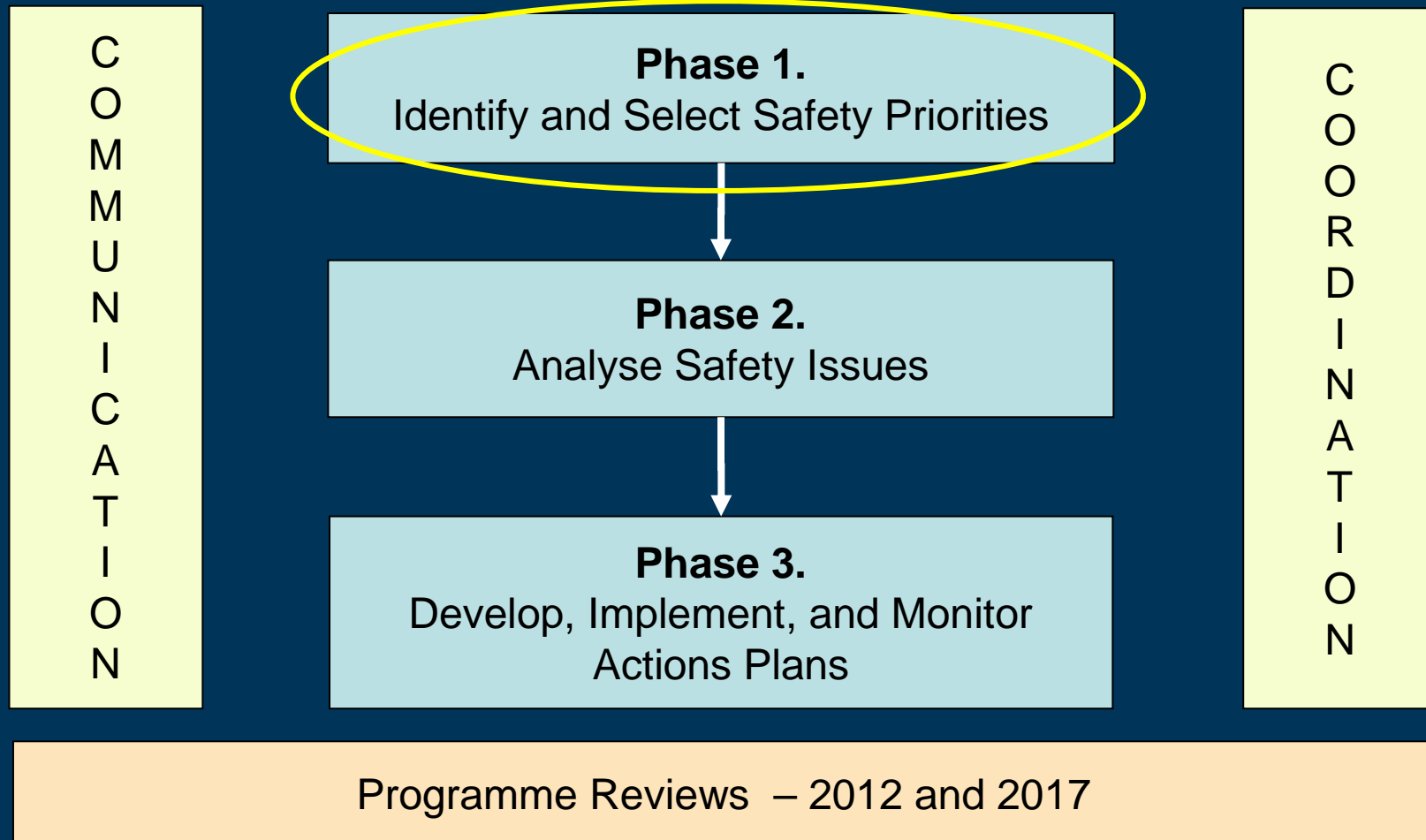
➤ Several Level 1 subjects:

- ✦ Cargo
- ✦ Icing
- ✦ Maintenance/Systems
- ✦ Mid Air
- ✦ Turbulence
- ✦ Runway incursion

✦ Decision to adopt and adapt these RR plans to Europe is being considered by the Analysis Team.



New ECAST Process – 3 Phases





European Aviation Safety Agency

ECAST

Phase 1 (2006-2007)

Objective

- ★ Identify areas ECAST should further analyse (Phase 2) in view of initiating safety enhancement activities (Phase 3)

Aim

- ★ Identify top priority work areas for ECAST



European Aviation Safety Agency

ECAST

Phase 1 (2006-2007)

Methodology

★ **Identification of 18 Priority Areas**

- List of priorities sent by the ECAST organisations
- Grouped through an affinity exercise

★ **Prioritisation by each ECAST AT organisation**

- Free use of internal and external data sources
- In house expertise

★ **Consolidation into a agreed list**

- 50 votes method



European Aviation Safety Agency

ECAST Prioritisation Criteria

- ★ **Safety Importance**
- ★ **Coverage**
- ★ **High level Costs benefits considerations**

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

In such case, coordination is recommended.

The ECAST priorities list therefore is not a list of major safety issues in Europe.



ECAST Work Priorities for 2008



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

- ECAST WG on Ground Safety launched 2nd part of 2008

2. Runway Safety

- Through coordination with the Flight Safety Foundation Runway Safety Initiative (RSI)

3. ECAST SMS / Safety Culture WG

- WG on Safety Management in cooperation with EASA Rulemaking



European Aviation Safety Agency

ECAST

SMS: Parallel development ICAO and EASA Rulemaking

- **ICAO (Annexes 1, 6, 8, 11, 13 and 14) on SMS:**
 - ✦ **State Safety Programme**
 - ✦ **SMS for organisations**
- **EASA Essential Requirements (ERs) in Regulation (EC) No 216/2008**
- **Implementing Rules (IRs) and AMCs are being prepared by EASA Rulemaking**
 - ✦ http://www.easa.europa.eu/ws_prod/g/rq_regulations.php
- **NPA and NPA consultation 3rd quarter 2008**



European Aviation Safety Agency

ECAST SMS WG And the regulatory framework

ICAO
Annex 6 amdt 30
+
States Safety
Letter
+
Safety
Management
Manual



ECAST SMS WG will provide (website based) practical Guidance
mainly based on existing materials and initiatives



European Aviation Safety Agency

ECAST SMS WG

Terms of Reference

- **Review reference SMS/Safety Culture materials, and ongoing initiatives**
- **Identify best practices and examples of organisation for safety mgt**
- **Compile / provide guidance materials on Safety Risk Management**
 - ✦ **Hazard identification**
 - ✦ **Risk assessment and analysis**
 - ✦ **Risk mitigation and control**



European Aviation Safety Agency

ECAST SMS WG

- Airline elected as ECAST SMS WG chair
- Deliverables
 - ★ Guidance materials: references and links on the 4 selected subjects posted on public websites such as SKYBRARY and EASA
 - ★ Target end date is **31 Dec 08**



European Aviation Safety Agency

ECAST

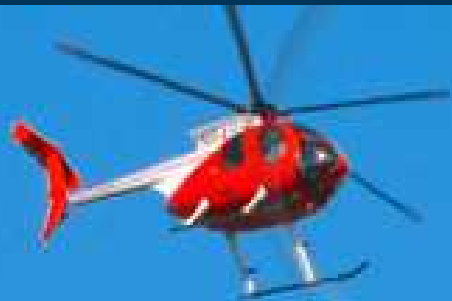
Associated team: FAST

- The Future Aviation Safety Team
 - ✦ Created under the JSSI
 - ✦ Associated to ECAST
 - ✦ Growing interest from the US (CAST, FAA, NASA, Boeing)
- Prospective Safety
 - ✦ Has identified and maintains a **repertoire of 200+ “Areas of Change”**
 - ✦ Has developed a **method for prospective safety** analysis
 - ✦ Method tested on two safety relevant subjects:
 - ➔ **Cockpit automation**
 - ➔ **New ATM operational concepts, with Eurocontrol**
- FAST has contributed to ECAST Phase 1, bringing into play a prospective perspective



European Aviation Safety Agency

www.easa.europa.eu/essi

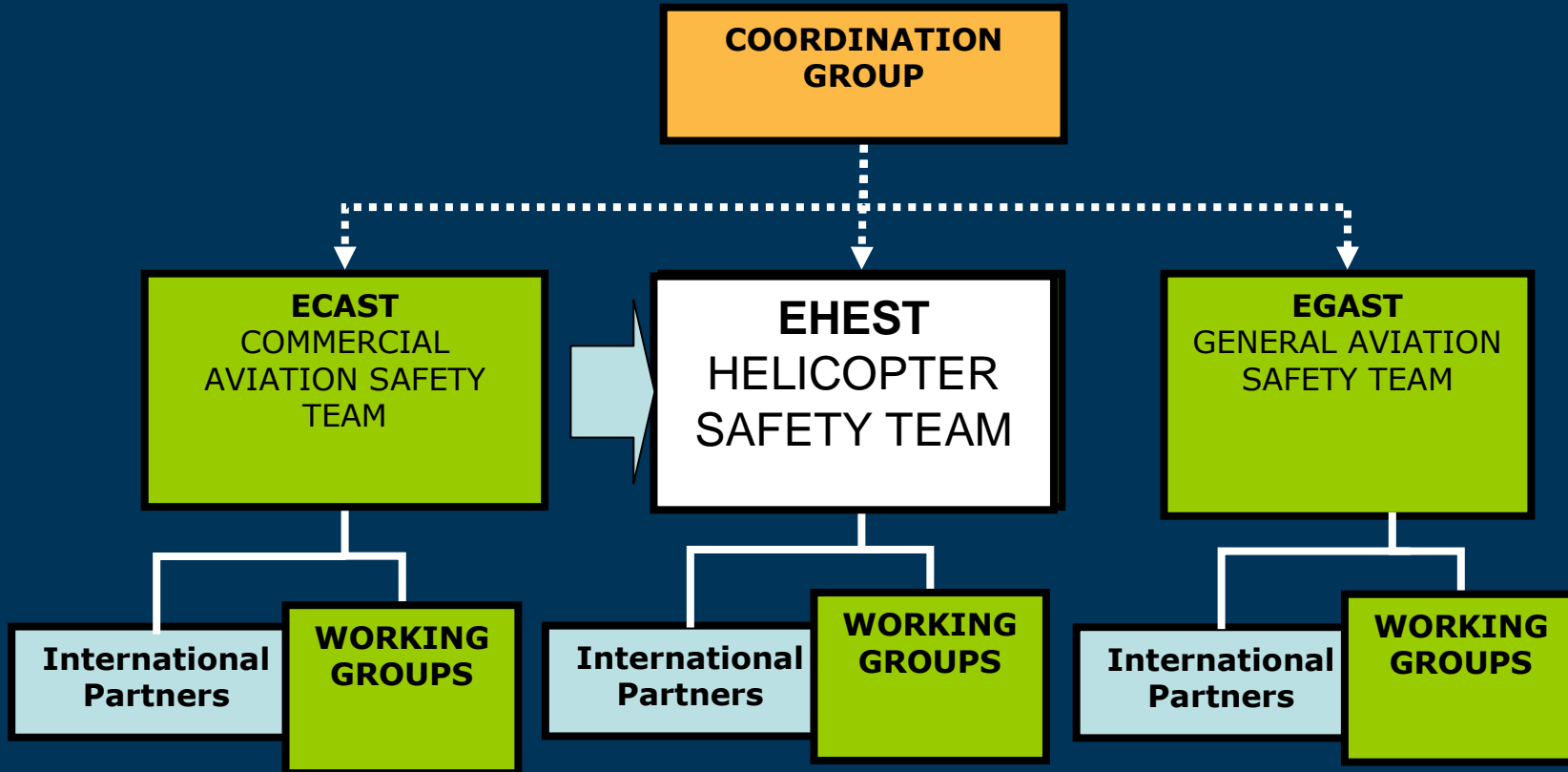


European Helicopter Safety Team EHEST





European Aviation Safety Agency



www.easa.europa.eu/essi



European Aviation Safety Agency

EHEST

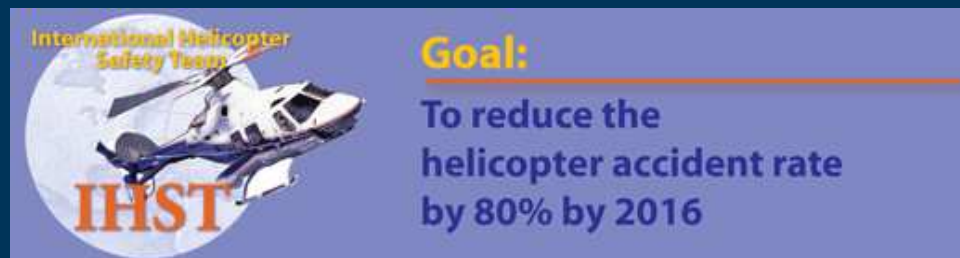
The European Helicopter Safety Team

- EHEST is an industry/regulators partnership for enhancing rotorcraft safety in Europe based on voluntary commitment
- Features representatives of OEMs, civil operators, regulators, helicopter interest groups, accident investigators, and military operators from across Europe
- Brings together around 130 participants, of which 70 are involved in the Analysis Team
- Governance:
 - ✦ Regulatory co-chair: John Vincent, EASA
 - ✦ Industry co-chairs: John Black, Bristow and EHOC, Jean-Pierre Dedieu, Eurocopter and EHA



EHEST within the ESSI and IHST

- EHEST is the second ESSI component
- And also the European branch of the International Helicopter Safety Team (IHST)
<http://www.ihst.org/>
- Committed to the IHST goal...



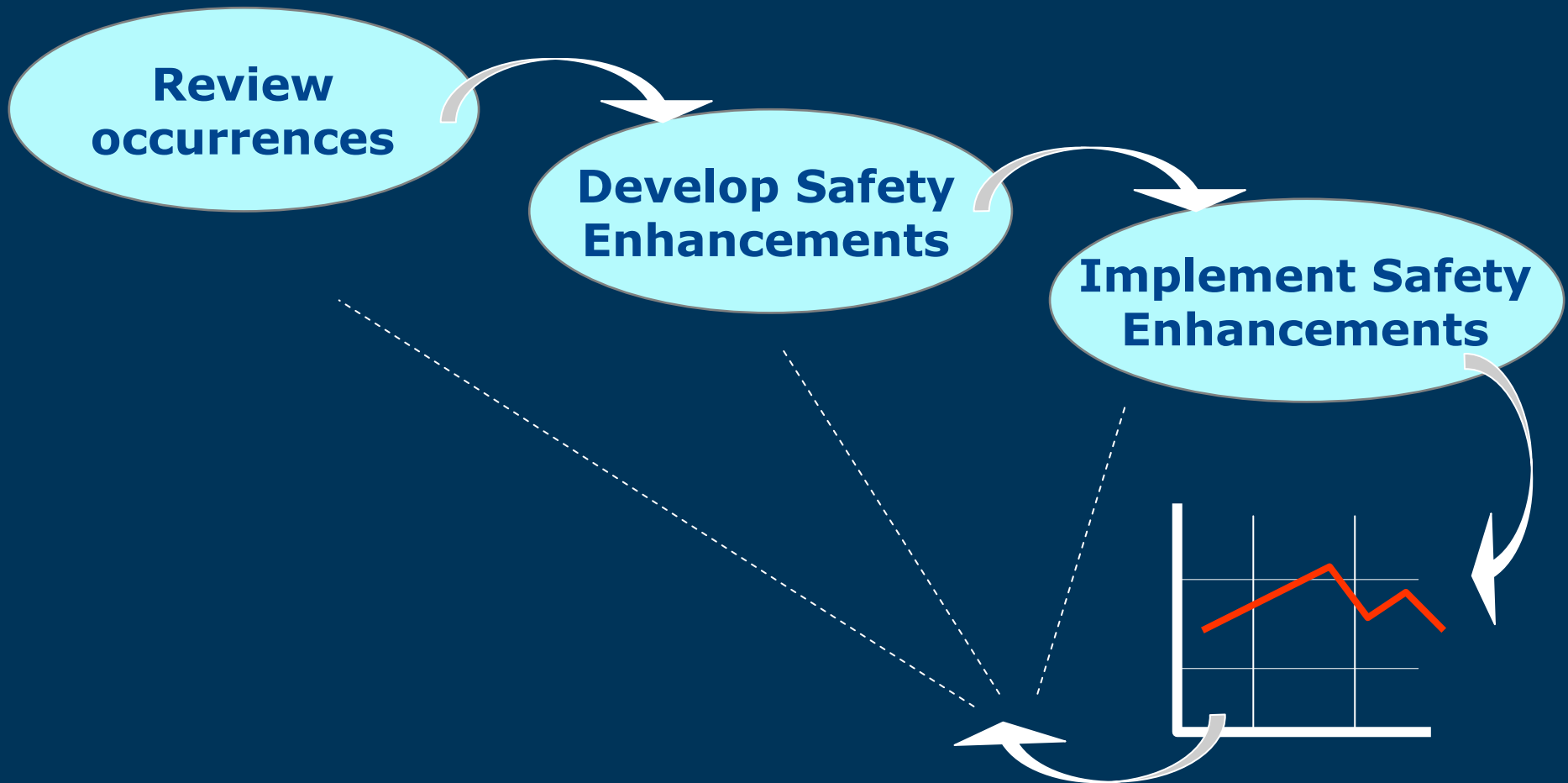
- ...with emphasis on European safety



European Aviation Safety Agency

EHEST

Methodology adapted from CAST





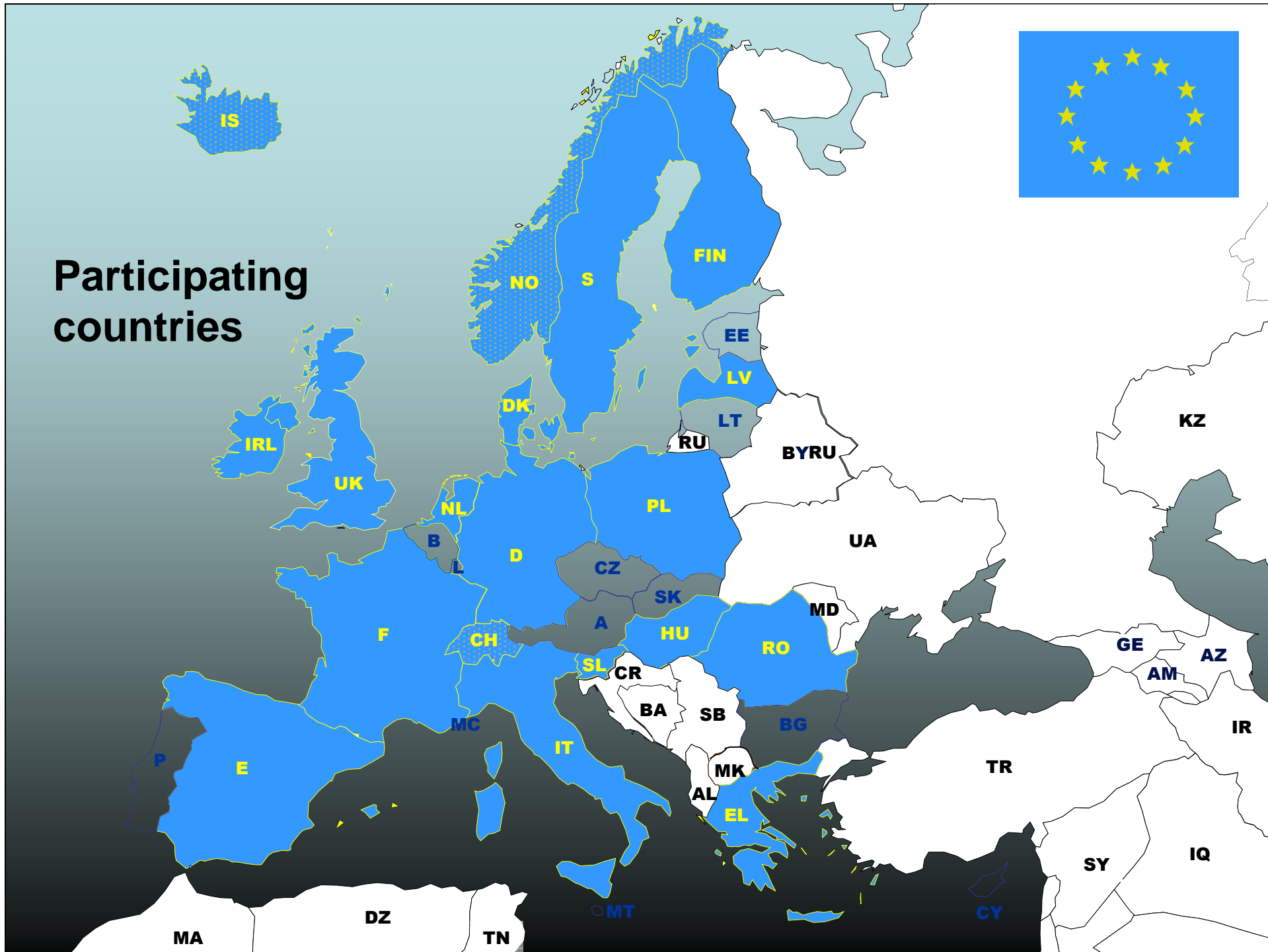
European Aviation Safety Agency

EHEST

Methodology adapted from CAST



Participating countries





European Aviation Safety Agency

EHSAT Composition

➤ Regional EHSAT teams

- ✦ UK, Germany, France, Italy, Spain, Nordic team (Norway, Sweden, Denmark, Finland), CH, Hungary, Ireland)
- ✦ In addition Poland, Romania, Latvia and Slovenia participate in the EHEST

➤ Central EHSAT:

- ✦ Regional teams representatives, plus EASA
- ✦ Standardisation, data integration and analysis, quality control, liaison with the US JHSAT



Why regional EHSAT teams?

- Maximises usage resources: working on local data, less travelling
- Relations between partners already established
- Team is aware of local context
- Implementations/action plans also have to be implemented on regional level
- Language used for accident investigation reports



European Aviation Safety Agency

EHSAT

Diverse and balanced perspectives and competences

- Accident analysis is based on a sound method, featuring expert judgement
- Requires diverse and balanced set of competences
- Regional EHSAT feature representatives from the NAA, the AIB, operators, OEM / TC holders, pilot association, GA, and optionally the military



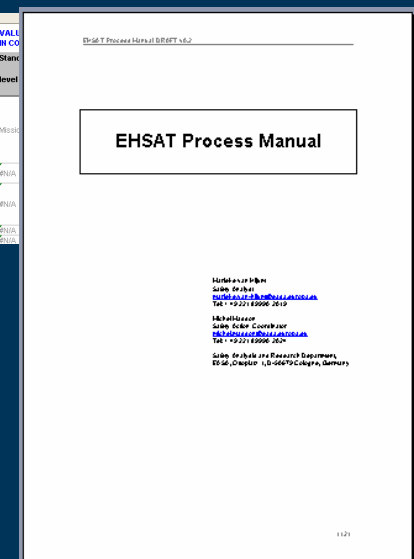
European Aviation Safety Agency

EHSAT

Analysis Strategy

- Maintain international compatibility
 - ✦ Reviewing accidents using a standard method adapted by IHST from CAST (US Commercial Aviation Safety Team)
- Results are aggregated at European and worldwide levels
- Requirements
 - ✦ User friendly method
 - ✦ Standardisation and quality control
 - ✦ Extensive Human Factors coding

| | E | F | G |
|---|----------------------------------|---|---|
| 1 | | VALUE WILL DISPLAY AFTER VALUE IN COLUMN E HAS BEEN ENTERED | VALUE WILL DISPLAY AFTER VALUE IN COLUMN F HAS BEEN ENTERED |
| 2 | Standard Problem Statement (SPS) | Standard Problem Statement (SPS) | Blank |
| 3 | Type SPS number (6 or 7 digits) | level 1 | level |
| 4 | 101010 | Ground Duties | Missed |
| 5 | | IR/A | IR/A |
| 6 | | IR/A | IR/A |
| 7 | | IR/A | IR/A |
| 8 | | IR/A | IR/A |





European Aviation Safety Agency

EHSAT Dataset

- Focus on:
 - ✦ Documented Accidents (def. ICAO Annex 13)
 - ✦ Date of occurrence starting from 2000 onwards
 - ✦ State of occurrence located in Europe
 - ➔ Europe is considered to be the 27 EU Member States plus Iceland, Liechtenstein, Norway and Switzerland (EU27+4).
- Note: EHSAT is not in competition with Accident Investigation Boards!



European Aviation Safety Agency

EHSAT

Preliminary Results

- Developed an organisation adapted to Europe
 - ✦ Central strategic team, EHEST
 - ✦ Regional analysis teams
 - ✦ Central analysis team, EHSAT
- Adapted and tested an analysis tool, usable by other regional teams worldwide
- Regional teams started review of accidents
- First standardisation meeting held in December 2007
- 200+ accident analyses expected by June 08



European Aviation Safety Agency

EHSAT

Work Programme

2008

2009

- Regional Analysis Teams perform the analyses
 - Review and aggregation by the central EHSAT
 - The Implementation Team starts working on safety action plans
-
- EHEST/Regional IHST Conference
Planned for 13 Oct 08, HELITECH, Estoril, Portugal



European Aviation Safety Agency

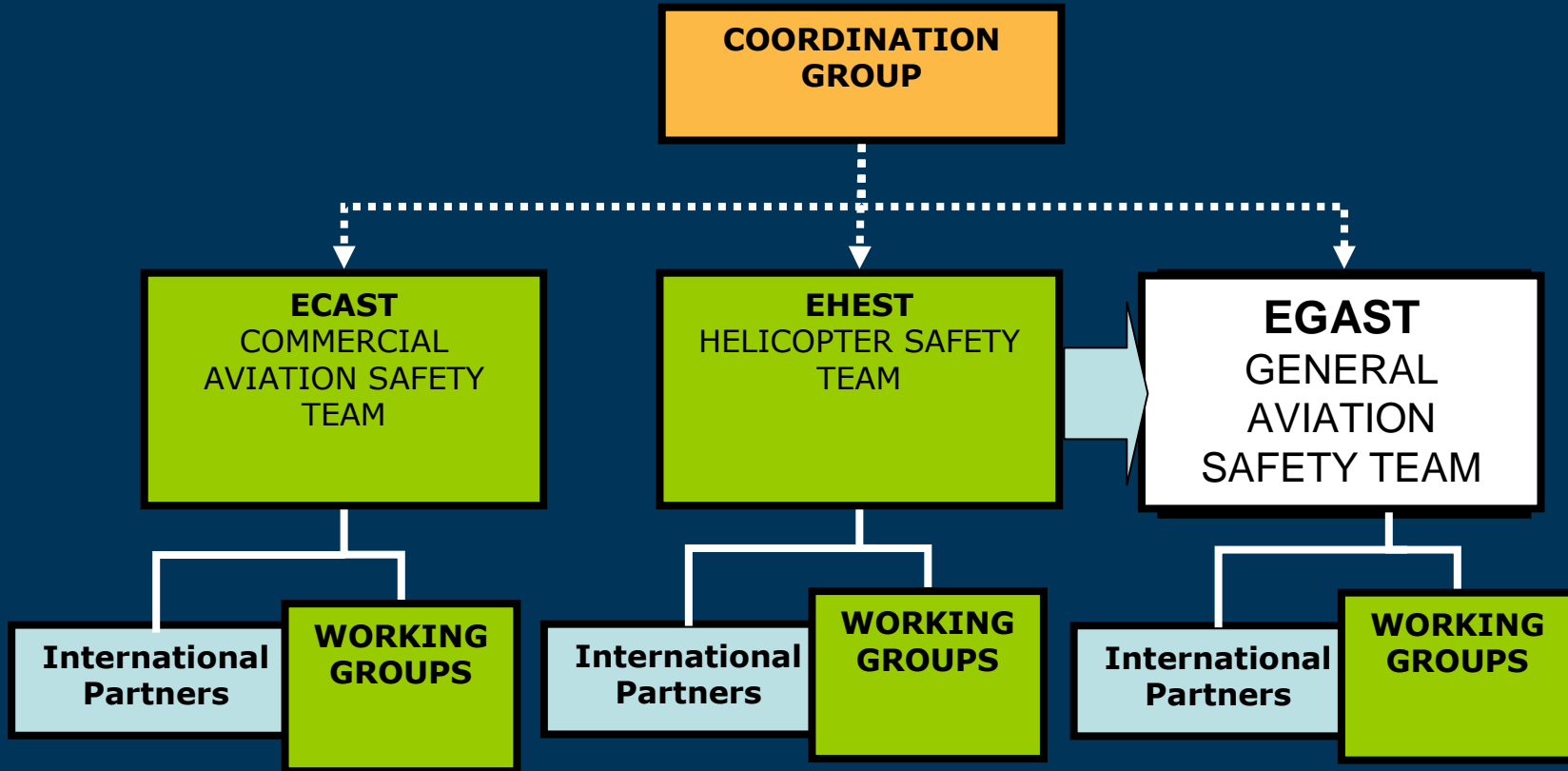


European General Aviation Safety Team EGAST





European Aviation Safety Agency

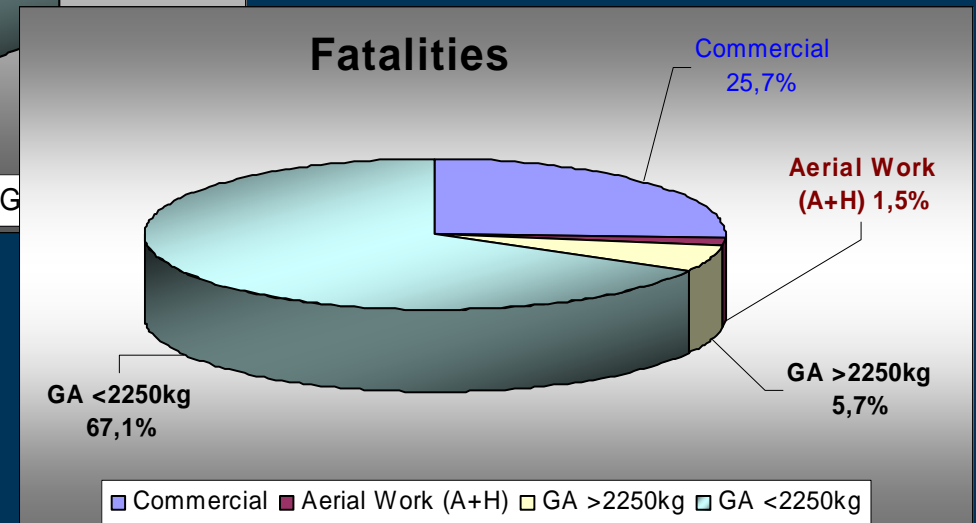
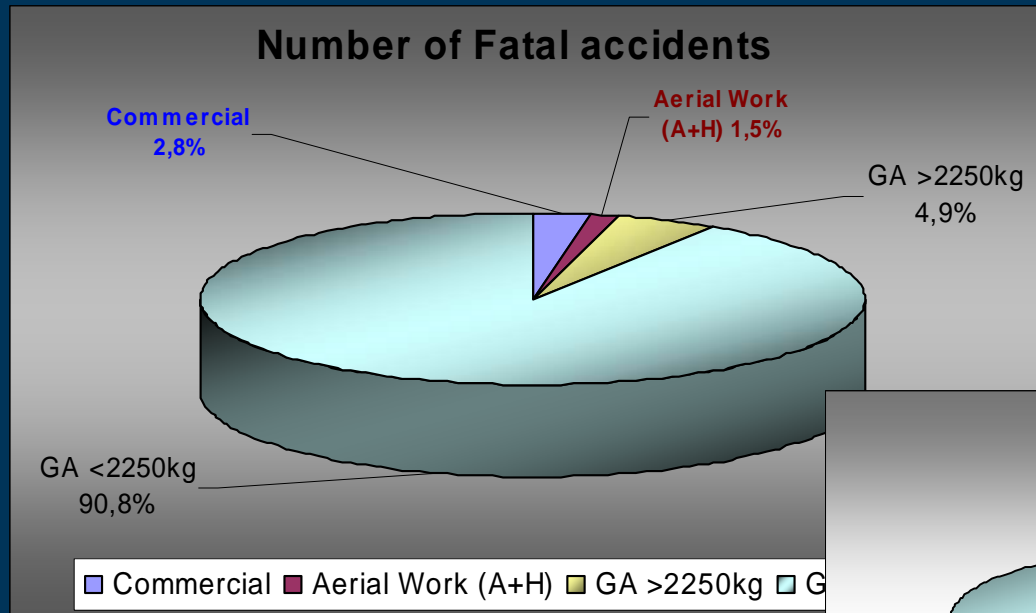


www.easa.europa.eu/essi



EGAST

General Aviation Fatal accidents



G.A. light aircraft fatal accidents are the biggest slice in the cake !



European Aviation Safety Agency

EGAST Overview

- **EGAST foundation meeting, EASA, 17 Oct 07**
- **More than 160 invites, 65 participants**
- **Need to set up a European General Aviation Safety Team confirmed**
- **In line with the new regulatory framework developed by EASA with the GA community**
- **Cooperation with GA JSC by FAA**
- **Emerging themes**
 - ✦ **Data collection and analysis**
 - ✦ **Safety promotion and sharing**



European Aviation Safety Agency

EGAST Overview

- Partnership between EASA, other European intergovernmental bodies and regulators including NAA and the general community aiming at improving general aviation safety
- Co-chaired by EASA, EBAA and ECOGAS & EAC
- 60+ organisations; 20 Members in the Core Team



European Aviation Safety Agency

EGAST

The 3 layers

- **EGAST Level 1 = the Core Team**
 - ✦ **Runs the initiative**
 - ✦ **Sets up the foundation documents and work program**
 - ✦ **May run working groups on specific subjects**
 - ✦ **Around 20 participants**
- **EGAST Level 2**
 - ✦ **Interest in participating in EGAST**
 - ✦ **May provide participants in the working groups run by the Core Team**
 - ✦ **Around 65 participants**
- **EGAST Level 3 = GA Community**
 - ✦ **Will benefit from the work of EGAST**



European Aviation Safety Agency

EGAST Objective

- **Stated by the Core Team on 1 April 2008:**

EGAST will promote and initiate for all sectors of General Aviation best practices and awareness in order to improve safety, thereby reducing the accident rates.

Priorities will be set depending on sectors, safety benefits, and resources.



European Aviation Safety Agency

European Strategic Safety Initiative



EASA ESSI - Contact persons:

John Vincent

EASA Head Safety Analysis and Research, ESSI co-Chair

john.vincent@easa.europa.eu

Tel: + 49 221 89990 2012

Michel Masson

EASA Safety Action Coordinator, ESSI Secretary

michel.masson@easa.europa.eu

Tel: + 49 221 89990 2024

EASA

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

Clement Audard

EASA Safety Team Support Officer,

clement.audard@easa.europa.eu

Tel: + +49 221 89990 2038



European Aviation Safety Agency

ESSI Communication

- ★ **Website:** www.easa.europa.eu/essi
 - ➔ Two way link with CAST
 - ➔ ESSI, ECAST, EHEST and EGAST mailboxes
 - ➔ ICAO Information Paper and ECAST Process and Process Manual posted

- ★ **EASA Annual Safety Review 2007**
 - ➔ Section on ESSI

- ★ **Article on ESSI in SKYBRARY by EUROCONTROL**
 - ➔ Article on ESSI: <http://www.skybrary.aero/index.php/ESSI>

- ★ **EASS 08 abstract accepted on 5 Nov 07**

- ★ **ESSI Advertisements and Publications**
 - ➔ Regional International by ERA, August 07 and Oct 2007
 - ➔ ACI and AEA contacted



EASA in Cologne, Germany 5 years old

essi 

European Strategic Safety Initiative

The European Aviation Safety Agency launched ESSI to further enhance aviation safety for citizens in Europe and worldwide. Analysis of data, coordination with other safety initiatives and implementation of cost effective action plans are carried out to achieve this goal. More than 150 civil and military organisations are members of the new aviation safety partnership.

ESSI consists of three pillars: The European Commercial Aviation Safety Team (ECAST), the European Helicopter Safety Team (EHST) and the European General Aviation Safety Team (EGAST). In 2008, ECAST will launch two analysis activities on Ground Safety, as well as Safety Management Systems and Safety Culture.

Together, let's make skies safer.

www.easa.europa.eu/essi