EASA
European Union Aviation Safety Agency

Occurrence Reporting for EASA Organisations

Safety Data Management (SDM) Webinar Series

Your safety is our mission.

An Agency of the European Union

Agenda

- About EASA's Safety Data Management (SDM) Webinars
- EASA Safety Data Management Team
- Introduction to Occurrence Reporting
- Key Statistics in EASA Occurrence Reporting
- ECCAIRS 2 Overview and Onboarding for EASA Organisations
- EASA Safety Data Management Process
- Data Quality Challenges
- Overview of the Common European Risk Classification Scheme (ERCS)

About EASA SDM Webinar Series

Purpose

- Effective Reporting
- Regulatory Compliance
- Better Data Quality
- Enhance Safety Culture
- Improve Risk Management

Domain Specific Webinars

- Design Organisation
- Production Organisation
- Maintenance Organisation
- Continuing Airworthiness Management Organisation
- Air Operators
- Air Navigation Services
- Aviation Training Organisation

Audience and Delivery

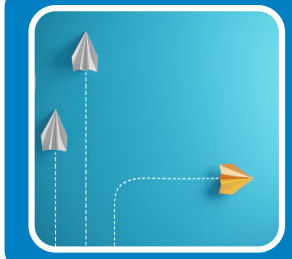
- EASA Approved Organisations
- February 2025 – TBC
- Webinar Format (60 minutes)
- Occurrence Reporting Survey
- Coordinated with EASA Team Leaders in respective Domains

How can you support our Webinars

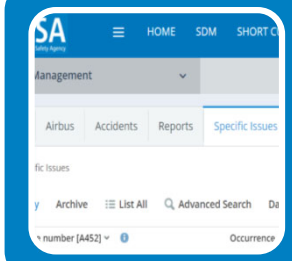
Complete our Occurrence Reporting Survey	Let us know your occurrence reporting challenges	We'll address your reporting challenges in the Domain Specific Webinars

The Safety Data Management (SDM) Team

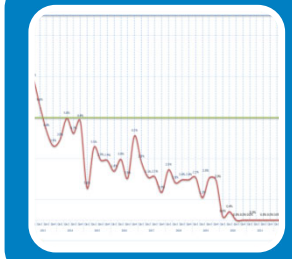
And what do we do?



Safety data collection & processing



Distribution of reports within EASA

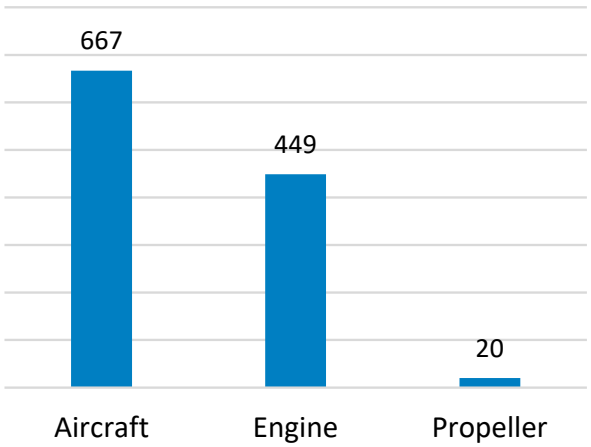


Monitoring, support and analysis

Enablers

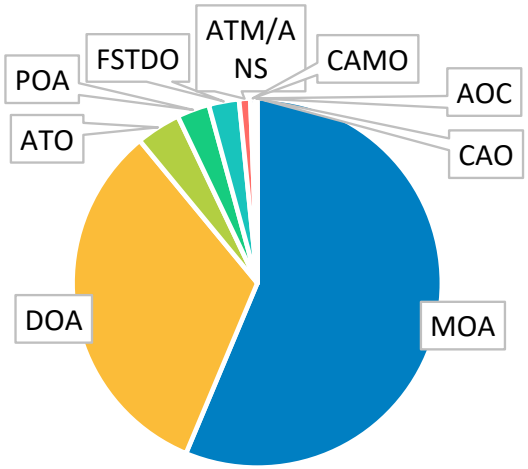
- E2 Tools
- Technical Support to Member States (E2 and ECR migration)
- ADREP Taxonomy maintenance
- Handling of Suspected Unapproved Parts

Key Facts and Figures



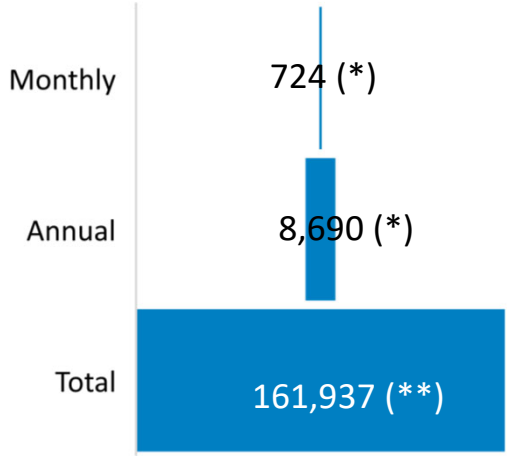
> 1,100

Products



> 2,000

Organisations



10,111 (***)

Report Intake

* 10 years average statistics 2014 – 2023
** Total number of reports
*** Total reporting in 2024 (up to 31st Oct)

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Introduction to Occurrence Reporting

Ionuț FLORIAN
Safety Data Manager, EASA
06 November 2024

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Purpose of Occurrence Reporting

To prevent accidents through effective management of safety risks

Making Occurrence Reporting Effective

Regulations	Tools	Methodologies	Processes
• Who should report • What to report	• ECCAIRS/ADREP Taxonomy • ECCAIRS2 Portal	• European Risk Classification Scheme (ERCS)	• Data Quality • Safety Analysis • Risk Assessment

EASA Occurrence Reporting Regulatory Framework

Reg. (EU) 2018/1139 EASA Basic Regulation

Reg. (EU) 376/2014 Occurrence reporting

CIR (EU) 2015/1018
List of Reportable Occurrences

CDR (EU) 2020/2034 and CIR (EU) 2021/2082 as regards ERCS

ICAO Annex 13

Reg. (EU) 996/2010 Accident and Incident Investigation

Reg. (EU) 748/2012

- Design Organisation
- Production Organisation

Reg. (EU) 1321/2014

- Maintenance
- Continuing Airworthiness Management Organisation

Reg. (EU) 2017/373

- Air Navigation Service Providers
- DAT Providers

Reg. (EU) 965/2012

- Air Operators

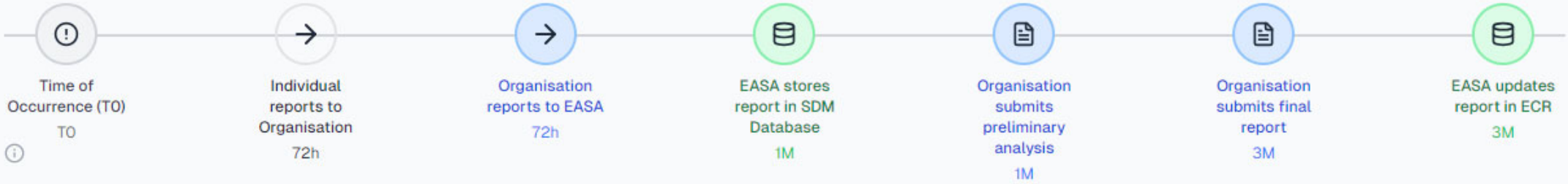
Reg. (EU) 1178/2011

- Pilot Training Organisations

AMC 20 – 8

Reporting Process and Timeline for Mandatory and Voluntary Reports for EASA Approved Organisations

In compliance with Regulation 376/2014 and related EASA regulatory requirements



Individual Tasks

- Report to Organisation within 72 hours of occurrence

Organisation Tasks

- Report to EASA within 72 hours of receiving report
- Submit preliminary analysis in 1 month
- Conduct follow-up analysis
- Submit final follow-up report in 3 months

EASA Tasks

- Store reports in SDM Database
- Update European Central Repository (ECR)
- Review corrective actions and request additional information if necessary

Additional Considerations

- Special T0 cases: Design/Production Orgs, Flight Data Monitoring
- VOR: Report only actual/potential safety risks (Art. 5(5), 5(6))
- All occurrences subject to internal analysis
- "Closed-on-issue" reports may not need further analysis
- Possible reclassification between VOR and MOR

Individual Tasks · Organisation Tasks · EASA Tasks · Time of Occurrence (T0) · Reporting · Analysis/Report · Database Storage

What has to be reported

COMMISSION IMPLEMENTING REGULATION (EU) 2015/1018

COVER REGULATION

COMMISSION IMPLEMENTING REGULATION (EU) 2015/1018 of 29 June 2015 laying down a list classifying occurrences in civil aviation to be mandatorily reported according to Regulation (EU) No 376/2014 of the European Parliament and of the Council

ANNEX I — OCCURRENCES RELATED TO THE OPERATION OF THE AIRCRAFT

Regulation (EU) 2015/1018

ANNEX II — OCCURRENCES RELATED TO TECHNICAL CONDITIONS, MAINTENANCE AND REPAIR OF THE AIRCRAFT

Regulation (EU) 2015/1018

ANNEX III — OCCURRENCES RELATED TO AIR NAVIGATION SERVICES AND FACILITIES

Regulation (EU) 2015/1018

ANNEX IV — OCCURRENCES RELATED TO AERODROMES AND GROUND SERVICES

Regulation (EU) 2015/1018

ANNEX V— OCCURRENCES RELATED TO AIRCRAFT OTHER THAN COMPLEX MOTOR-POWERED AIRCRAFT, INCLUDING SAILPLANES AND LIGHTER-THAN-AIR VEHICLES

Regulation (EU) 2015/1018

AMC 20-8

AMC 20-8 Occurrence Reporting

ED Decision 2003/12/RM

Report Content - Mandatory Data Fields

1-Common Mandatory Data Fields (R376/2014 – Annex I)

Attribute Name	Attr. ID
Headline	601
Responsible Entity	453
File Number	452
Occurrence Status	455
UTC Date	477
State/Area of Occurrence	454
Location of Occurrence	440
Occurrence Class	431
Occurrence Category	430
Narrative Language	424
Narrative Text	425
Event Type	390
Risk Classification	1065

2.1-Aircraft-related Data Fields (R376/2014 – Annex I)

Attribute Name	Attr. ID
Aircraft State of Registry	281
Manufacturer/Model	21
Aircraft Serial Number	254
Aircraft Registration	244
Aircraft Call Sign	54
Operator Name	215
Operation Type	214
Aircraft Category	32
Aircraft Propulsion Type	232
Aircraft Mass Group	319
Last Departure Point	167
Planned Destination	228
Flight Phase	121
Weather Relevant	606

2.2-ANS related Data Fields (R376/2014 – Annex I)

Attribute Name	Attr. ID
ATM Contribution	428
Effect on ATM Service	436
ATS Unit Name	372
Airspace Type	15
Airspace Class	13
FIR/UIR Name	16

2.3-Aerodrome related Data Fields (R376/2014 – Annex I)

Attribute Name	Attr. ID
Aerodrome Location Indicator	05
Location on Aerodrome	641

2.4-Damage/Injury related Data Fields (R376/2014 – Annex I)

Attribute Name	Attr. ID
Damage Severity Level	432
Injury Severity Level	451
Number of Injuries on Ground	460, 472, 469
Number of Injuries on Aircraft	459, 468, 471

Aircraft Engine and Part Information Data Fields (EASA NBR & IR)

Attribute Name	Attr. ID
Engine Manufacturer Model	387
Engine Serial Number	881
Part Information Part Name	485
Part Information Part Number	486
Part Information Serial Number	657
Part Information Manufacturer	658
Part Information ATA Chapter Number	659
Part Information Time Since Inspection	662
Part Information Time Since New	660
Part Information Time Since Overhaul	661
Part Information Cycles Since New	663
Part Information Cycles Since Overhaul	664

Reporting History Data Fields (EASA NBR & IR)

Attribute Name	Attr. ID
Reporting entity	447
Reporting entity approval number/name	

Key Statistics in EASA Occurrence Reporting

Ionuț FLORIAN
Safety Data Manager, EASA
06 November 2024

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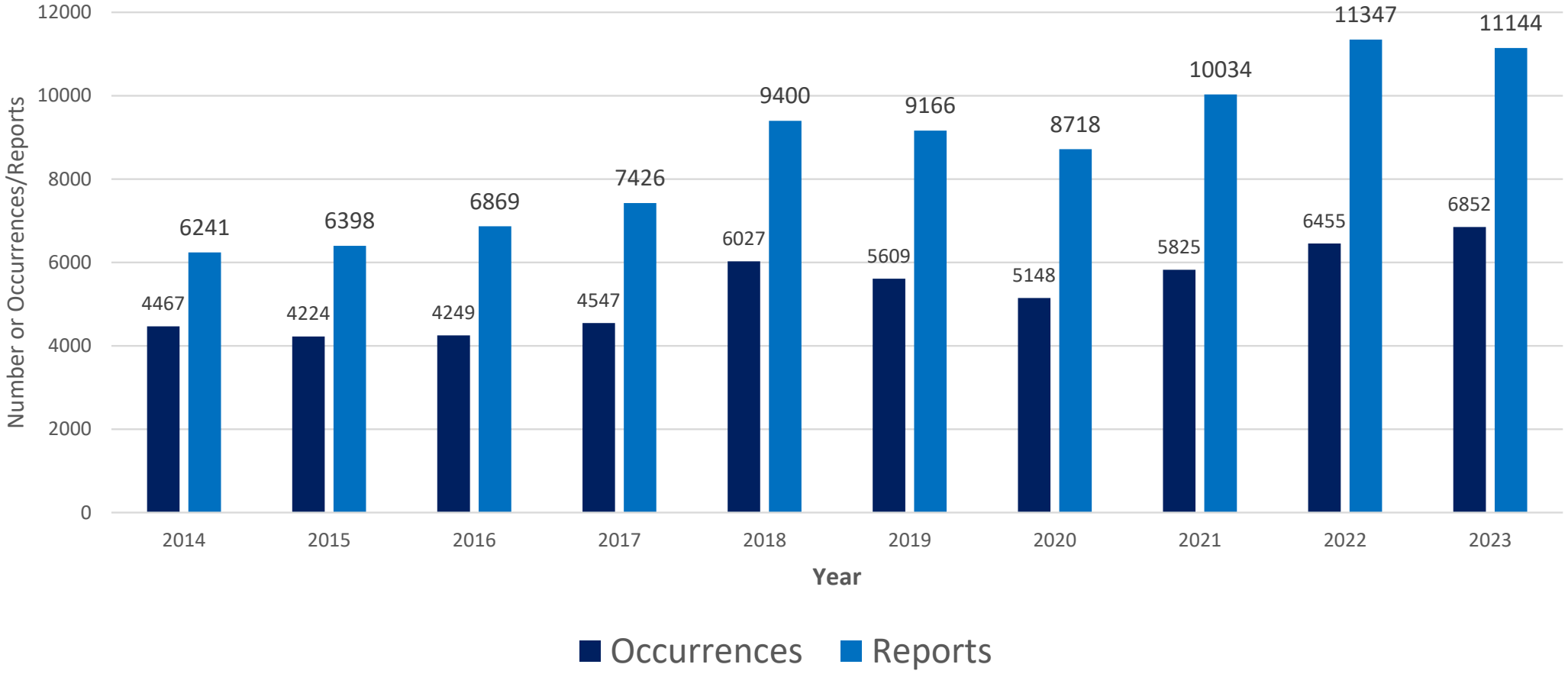
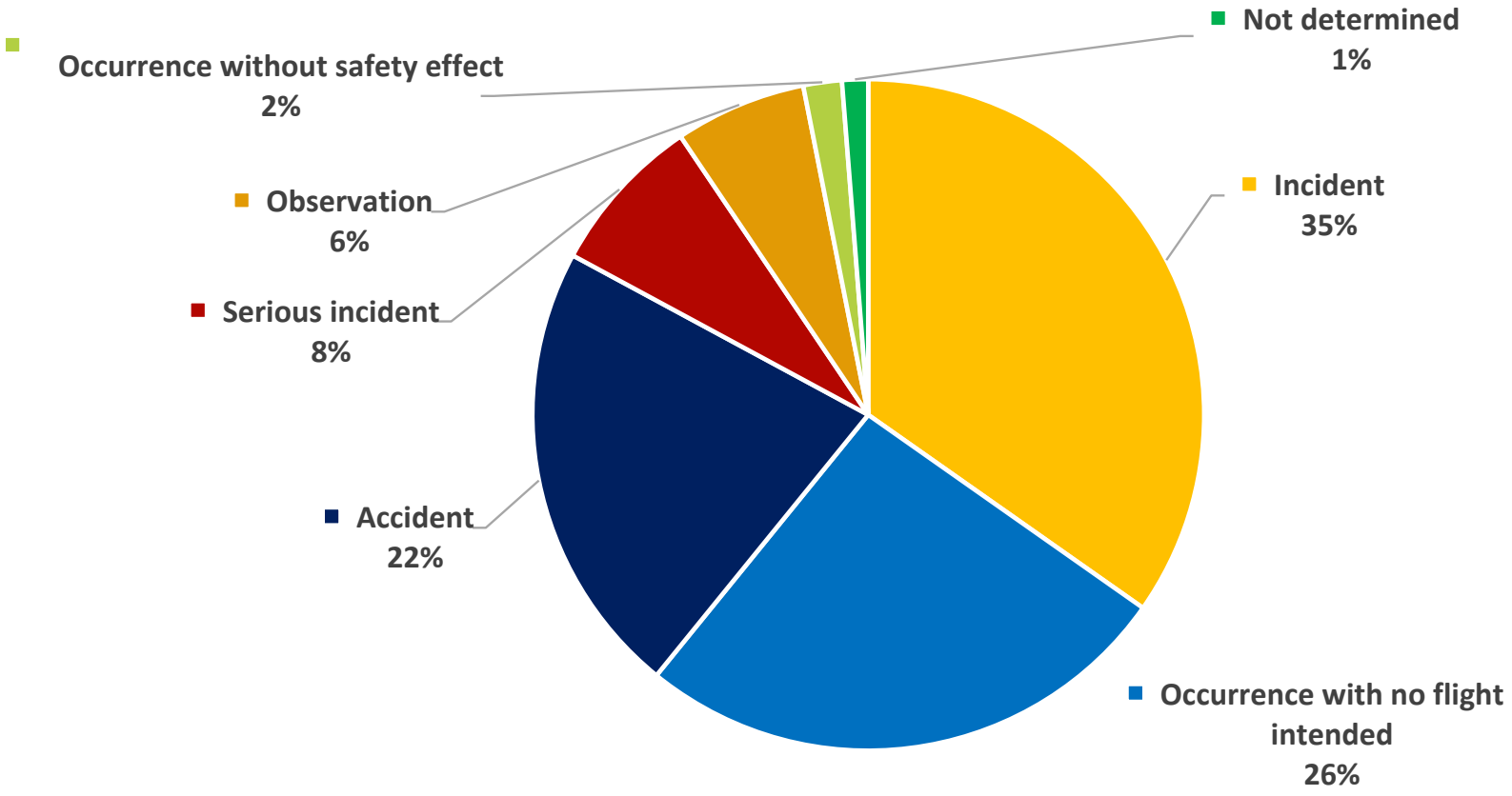
How much was reported?

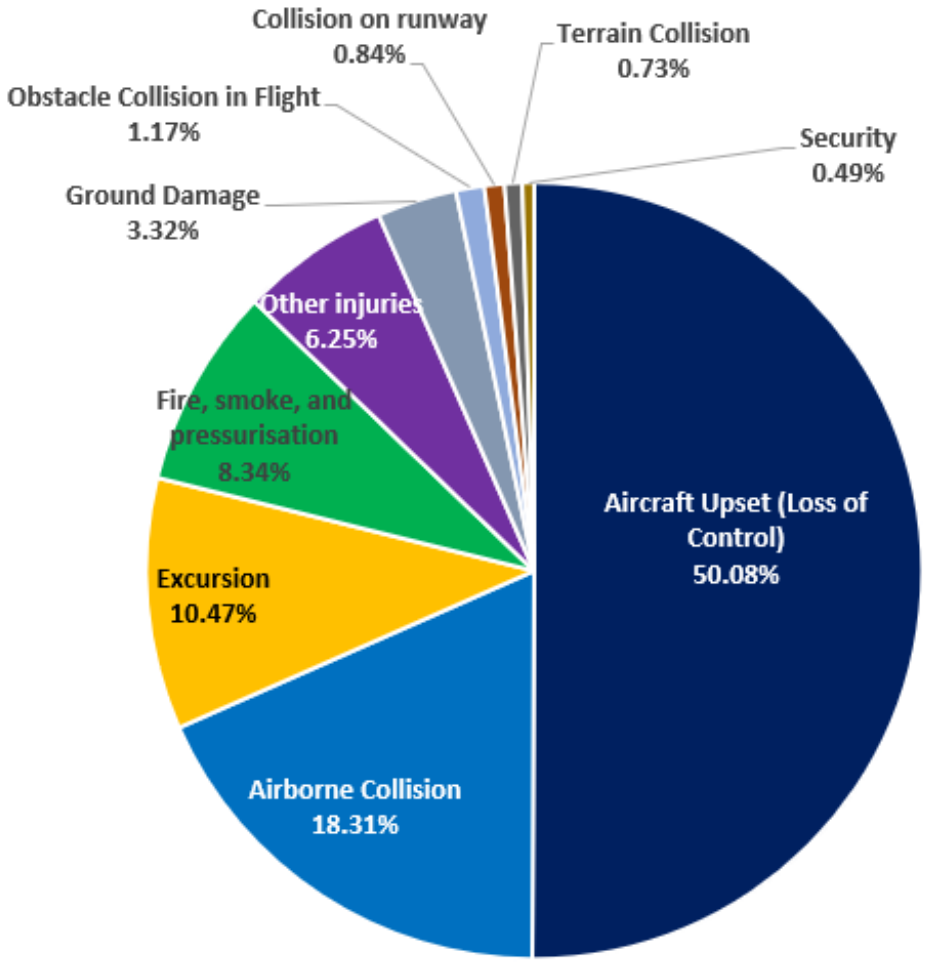
Reporting Volume, Occurrences vs Reports, 2014 - 2023



What was reported?
Occurrences by Occurrence Class, 2014 - 2023



What are the Key Risk Areas?
Occurrences reported in 2023 by ERCS Key Risk Area



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ECCAIRS 2 Overview and Onboarding for EASA Organisations

Geert De Rycke

Safety Data Manager, EASA

06 November 2024

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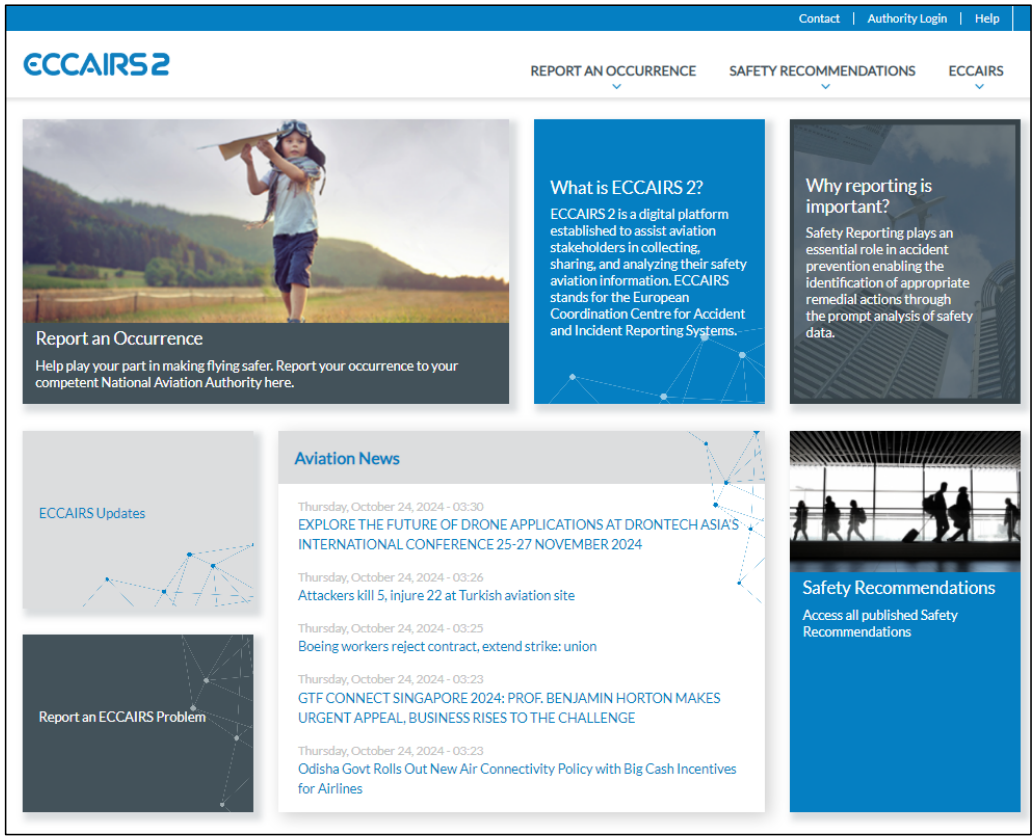
ECCAIRS2 (E2)
History

- The old ECCAIRS System (E1) has been in existence for over 3 decades, it included the old reporting portal.
- E1 was discontinued in 2020, since then the EC has requested EASA to “take-over”.
- Development of E2 started in 2018 and became operational in 2020.
- *A new set of features have since then been made available to the Reporting Organisations.*

The aviation reporting portal

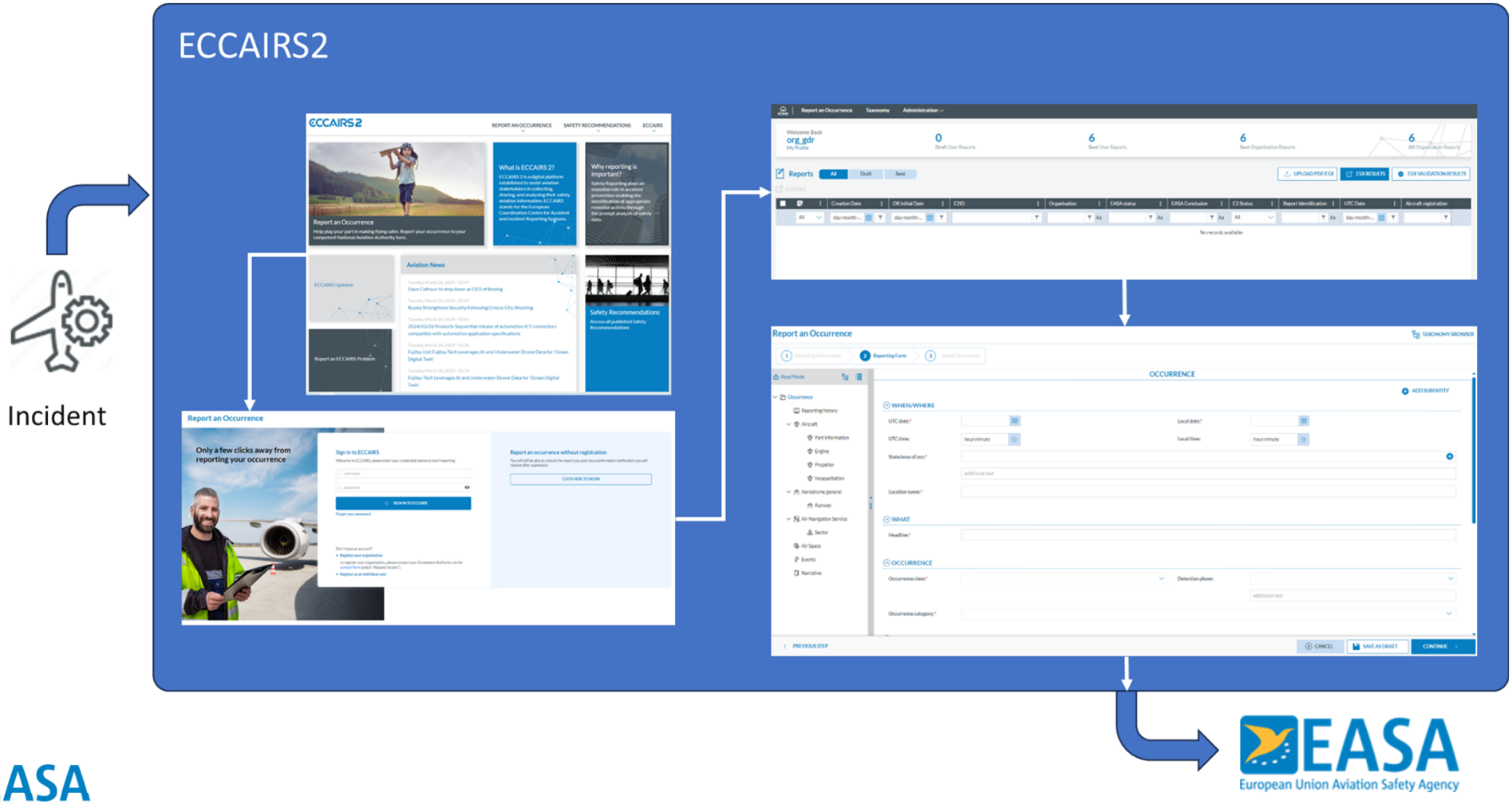


- Is an online platform managed by the EASA
- It is the “one stop shop” for all aviation reporting matters.
- It is widely used by aviation safety authorities and their reporting organisations across the EU and by various international organisations to promote consistent data collection and enhance safety analysis capabilities.

What does E2 bring for the industry?

- Full integration of the Industry Reporting portal
- Different reporting channels (Online, off-line, E5X and API)
- Dedicated forms depending on the type of reporting organisation
- Organisation gets full access to all their safety reports they submitted to their CAA
- Organisation can update previously submitted safety reports directly in their zone
- Certain info can be fed back to the Reporters as a “feedback loop”
- Role based
- Pre-filled attributes avoiding to perform repetitive work
- Existing SMS providers can link to E2 using a Machine 2 Machine API interface

ECCAIRS 2: Reporting work flow



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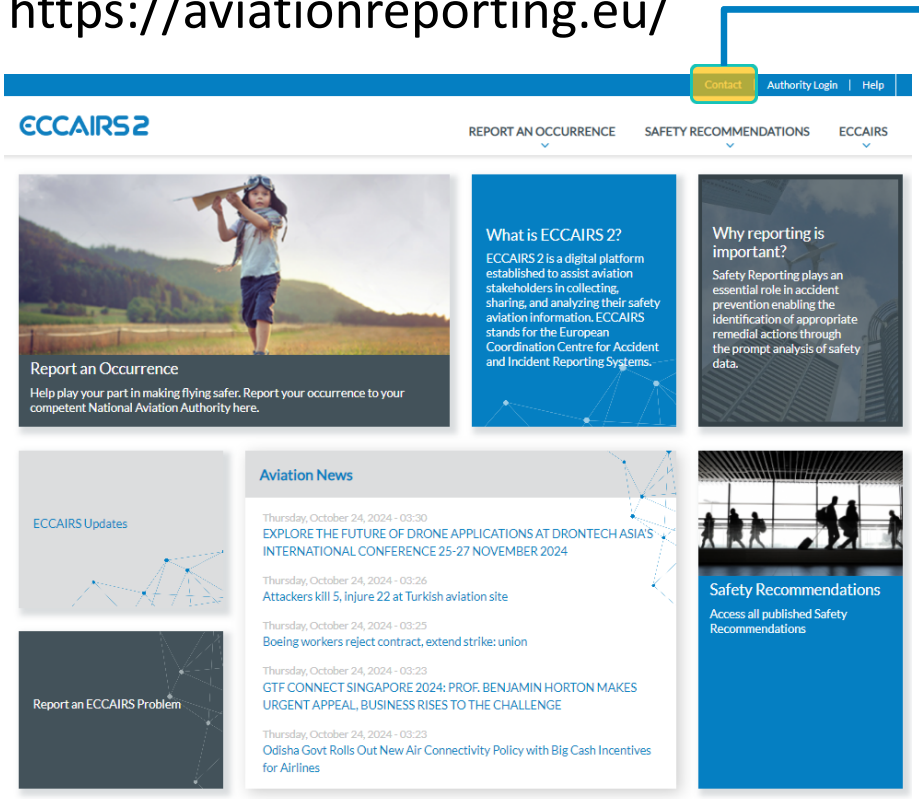
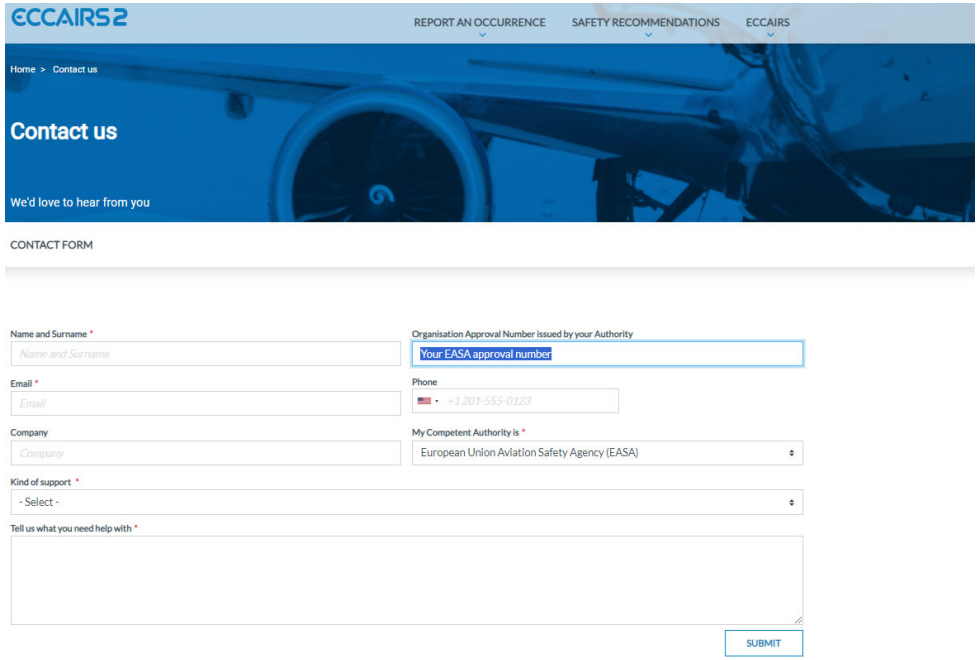
European Union Aviation Safety Agency

ECCAIRS2: Onboarding
Step 1: apply for access to ECCAIRS2

https://aviationreporting.eu/



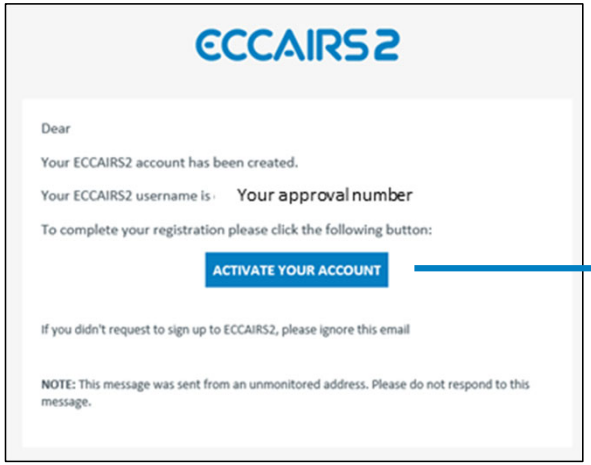
Via this contact form EASA is notified that your organisation wants to register itself



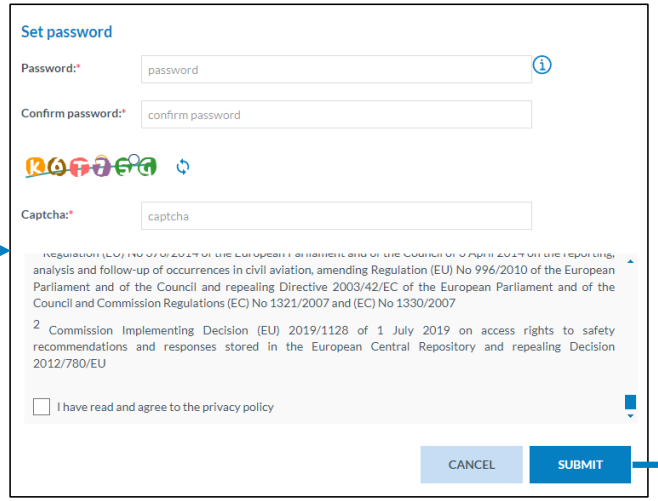
ECCAIRS2: Onboarding
Step 2: Setup of your account

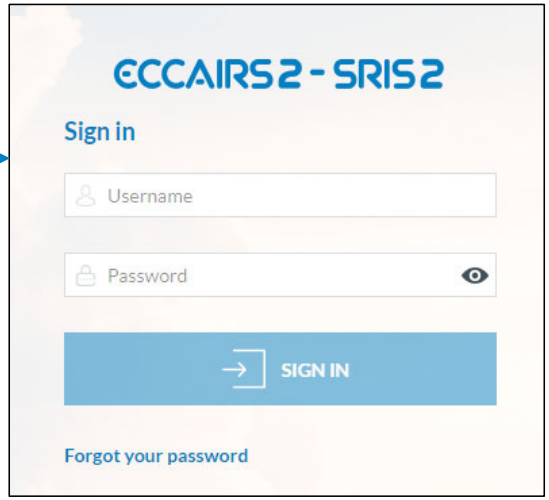
- Based on the provided information, the E2 Support team will
  - setup your E2 account
  - assign your EASA Approval number as your user login name
  - send an account activation email to the email provided in the contact form
  - send onboarding documentation to the email provided in the contact form

ECCAIRS2: Onboarding
Step 3: Activation of your account



Here you set the password associated with your username



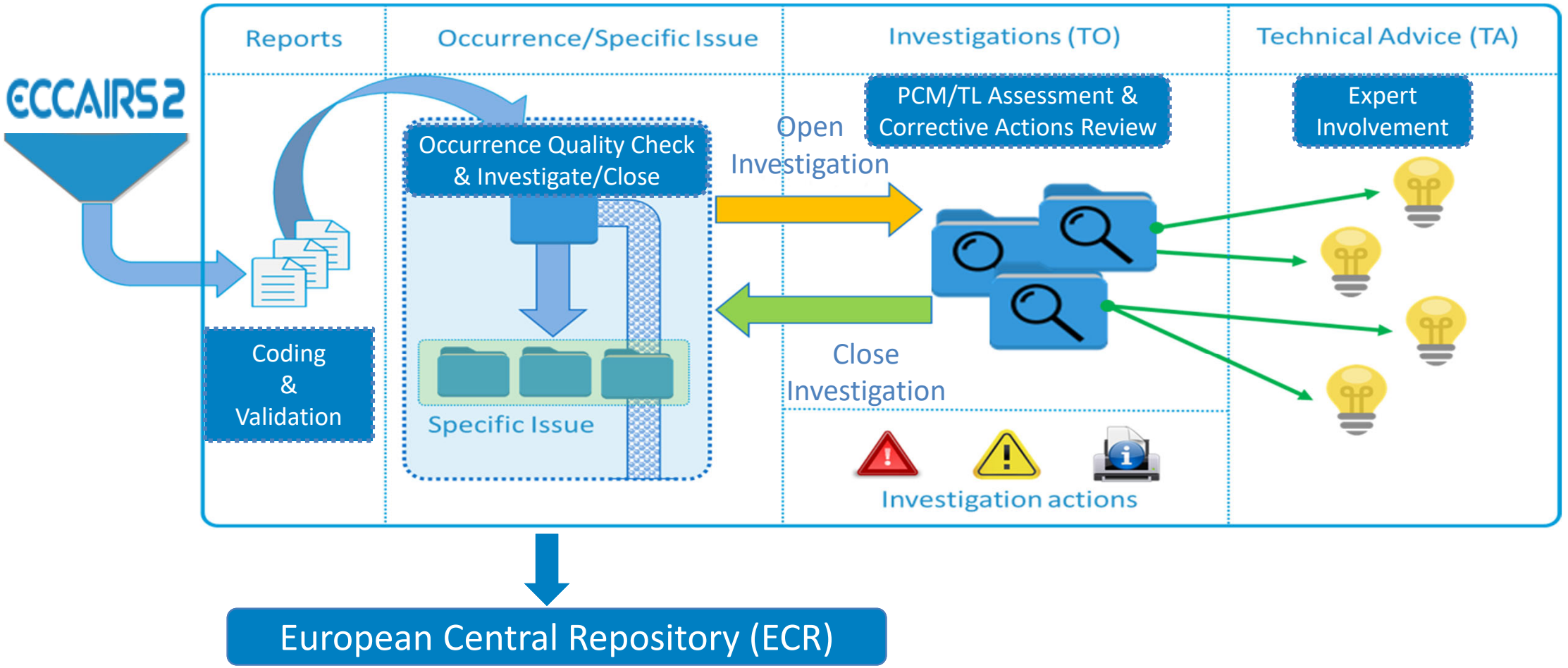


ECCAIRS2: Onboarding
Completing your organisation account

Read the onboarding documentation that you received. It contains all necessary information for managing your organisation account

Contents

EASA Safety Data Management Process



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European Union Aviation Safety Agency

Data Quality Challenges

Jekaterina JANSONE
Safety Data Manager, EASA
06 November 2024

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Data Quality
Why?

- Organisations are processing already processed reports
- Little value due to poor quality
- Standardisation of data coding

EGKK (LGW) : London / Gatwick:

1. *EGKK*
2. *LGW*
3. *London*
4. *Gatwick*
5. *London Gatwick - EGKK (LGW)*
6. *London (LGW)*
7. *Etc.*

Data Quality
Common Issues

- Reporting History
  - **Reporting entity -** The entity that has sent the report. We need to identify you to confirm that you fulfil your reporting obligation.
    - Below provide the Organisation Approval Number: **EASA approval // Organisation full name**
  - **Report identification -** Reference number used by the reporter in their internal system. Multiple reports for the same occurrence usually have the same ID. It is **NOT** a Headline or Approval Number.
  - **Reporter's description/Narrative -** What happened? Anonymised, clear summary. Provide affected parts (PN, SN, ATA) and engine information. Coded values in the report (occurrence category, events etc.) to be justified in the description.
  - **Language** – please select language of the description
  - Please provide **Events** - try to code all the relevant events to complete the chain of events.

    For example:

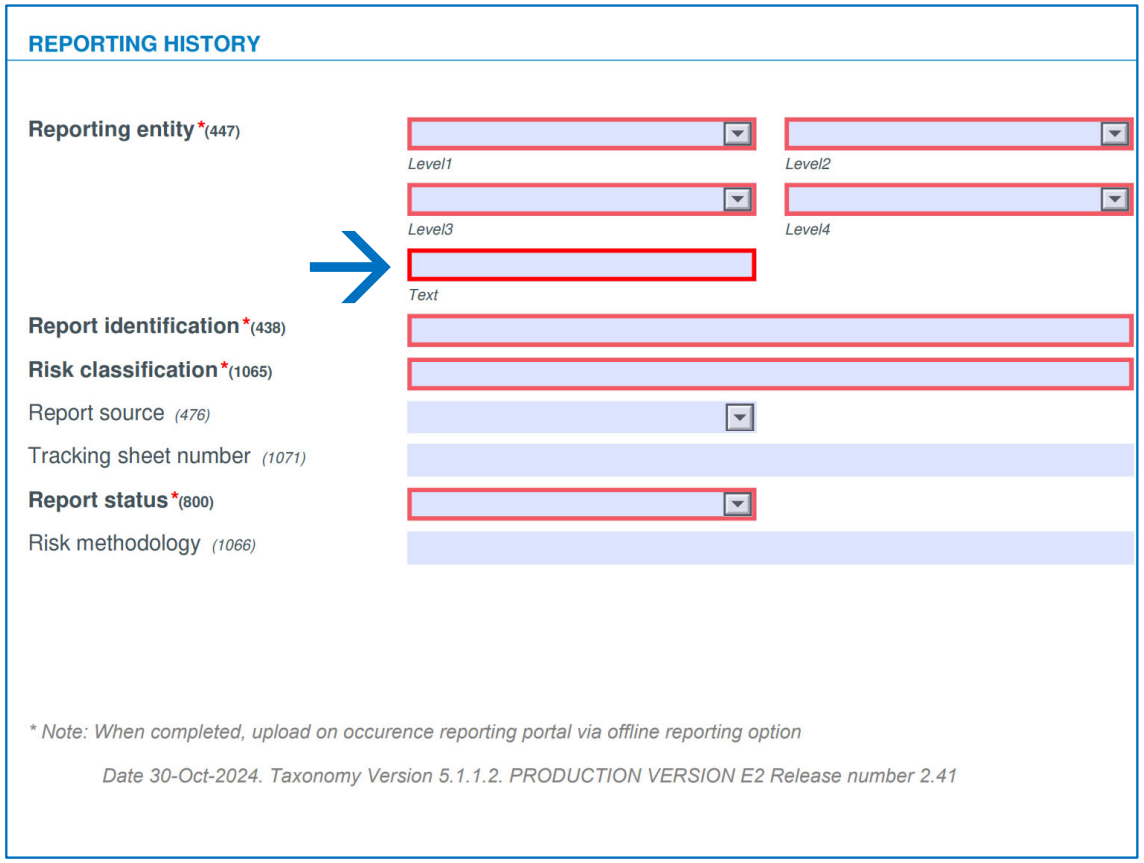
    1. *Operational - Aircraft Production - Production personnel related issue - Production Personnel Qualifications*
    2. *Operational - Aircraft Production - Production/Installation issue - Incomplete Installation in production*
    3. *Equipment - 5700 Aircraft Wing Structure - 5750 Wing Control Surfaces - 5753 Trailing Edge Flap Separation*

Data Quality
Common Issues

→ Reporting Approval Number

EASA approval // Organisation full name

EASA.21J.123 // Beautiful Aircraft Ltd.



Data Quality
Common Issues

- Occurrence
  - **Headline** – “An article title”. A short and anonymised summary of the occurrence in English. NO Aircraft type, company name, location.
  - **UTC date** – The UTC time of the occurrence - it is not the report date – should be the same for initial and follow-up reports.
  - **Location** – location of occurrence - name of the airport/the closest settled area or geographical feature/airspace/larger areas – “Global”, “South Europe” etc.
  - **Occurrence class** - The classification of the occurrence in relation to its outcome

    Major Incident, Significant Incident, Occurrence without safety effect are EUROCONTROL’s ATM/ANS - related occurrences.
    Observation - observation of a potential safety issue or hazard – discovered in design/production/document review etc.
    Occurrence with No Flight Intended – discovered during maintenance
  - **Occurrence category** – please read the explanations carefully!
  - **ATM contribution** - Only applicable to occurrences related to a particular flight.
  - **Effect on ATM** - To be used only for ATM specific (technical) occurrences – e.g., broken antenna. Other, operational occurrences – “**Not applicable”.**
  - **Weather relevant** – “No” for most of the occurrences. Determines whether the weather influenced the outcome of the occurrence. If the weather is relevant, fill in “Weather Conditions”.

Data Quality
Occurrence Category

- **ATM: ATM/CNS -** Occurrences involving Air traffic management (ATM) or communications, navigation, or surveillance (CNS) service issues **–** often miscoded for Navigation occurrences (e.g. Level bust when ATC is not involved)

- **CABIN: Cabin safety events -** occurrences in the passenger cabin related to baggage, supplemental oxygen, cabin emergency equipment, cabin injuries (excluding weather or self-induced) - often miscoded for MED occurrences

- **SCF-NP/ SCF-PP**: System/component failure or malfunction [non-powerplant] / powerplant failure or malfunction - also Includes all failures/malfunctions related to or caused by maintenance issues.

- **EVAC: Evacuation –** to be used for evacuation events only, escape slide defects found during maintenance are not included

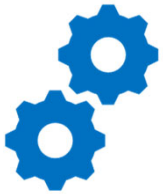
Data Quality
Aircraft

→ Aircraft

Please code as much data as possible but AT LEAST the mandatory fields

Aircraft

- **Aircraft Registration** and **Manufacturer/model** are crucial to identify the defective aircraft type and act on the issue
- Last **Departure** Point, Planned **Destination**, **Flight phase** are "**Not Applicable**" for technical occurrences (maintenance, production, design) - they are applicable during operations (flights)



Engine

If reporting engine defects, please AT LEAST provide:

- Model
- Serial Number
- The system - ideally ATA chapter

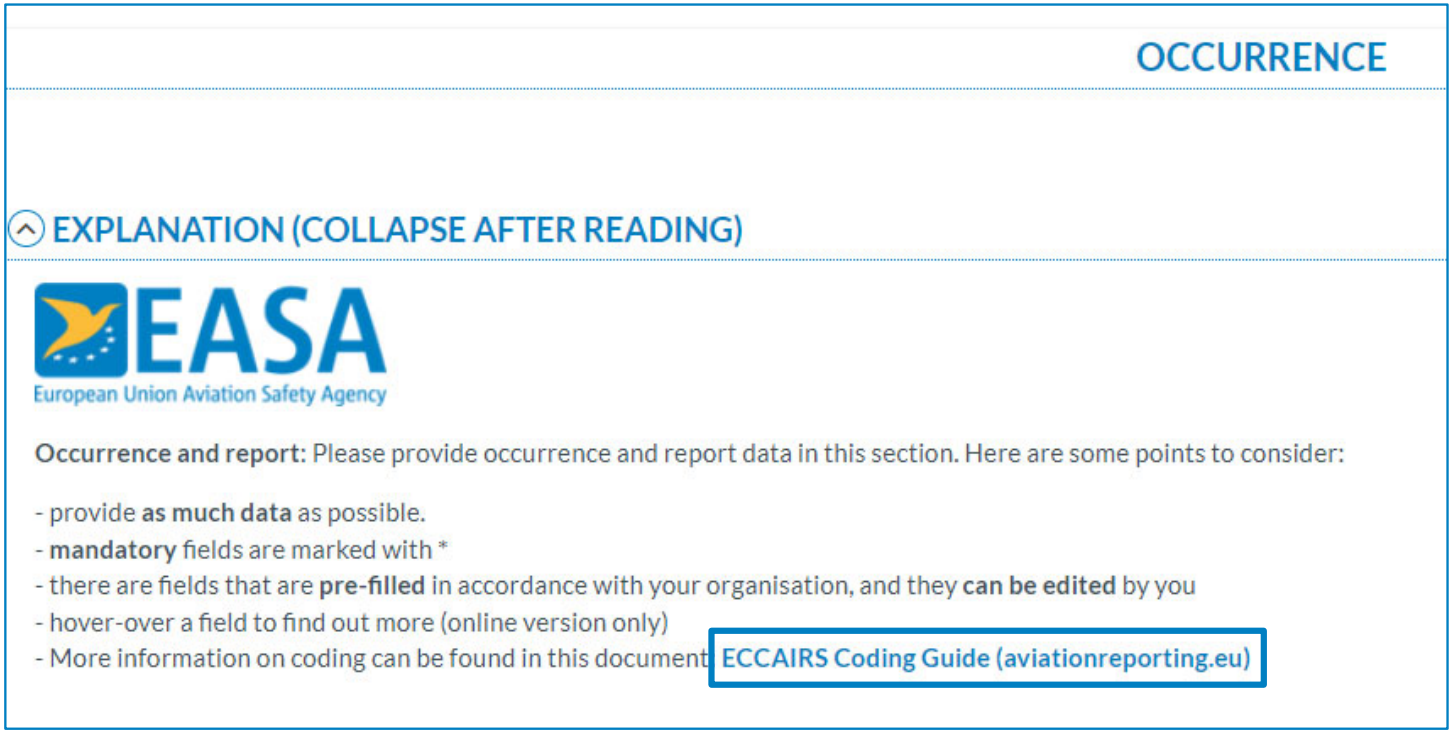
Part

If reporting part defects, please AT LEAST provide:

- Part Name
- Part Number
- Serial Number
- The system - ideally ATA chapter

Data Quality
Coding Guidelines

- https://aviationreporting.eu/sites/default/files/2022-07/ECG%20Chapter%202_v1.0.pdf
- Aviation reporting portal > Report an occurrence (the tab on the top) > Why Safety Reporting > Material
- EASA reporting form – occurrence explanation section
- Taxonomy browser: https://e2.aviationreporting.eu/taxonomy



Common European risk classification scheme

Regulatory framework and methodology description

Ionuț FLORIAN
Safety Data Manager, EASA
06 November 2024

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Regulatory framework

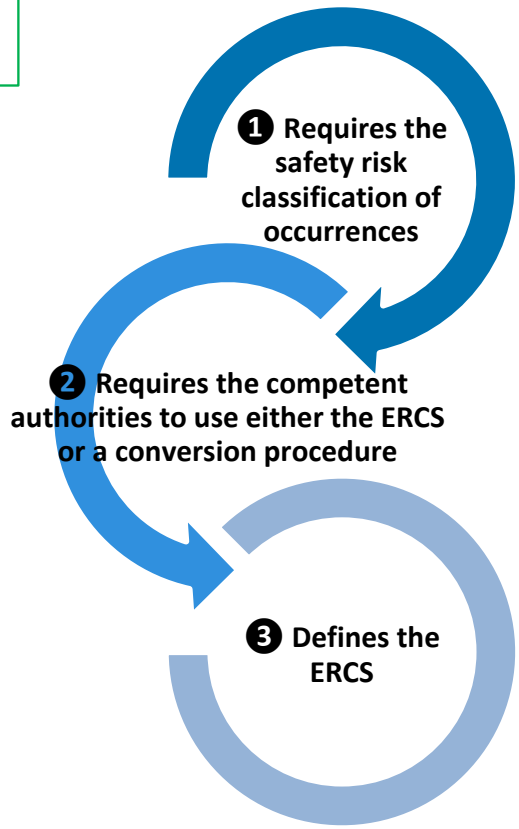
Mandatory for EASA and EU NAAs

Optional for Aviation Organisation

1 **Regulation (EU) 376/2014** on the reporting, analysis and follow-up of occurrences in civil aviation

2 Commission **implementing regulation (EU) 2021/2082** laying down the arrangements for the implementation of regulation (EU) 376/2014 […] as regards the common European risk classification scheme (ERCS)

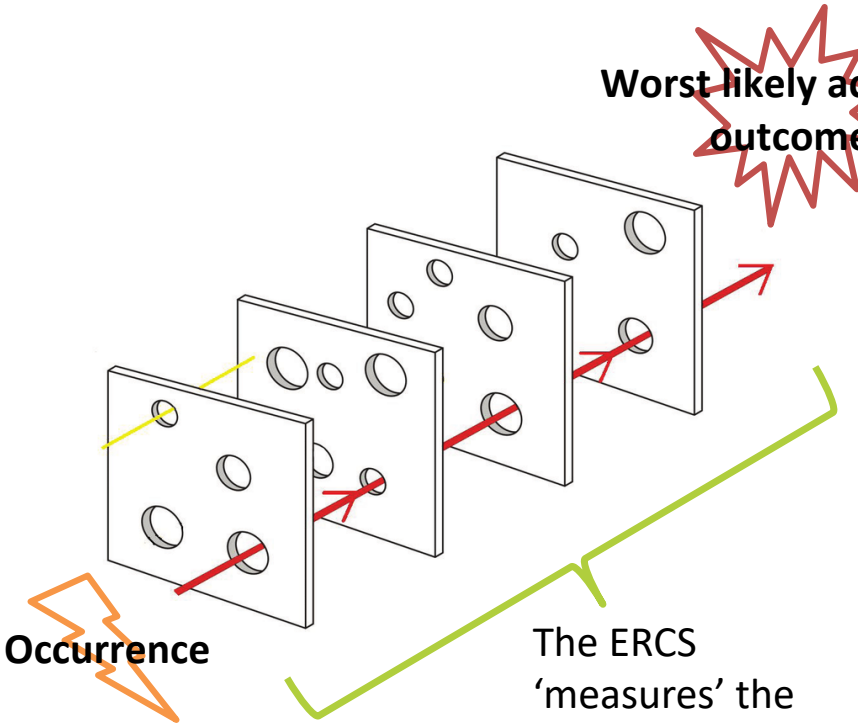
3 Commission **delegated regulation (EU) 2020/2034** supplementing regulation (EU) 376/2014 […] as regards the common European risk classification scheme (ERCS)

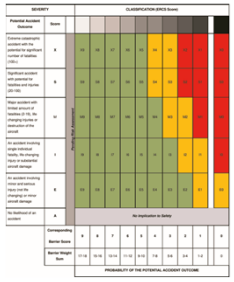


What is ERCS?

→ Fundamentals

- → Addresses the safety risk of an occurrence and not its actual outcome.
- → Determines the **worst likely accident outcome (Key Risk Area)** that the occurrence might have led to, and **how close** to that accident outcome the occurrence was.
- → The safety risk classification results in a **safety risk score**, illustrated by a **matrix**.

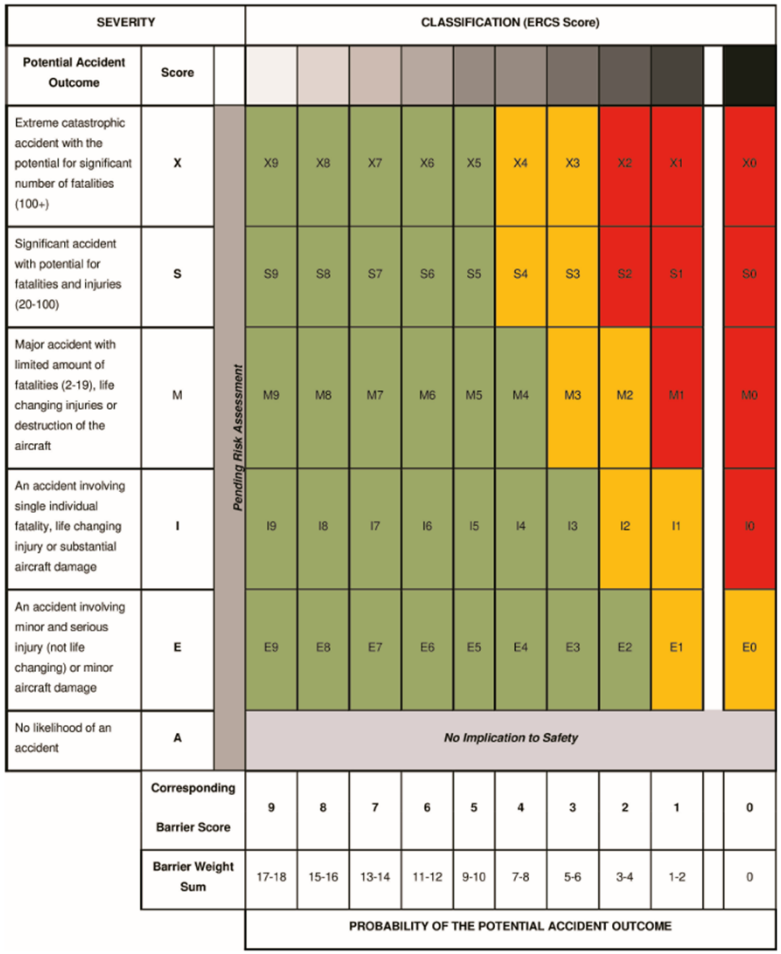




Description of the methodology

Safety risk score

- Severity (letter)
- Probability/ likelihood (number)
- Most likely type of accident (key risk area)
- Potential loss of life category
- Barrier model



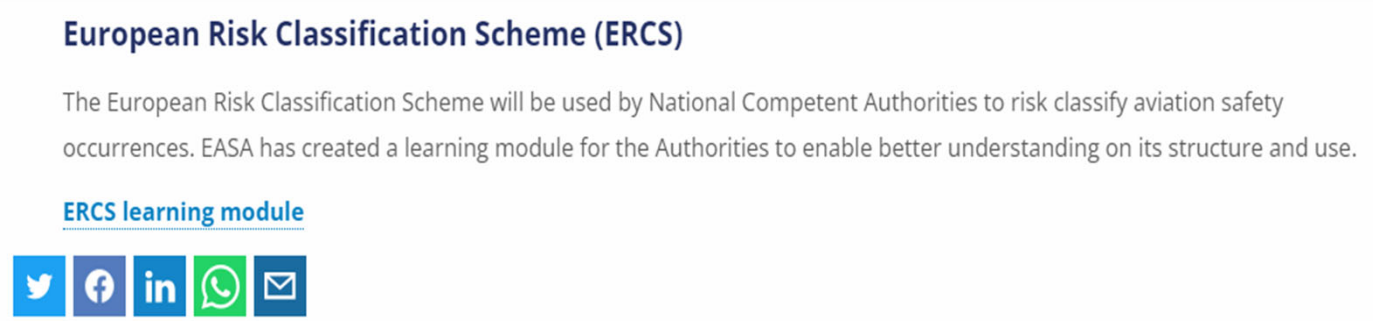
SEVERITY		CLASSIFICATION (ERCS Score)										
Potential Accident Outcome	Score											
Extreme catastrophic accident with the potential for significant number of fatalities (100+)	X	X9	X8	X7	X6	X5	X4	X3	X2	X1		X0
Significant accident with potential for fatalities and injuries (20-100)	S	S9	S8	S7	S6	S5	S4	S3	S2	S1		S0
Major accident with limited amount of fatalities (2-19), life changing injuries or destruction of the aircraft	M	M9	M8	M7	M6	M5	M4	M3	M2	M1		M0
An accident involving single individual fatality, life changing injury or substantial aircraft damage	I	I9	I8	I7	I6	I5	I4	I3	I2	I1		I0
An accident involving minor and serious injury (not life changing) or minor aircraft damage	E	E9	E8	E7	E6	E5	E4	E3	E2	E1		E0
No likelihood of an accident	A	*No Implication to Safety*										
	Corresponding Barrier Score	9	8	7	6	5	4	3	2	1		0
	Barrier Weight Sum	17-18	15-16	13-14	11-12	9-10	7-8	5-6	3-4	1-2		0
		PROBABILITY OF THE POTENTIAL ACCIDENT OUTCOME										

Pending Risk Assessment

Published training materials

- The **ERCS learning module**, including an online course addressing the ERCS scoring module available in E2, is available on the aviation safety reporting page of the EASA internet website.
- Supporting materials part 1 (method and examples) and part 2 (conversion procedures) are also made available.

https://www.easa.europa.eu/domains/safety-management/aviation-safety-reporting



EASA
European Union Aviation Safety Agency

Thank you for your attention.

Keep safe, and see you soon in Cologne!

easa.europa.eu/connect

Your safety is our mission.

An Agency of the European Union