



EASA
European Aviation Safety Agency

EASA Human Factors Collaborative Analysis Group

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- Update on ICAO HPTF
- EASA HF CAG
 - What are the Collaborative Analysis Groups
 - Safety Risk Management Process
 - HF CAG role & remit
 - Key Activities
- Brief CRM Analysis

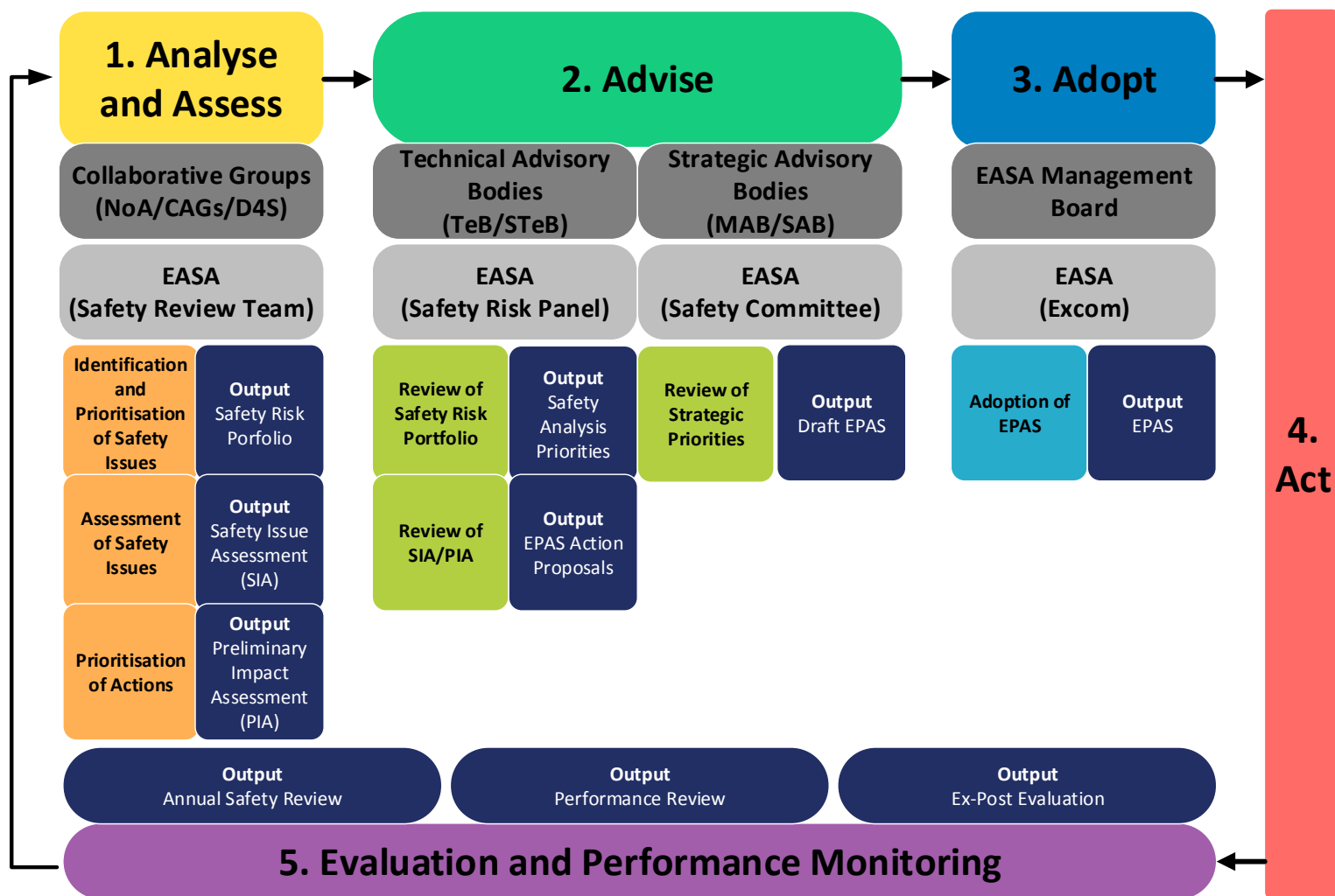


- Tasked with developing consistent guidance on human performance and human factors principles
 - Many references to HF principles in ICAO documents
 - Not all consistent
 - Not all provide information as to what they actually are
- High-level Human Performance Document
 - Clearly identifies key principles
 - Interfaces with relevant ICAO documents – SMM, PANS TRG, HF Training Manual
- Deadline: completed by July 2018



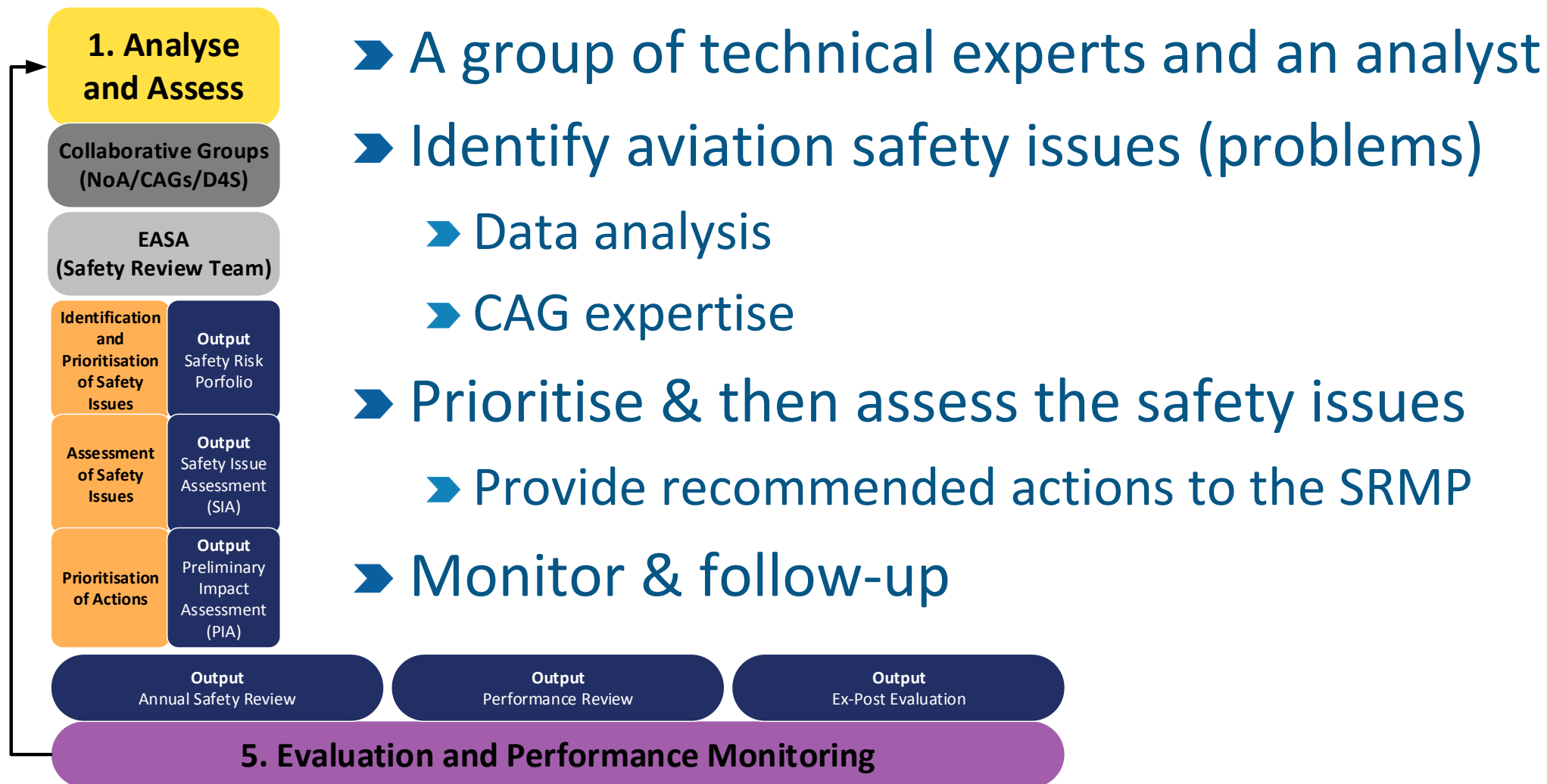
EASA Human Factors Collaborative Analysis Group

SAFETY RISK MANAGEMENT PROCESS – TASKS AND GOVERNANCE





Collaborative Analysis Groups





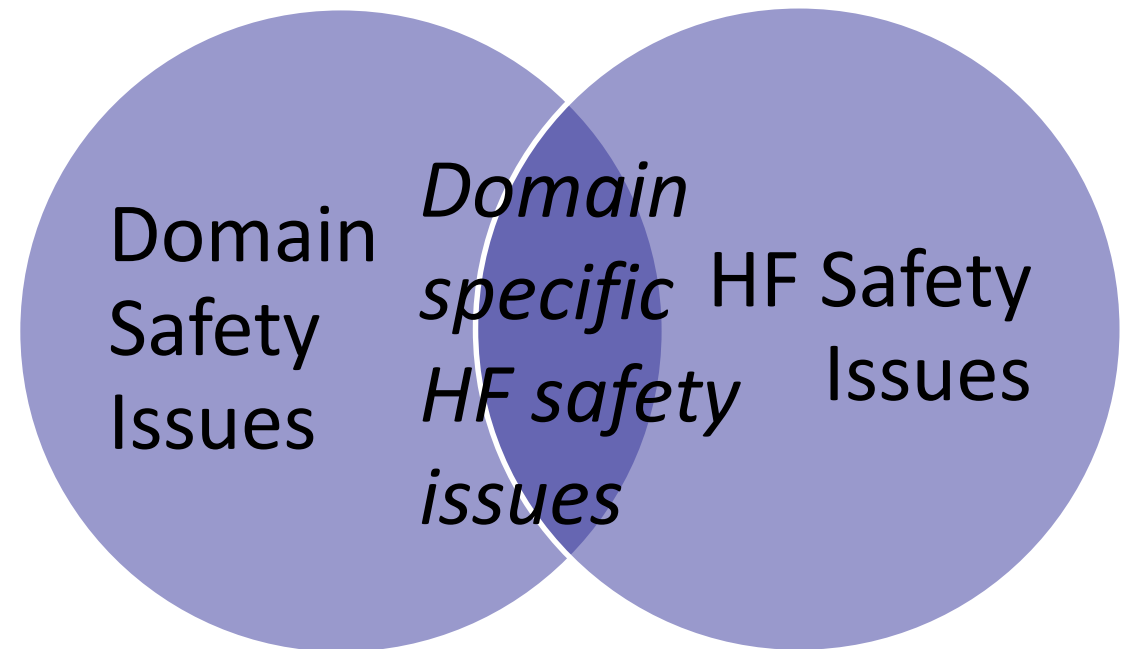
Collaborative Analysis Groups

- CAT Aeroplanes
- CAT Helicopters
- ATM/ANS
- Aerodromes & Ground Handling
- General Aviation
 - Balloon
 - Glider
 - GA Rotorcraft
 - GA fixed wing
 - Microlights

- Human Factors

- *Coming soon:*

- *Design, Production & Maintenance*





HF CAG Membership

- Airbus
- Aircraft Engineers International
- Baines Simmons
- Boeing
- CAA UK
- Cargolux
- Dassault
- DGAC
- DLH
- DLR
- Easyjet
- European Cockpit Association
- ENAC
- Eurocontrol
- FAA
- Gulfstream
- Honeywell
- IFATCA
- ILenT NL
- Jetaviation
- Lufthansa
- NATS
- Pilatus
- Swissair
- Thales
- Transportstyrelsen
- CANSO



So what does the HF CAG actually do?

➤ Main meeting:

- Meet 2-3 times per year
- Review safety issues & safety data
- Forum for discussing new HF ideas, research and analysis

➤ Analysis Teams

- In depth analysis of safety issues
- Meet as necessary
- Report back to main group



But what have we done so far?

➤ Identified a very long list of safety issues

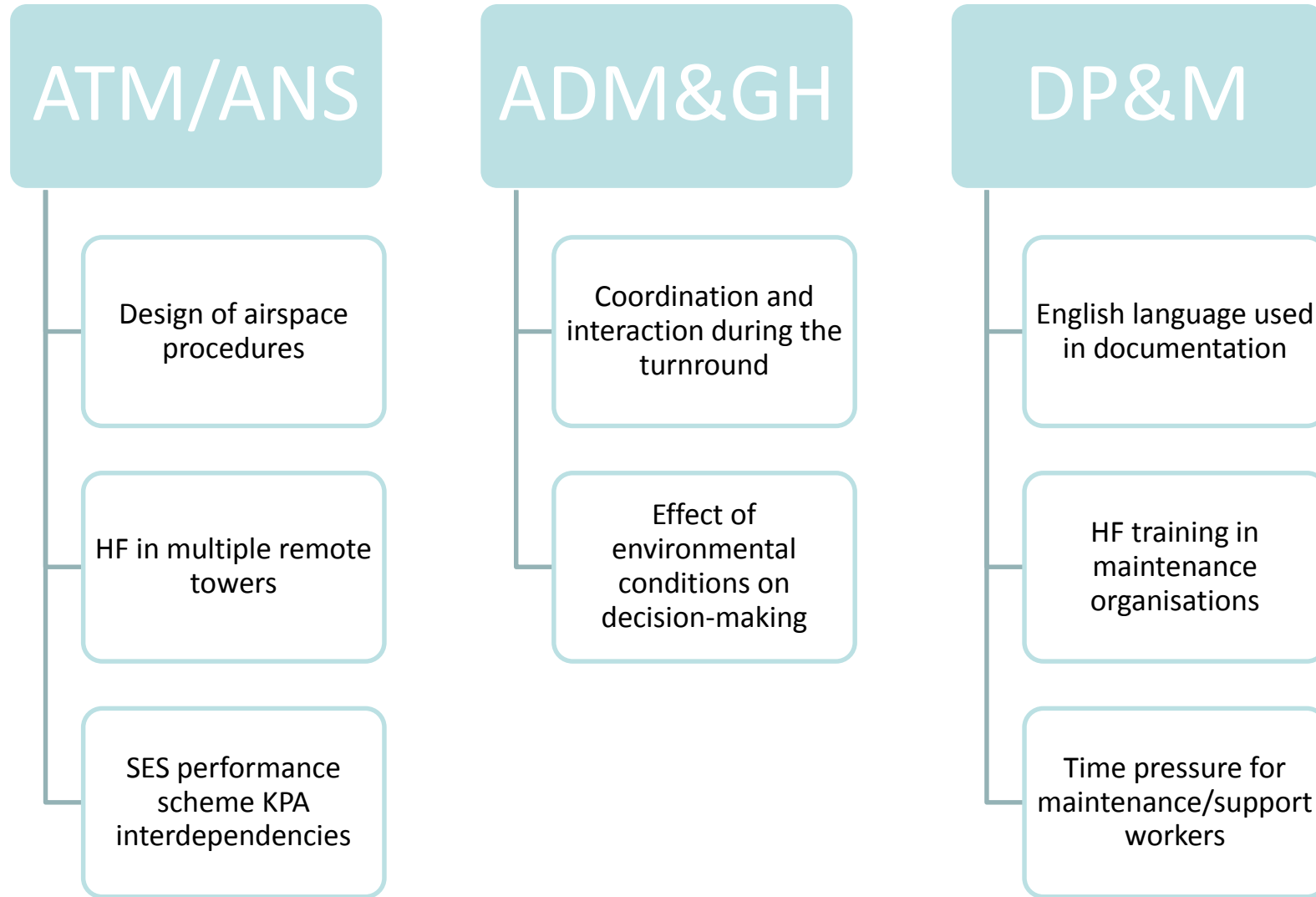
- Language competency
- Coordination and interaction at all levels
- Use of procedures, processes and regulations
- Defences by-passed, over-reliance/ resilience paradox
- Knowledge development and sharing
- Awareness of added value of HF/ HP
- Top management knowledge, competence & commitment to HF/ HP
- HF competencies for inspectors
- Decision-making for maintenance, planning
- Training effectiveness (competence)
- Negative training
- Limitations of level D simulators
- ATM simulators
- Resilience – organisational and individual
- Startle/ surprise
- Vigilance
- Fitness for duty (physical, fatigue, mental well-being).
- Workload/ cognitive capacity
- Impact of culture on human performance
- Peer to peer programmes EPPSI

➤ We're now defining them in more detail

➤ *By the end of the year we'll be doing detailed analysis on a selection*



HF CAG Support to Domain CAGS





CAT CAG Safety Issues

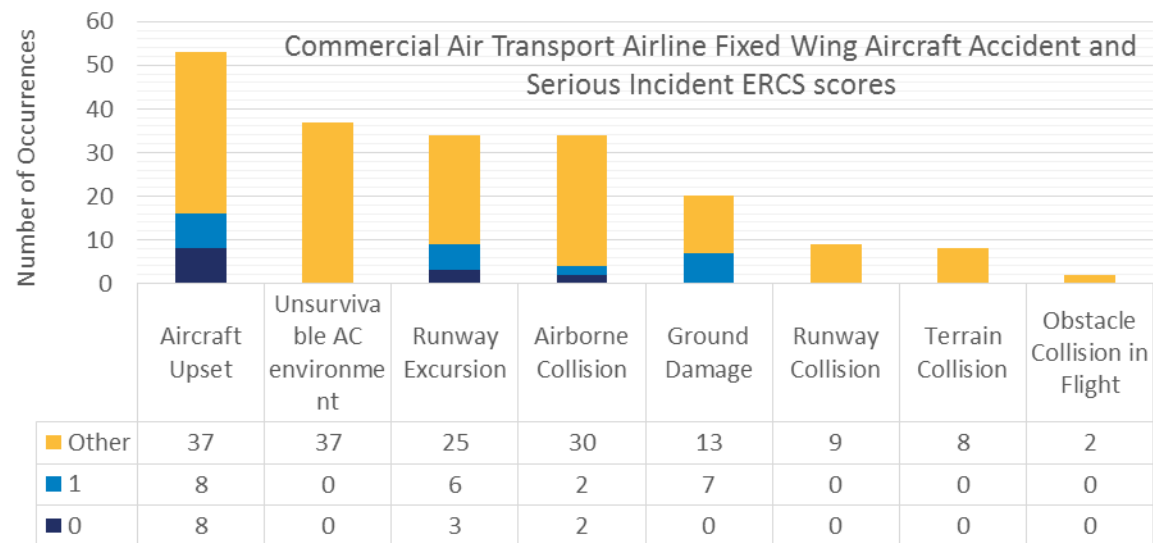
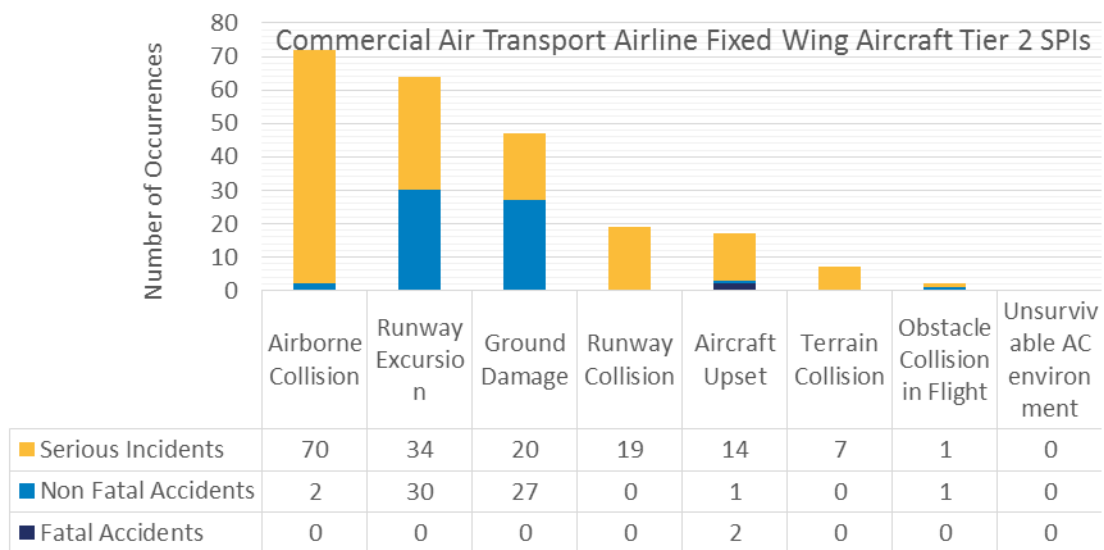
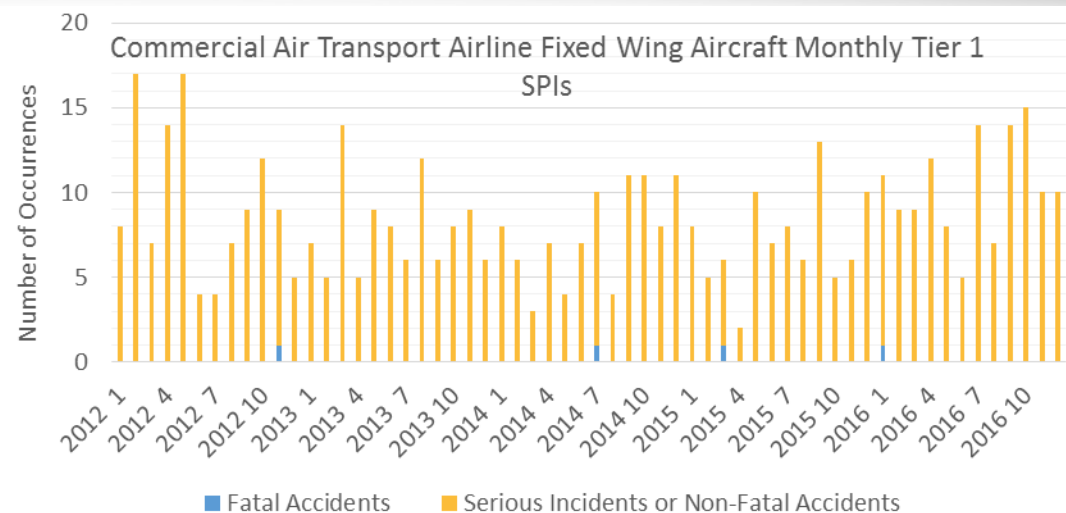
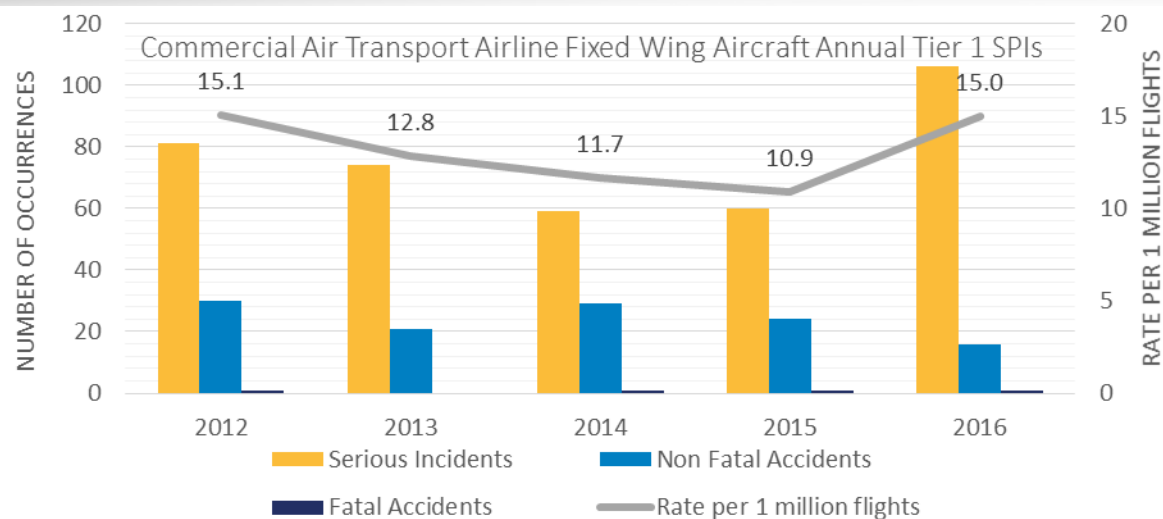
Safety Issue	Description	HF elements
Handling of Technical Failures	The inadequate response to a non-critical technical failure, leading to the upset of the aircraft and potentially to the uncontrolled collision with terrain.	Startle effect, tunnel vision, break down of CRM,
Icing in Flight	The inadequate handling of the fly through icing conditions, leading to the upset of the aircraft and potentially to the uncontrolled collision with terrain.	Monitoring of aircraft parameters, startle effect, tunnel vision, break down of CRM,
Crosswind	The inadequate handling of the landing with crosswind conditions, potentially leading to the excursion of the runway	Commercial pressure, tunnel vision, break down of CRM,
Icing on Ground	The inadequate handling of the initiation of the fight in icing conditions on the ground, potentially leading to the uncontrolled collision with terrain after take-off or the runway excursion during the rejected take-off	Commercial pressure, tough environmental conditions (working environment)
Handling and Execution of Go-Arounds	The inadequate execution of the go-around manoeuvre, including the decision making stage. This potentially leads to the uncontrolled collision with terrain or to the runway excursion	Somatogravic illusion, visual reference, commercial pressure, tunnel vision, break down of CRM, monitoring of aircraft parameters
Entry of Aircraft Performance Data	The erroneous entry of take-off or landing aircraft performance data (ZW, V1, VR,...), either due to wrong typing/uplink or wrong calculations, leading to runway excursion or the uncontrolled collision with terrain.	Crosscheck, commercial pressure, hardware-software-human interface
Flight Planning and Preparation	The inadequate planning, preparation and dispatch of the flight, leading to multiple accident outcomes	Crosscheck, commercial pressure, hardware-software-human interface, break down of CRM



- Analysing occurrence data for HF is a challenge
 - Premise of occurrence reporting originates in technical issues
 - It is difficult to apply HF codes based on the occurrence reports received
- Limit to Accidents and Serious Incidents
 - Reports provide information for far more detailed and consistent coding
 - Lower numbers makes statistical analysis more difficult

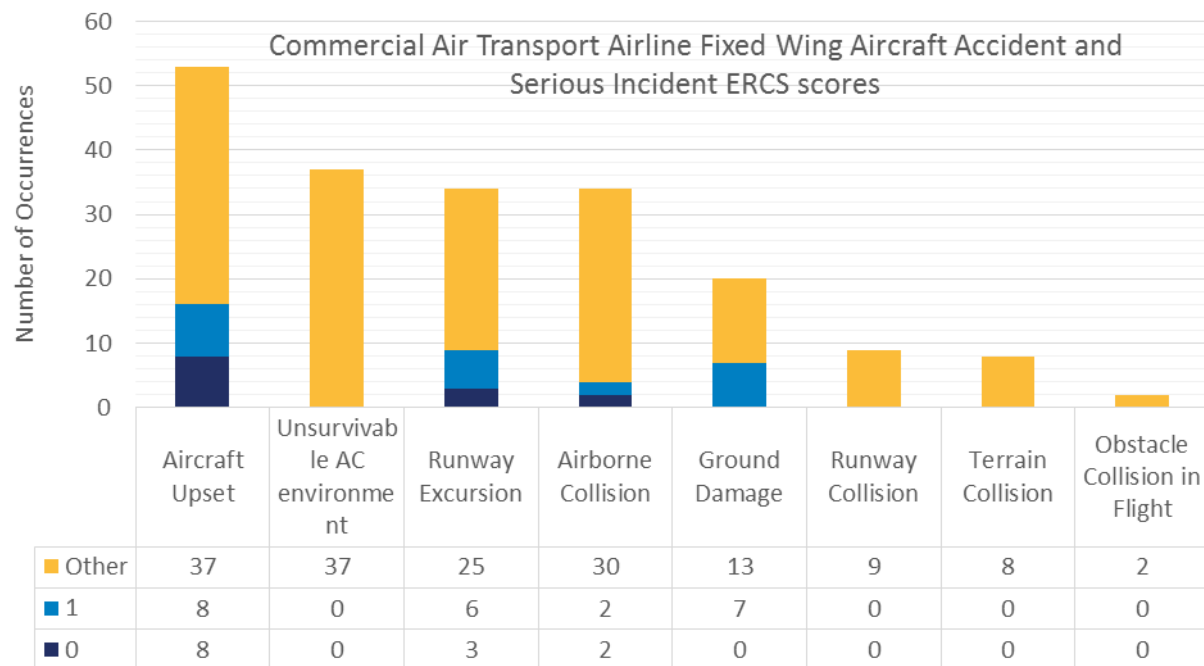


CAT CAG SPIs

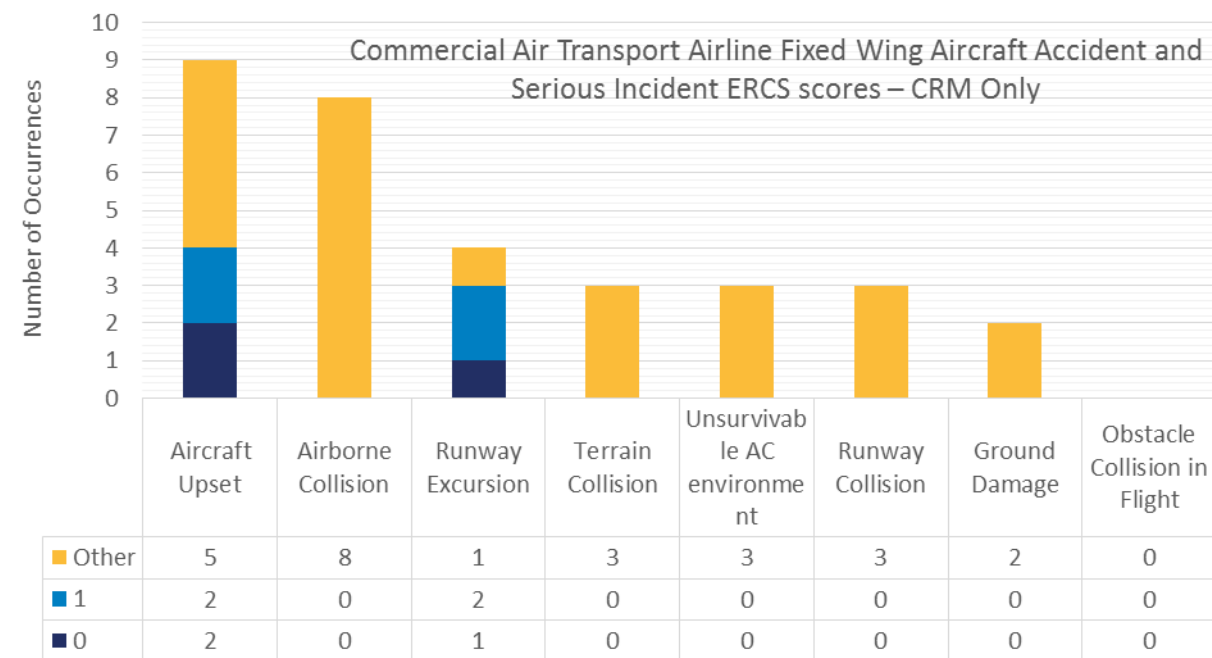




CAT CAG SPIs filtered for CRM



Key risk areas and risk changes





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