Aviation Safety Monitoring in Europe

Fred Abbink

ICAS Mykonos; 3 October 2005

"European Aeronautics: A Vision for 2020"

EUROPEAN AERONAUTICS: A VISION FOR 2020

Meeting society's
needs and winning
global leadership

REPORT OF THE GROUP OF PERSONALITIES

JANUARY 2001

Contents

Air Transport and Aeronautics
- Key Assets for the Future of Europe

A Vision for European Aeronautics in 2020

- Responding to society's needs
- Securing global leadership
- Establishing supportive public policy and regulation
- Identifying the research agenda

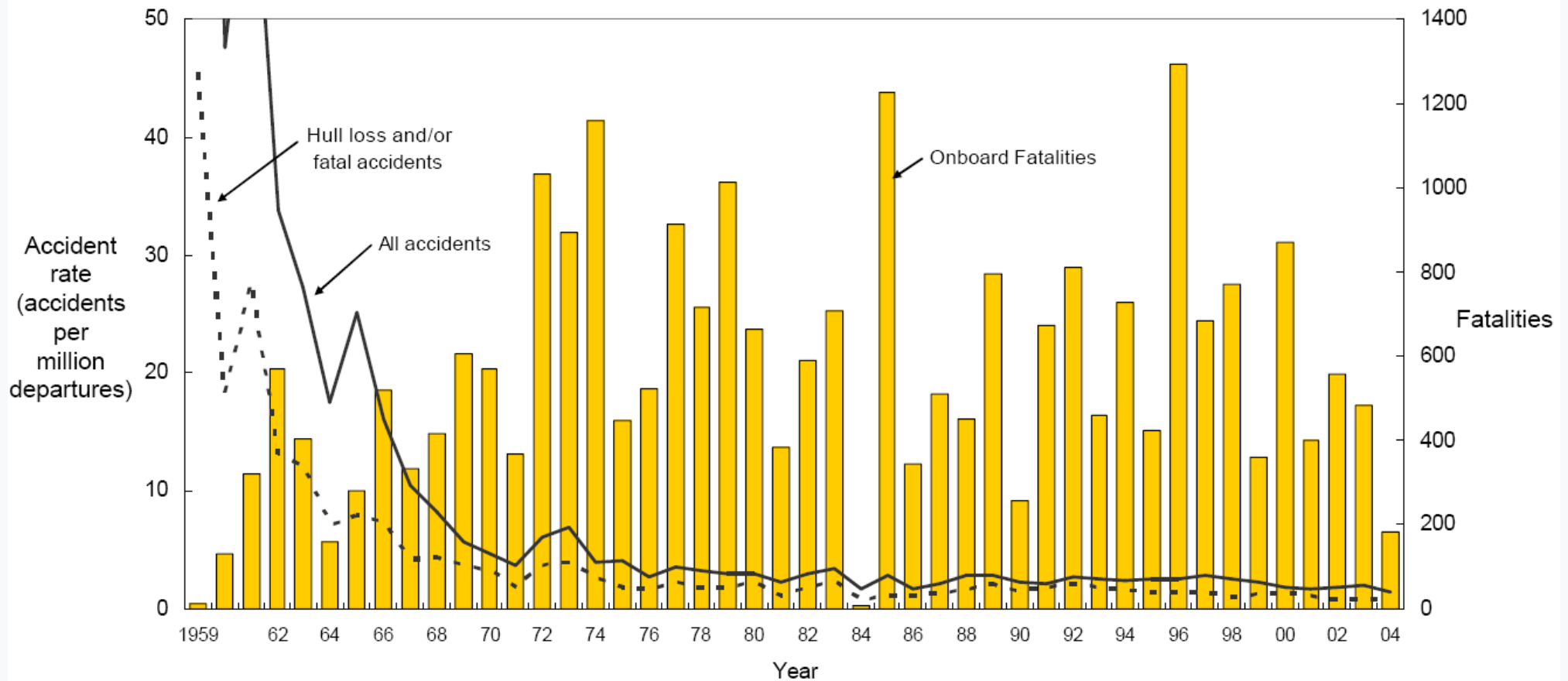**The Way Forward: Creating Partnership for Research and Innovation**

Major goals for Europe
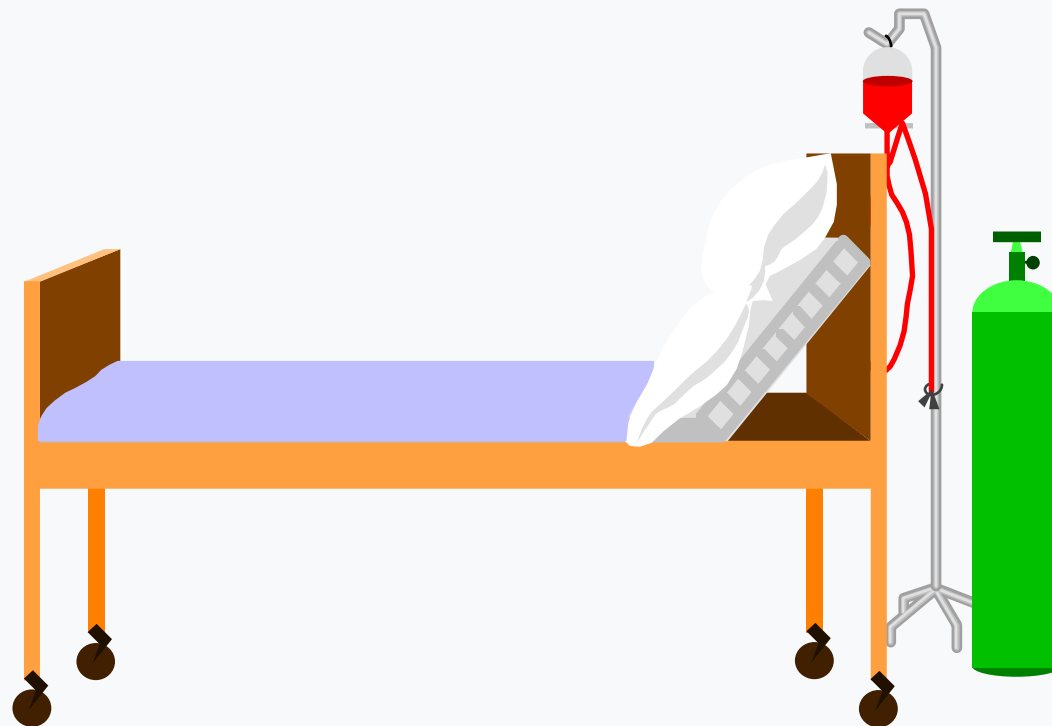
Safety (5 fold reduction in accident rate)

Environment (50% reduction in CO_2 per PassKm and 50% reduction of Perceived Noise)

European Air Transport System Capacity (3 fold increase in airspace and airport capacity in all-weather conditions)
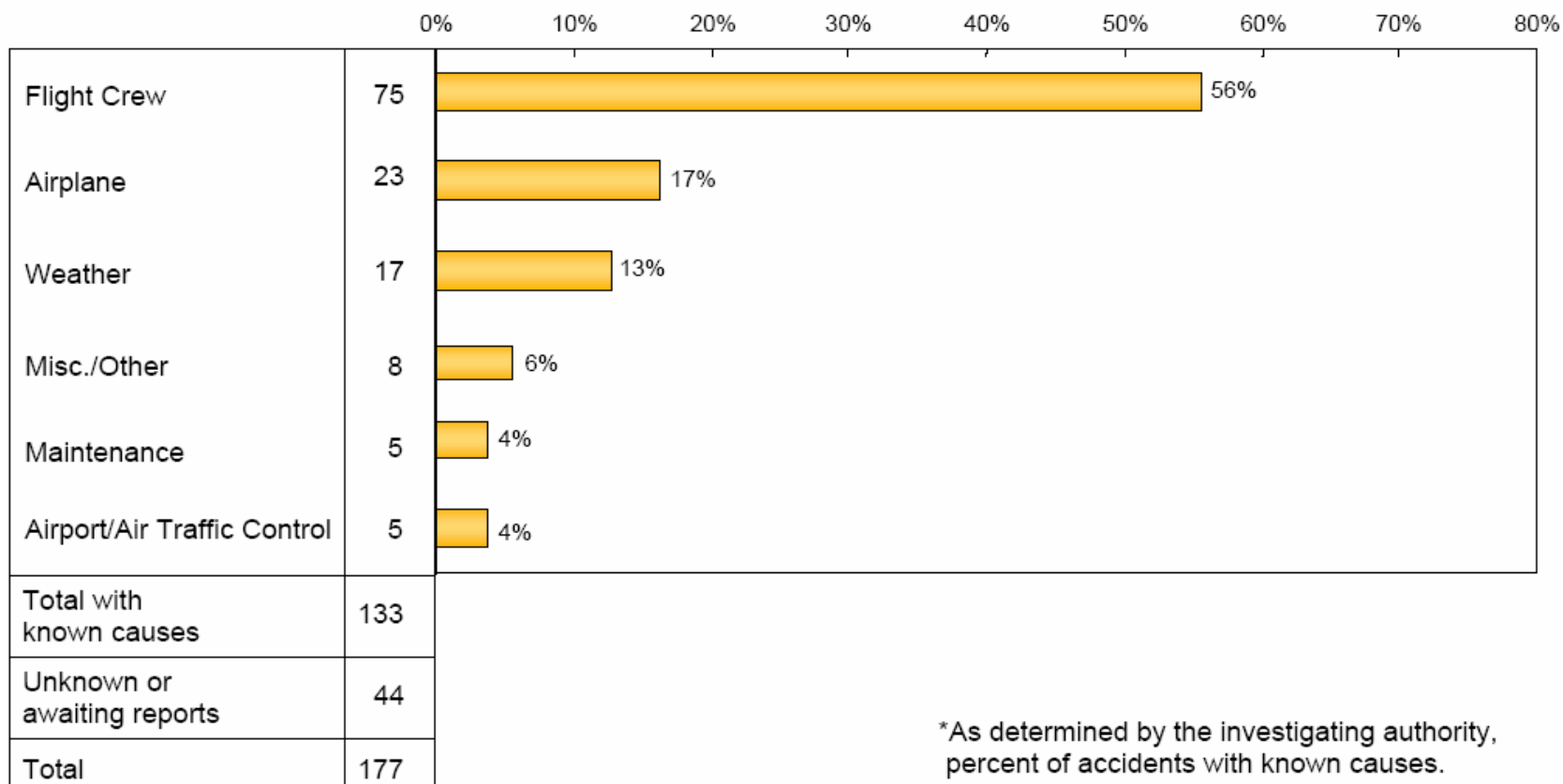
Accidents by Primary Cause*
Hull Loss Accidents – Worldwide Commercial Jet Fleet – 1995 through 2004

Cause	Count	Percent
Flight Crew	75	56%
Airplane	23	17%
Weather	17	13%
Misc./Other	8	6%
Maintenance	5	4%
Airport/Air Traffic Control	5	4%
Total with known causes	133	
Unknown or awaiting reports	44	
Total	177	

*As determined by the investigating authority, percent of accidents with known causes.

Fatal accident rate comparison

Others **2.24**

EASA operators **0.48**

per million flights

US operators **0.37**

Source: NLR Air Safety Database
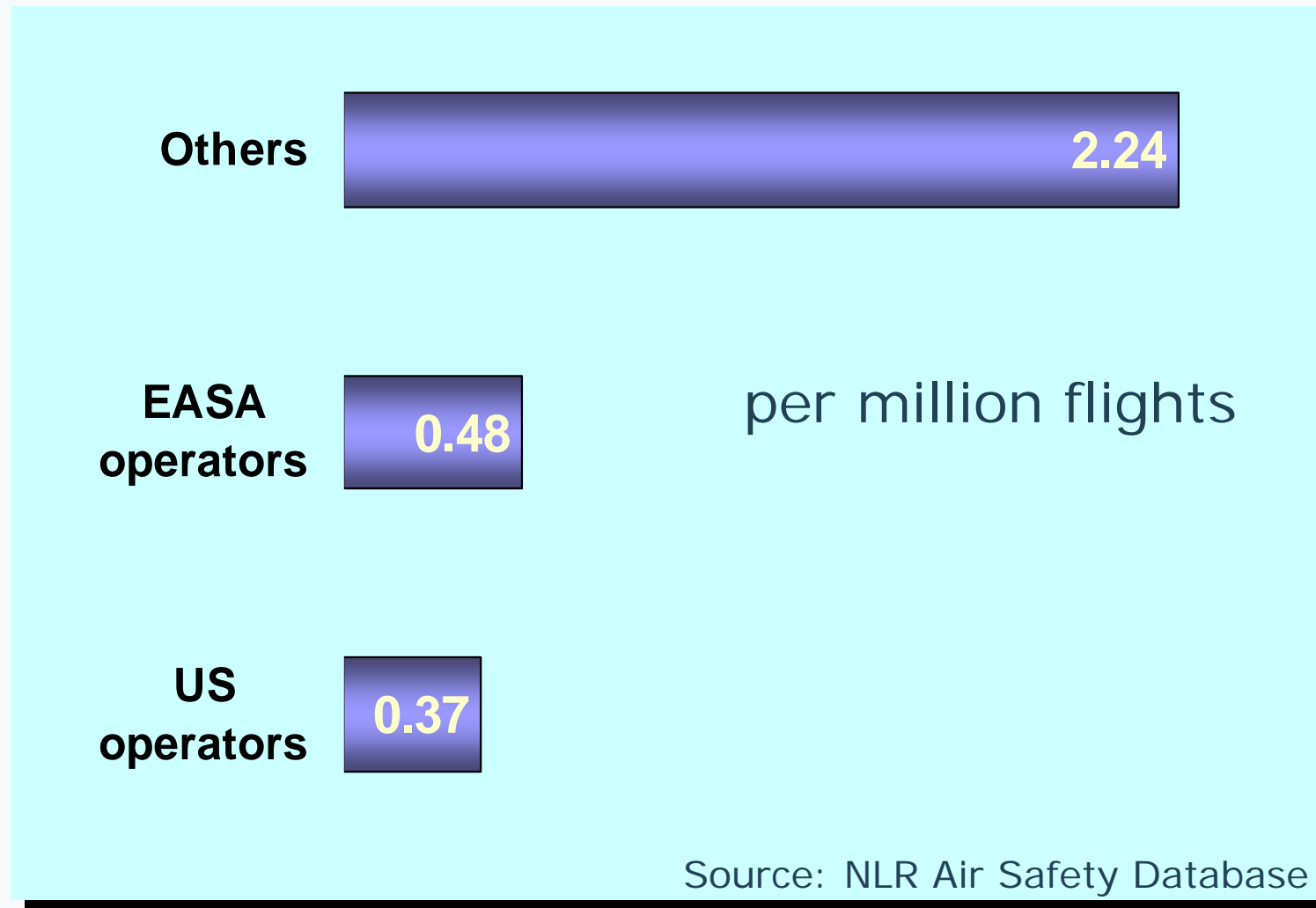
European Airspace Structure

European Organisations for aviation safety

ECAC (42)

EUROCONTROL (35)

JAA (39)
*candidates

Bosnia H.

Albania *   Monaco
Bulgaria   Serbia & M. *
Croatia   Turkey
FYROM *   Ukraine

Armenia *

Moldova *   Romania

Norway   Switzerland   Iceland

GASR (21)

Estonia   Belgium   Malta
Latvia   Denmark   Netherlands
Lithuania Finland   Poland
          Germany   Slovak Rep.
          Ireland   Slovenia
          Italy   Sweden
                     U.K.

EUROPEAN UNION (25)

Austria   Hungary
France   Luxembourg
Greece   Portugal
Spain   Cyprus
          Czech Rep.

EASA (28)

Azerbaijan
Georgia

Who monitors safety performance?

-Airlines

-Accident Investigation Agencies

-Air Navigation Service Providers

-Airprox boards

-States

-Airports

-European Aviation Safety Agency

Airlines

Accident prevention & Flight Safety Programme (JAR-OPS)

- Programme to maintain risk awareness, evaluation, and promulgation of relevant information relating to incidents and accidents.

- Collation of accidents/incidents that occurred with the airline.

- Pro-active use of digital flight data from routine operations to improve aviation safety.

Accident Investigation Agencies

-Determine the causes of air accidents and serious incidents

-Make safety recommendations intended to prevent recurrence

Air Navigation Service Providers (ANSP)

-EUROCONTROL 'requires' that an ANSP has a

- Formal means of safety occurrence reporting and assessment

-Not fully implemented throughout Europe

Airprox boards

-Analyse air proximity occurrences

-Not present in every European state

-The role of the airprox board:

- Analyse of what happened and determining the main causal factors.

- Assess the risk levels involved.

- Make recommendations to prevent recurrence.

- Communicate findings and lessons learned.

Airports

-Airports in the EU need to report incidents (2005)

-For many airports this is new

-EU Occurrence reporting Directive

-Safety Assessment of Foreign Aircraft (SAFA) Programme

EU Occurrence reporting Directive

EU Member States shall require that all safety occurrences are reported to the competent authorities (EU Directive).

- Local Civil Aviation Authority and, or
- Accident Investigation Agency

Safety Assessment of Foreign Aircraft Programme

-Inspections of aircraft to find significant irregularities

-All findings are put into a centralized database

-Limited to on-the-spot assessments

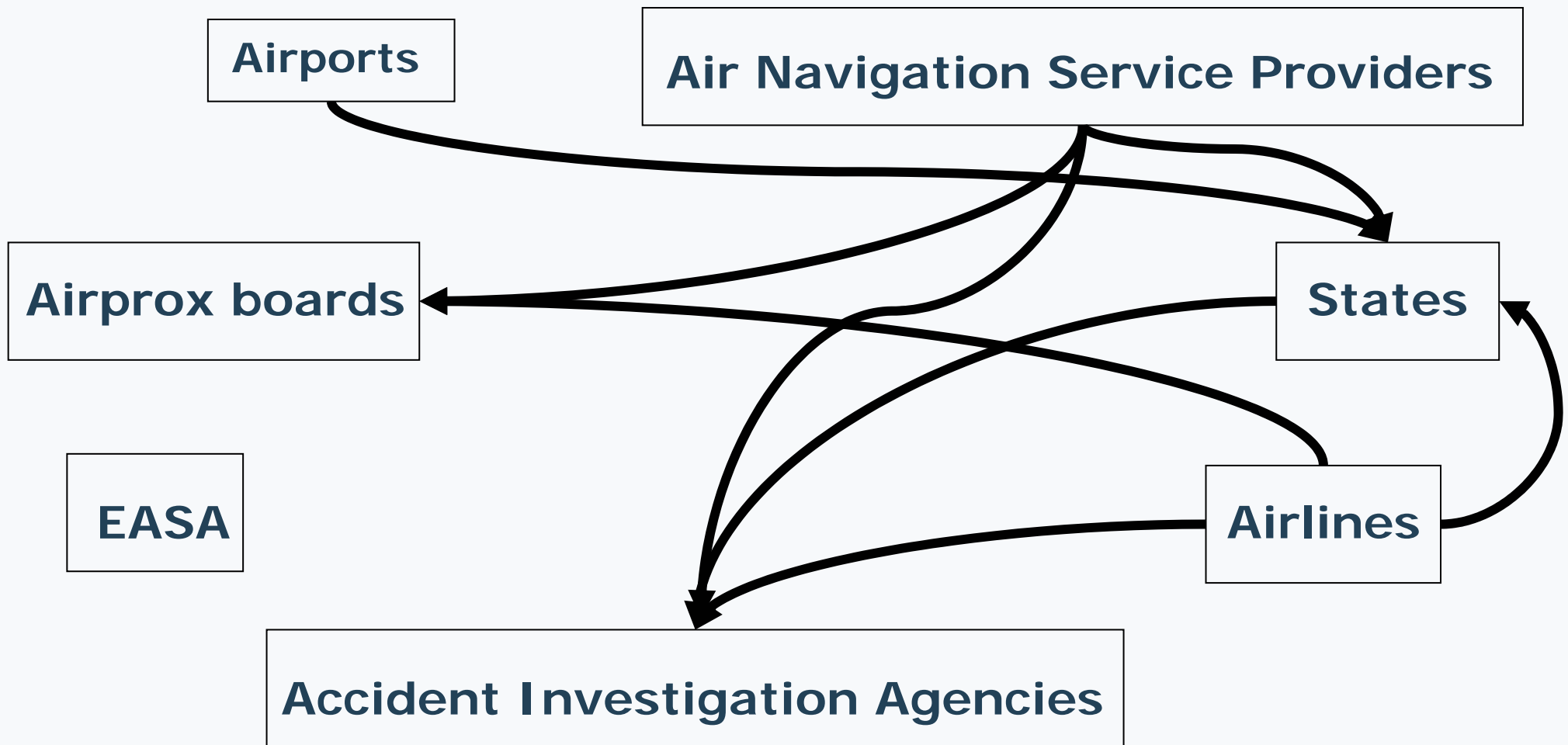# European Aviation Safety Agency (EASA)

-EASA has the regulatory and executive tasks in the field of aviation safety in the EU

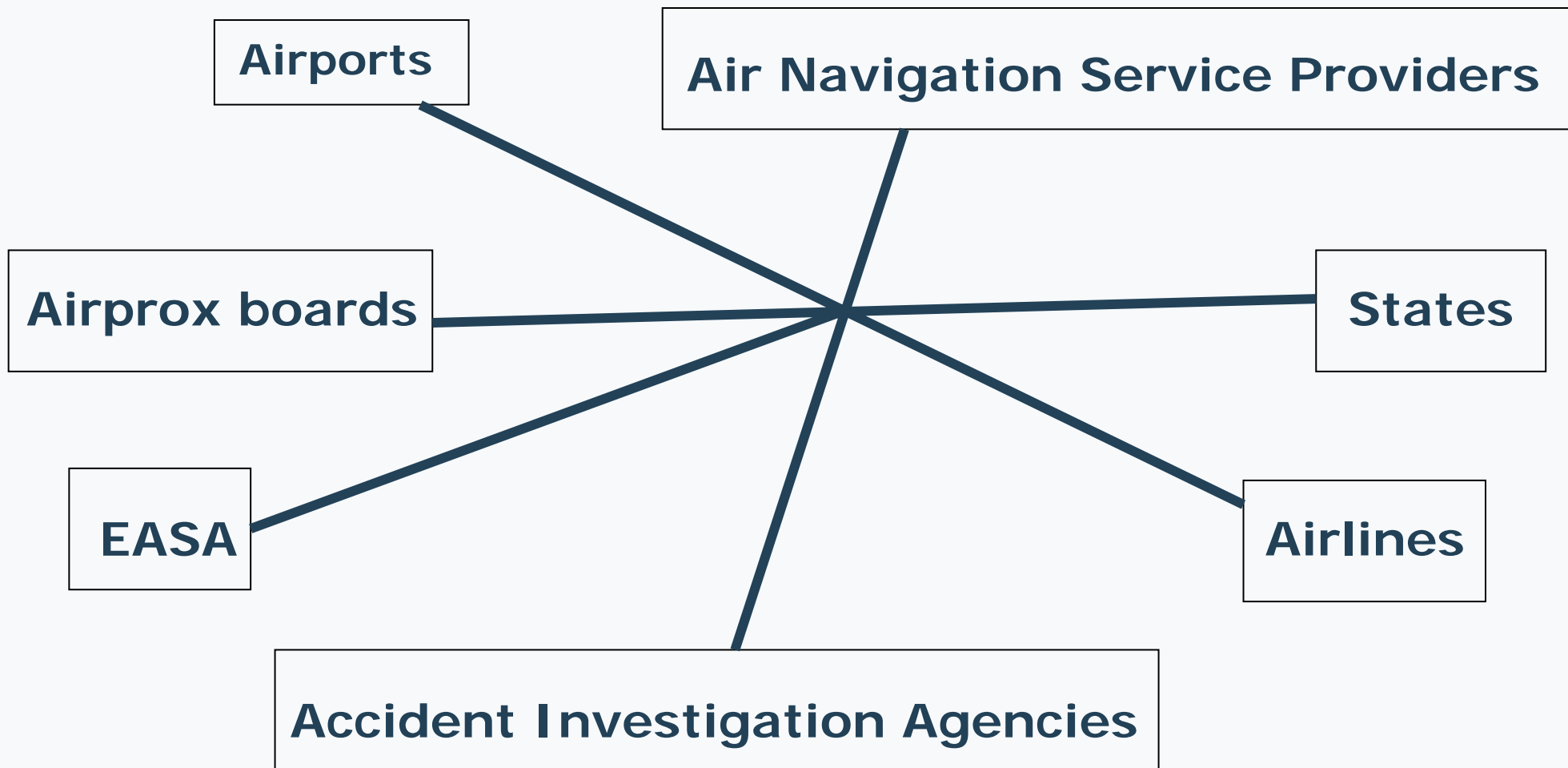-Safety analysis & research is part of the organisation
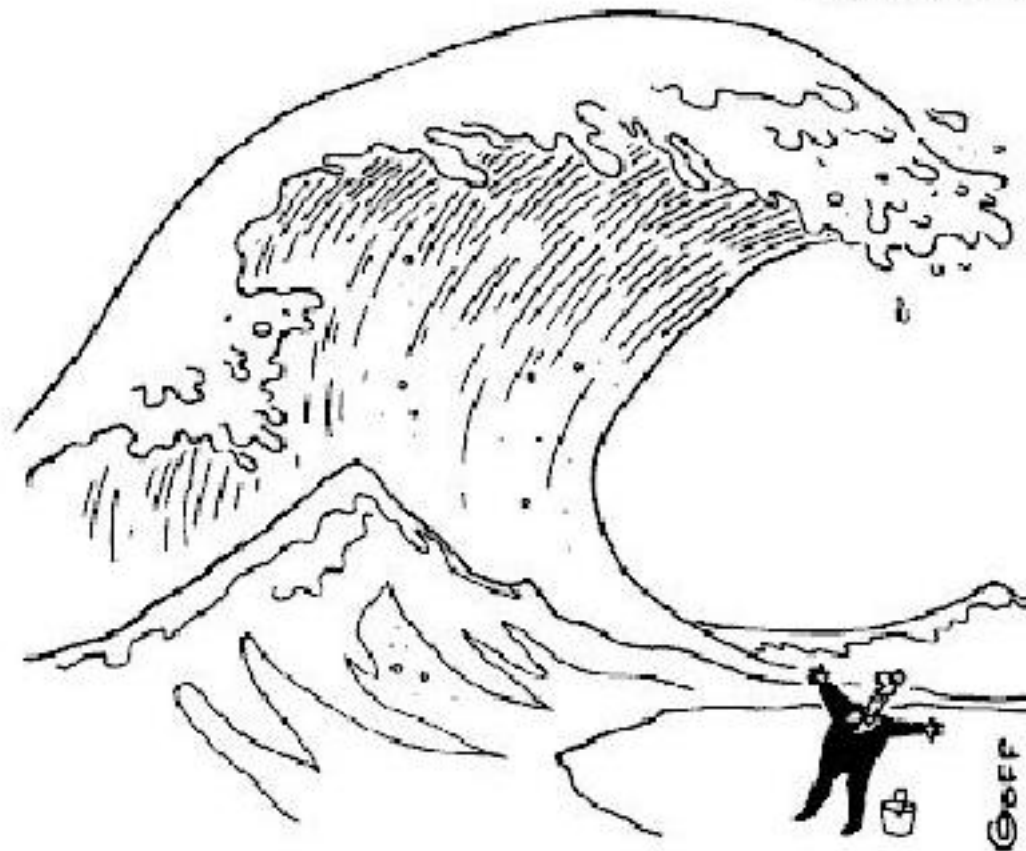
- This task is under development

Airports

Air Navigation Service Providers

Airprox boards

States

EASA

Airlines

Accident Investigation Agencies

Information overload

The role of Safety Management Systems

SMS = Systematic, comprehensive and proactive process for managing safety risks

Future of safety monitoring in Europe

-High pressure to deliver a safe air transport system

-Systems approach needed

-Role of EASA becomes important

-Single European accident investigation agency