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

Aug. 2008 EASA, Cologne
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
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
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

- CAST
- PAAST
- ESSI
- COSCAP
- Gulf States
- COSCAP
- North Asia
- South Asia
- Southeast Asia
- COSCAP
- BAG, CEMAC, UEMOA

Aug. 2008
ESSI Standard Presentation, EASA, Cologne
Slide 5
Distribution of all airline transport operations (scheduled traffic)

- North America: 45%
- South America & the Caribbean: 8%
- South & Southeast Asia: 5%
- East Asia: 9%
- Africa: 2%
- Australia & New Zealand: 4%
- East Asia: 9%
- West & Central Asia: 3%
- Non-EASA Europe: 1%
- EASA MS: 23%
ESSI
Historical development of worldwide safety
1945 - 2007

Passenger fatalities per 100 million passenger miles,
scheduled public transport operations, excluding acts of unlawful interference

1968: 0.5

After 1997: < 0.05
ESSI
Historical development of worldwide safety
1988 - 2007

Rate of accidents involving passenger fatalities per 10,000,000 flights, scheduled operations, aeroplanes, excluding acts of unlawful interference.
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 Commercial Aviation Safety Team

ECAST
ESSI/ECAST Pledges registered

European Aviation Safety Agency

- 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 in total
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
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: \textit{completed}
  - Survey of Action Plans with airlines: \textit{completed}
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

Phase 1.
Identify and Select Safety Priorities

Phase 2.
Analyse Safety Issues

Phase 3.
Develop, Implement, and Monitor Actions Plans

Programme Reviews – 2012 and 2017
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
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
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

<table>
<thead>
<tr>
<th>1. Ground Safety</th>
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<tbody>
<tr>
<td>2. Runway Safety</td>
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<td>3. SMS &amp; Safety Culture</td>
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<td>4. Flight Crew Performance</td>
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<tr>
<td>5. Loss of Control (General)</td>
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<td>6. Approach &amp; Landing</td>
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<td>7. Aviation System Complexity</td>
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<td>8. Fire, Smoke and Fumes</td>
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<td>9. Air-Ground Communications</td>
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<td>10. Mid Air Collision</td>
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<td>11. CFIT</td>
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<tr>
<td>12. Icing</td>
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<tr>
<td>13. Bird Strike</td>
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<tr>
<td>14. Loss of Control (Weight &amp; Balance)</td>
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<tr>
<td>15. Air Navigation</td>
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<tr>
<td>16. Airworthiness (Maintenance &amp; Design)</td>
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<td>17. Maintenance (HF)</td>
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<tr>
<td>18. Automation</td>
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</tbody>
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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
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
- NPA and NPA consultation 3rd quarter 2008
ECAST SMS WG
And the regulatory framework

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

Basic Regulation
216/2008

EASA IRs
Management Systems (incl. Safety)

Authority Requirements

AMCs MS for Organisations
★AMC1 MS.B.001(a)(2) SAFETY RISK MGT
★AMC1 MS.B.001(a)(4) SMS ORGANISATION

ECAST SMS WG will provide (website based) practical Guidance mainly based on existing materials and initiatives
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
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
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 Helicopter Safety Team
EHEST
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...
  - Goal:
    - To reduce the helicopter accident rate by 80% by 2016
- ...with emphasis on European safety
EHEST
Methodology adapted from CAST

- Review occurrences
- Develop Safety Enhancements
- Implement Safety Enhancements
Regional Analysis Teams have been established to review European accident data.
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
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.
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
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!
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
2008

- Regional Analysis Teams perform the analyses
- Review and aggregation by the central EHSAT
- The Implementation Team starts working on safety action plans

2009

- EHEST/Regional IHST Conference
  Planned for 13 Oct 08, HELITECH, Estoril, Portugal
EGAST
General Aviation Fatal accidents

Number of Fatal accidents

- Commercial
  - 2.8%
- Aerial Work (A+H) 1.5%
- GA >2250kg
  - 4.9%
- GA <2250kg
  - 90.8%

Fatalities

- Commercial
  - 25.7%
- Aerial Work (A+H) 1.5%
- GA >2250kg
  - 5.7%
- GA <2250kg
  - 67.1%

G.A. light aircraft fatal accidents are the biggest slice in the cake!
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
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
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
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.
EASA ESSI - Contact persons:

**John Vincent**
EASA Head Safety Analysis and Research, ESSI co-Chair  
[john.vincent@easa.europa.eu](mailto:john.vincent@easa.europa.eu)  
Tel: + 49 221 89990 2012

**Michel Masson**
EASA Safety Action Coordinator, ESSI Secretary  
[michel.masson@easa.europa.eu](mailto:michel.masson@easa.europa.eu)  
Tel: + 49 221 89990 2024

**Clement Audard**
EASA Safety Team Support Officer,  
[clement.audard@easa.europa.eu](mailto: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
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 (EHSET) 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.