



**European Network
of
Civil Aviation
Safety Investigation Authorities**

ANNUAL REPORT

2015

FOREWORD

BY THE CHAIRMAN OF THE EUROPEAN NETWORK OF CIVIL AVIATION SAFETY INVESTIGATION AUTHORITIES



This report summarizes the fifth year of ENCASIA's activities. Our Network has gained more visibility thanks to its own website¹, so that our work becomes better known by the European citizens.

Very much like in the previous years, training has remained a priority, as well as setting up a peer review programme that aims at supporting each safety investigation authority. I am also pleased to present the results of the improved safety recommendation database that has been analysed by ENCASIA. It represents a very important tool for the aviation community in Europe to further improve flight safety. This report highlights Safety Recommendations of Union-wide Relevance (SRUR) as well as safety recommendations that are based on safety studies.

Similarly to 2014, the year 2015 has seen high profile accidents worldwide, in particular the one which occurred in the heart of Europe with the Germanwings tragedy involving France, Germany and Spain. The heads of State of the countries involved travelled to the crash site the day after the accident. This may put a new dimension on accident investigations. It is very likely that in the future, political leaders may consider travelling to the accident site. This is bringing a political and also a social dimension to safety investigations.

The list of fatal accidents, please refer to the Appendix, contains other high profile accidents, in particular the Metrojet accident that occurred over the Sinai, Egypt, on 31 October 2015. The European investigators involved in this case have faced directly or indirectly a number of security-related issues, which have similarities with the challenges posed by the MH17 accident in 2014. These accidents and their associated investigations underline the importance of sharing lessons learned within ENCASIA and the investigation community.

Worldwide, the International Civil Aviation Organisation (ICAO) has started a panel dedicated to accident investigation matters. The first AIG Panel meeting took place on 21-24 April 2015 in Montreal. It should contribute to have investigation developments move faster at a larger scale.

¹ http://ec.europa.eu/transport/modes/air/encasia/index_en.htm

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ENCASIA Members were part of the successful ISASI seminar held in Augsburg (Germany) on 24-27 August 2015. This annual conference, featuring the theme "*Independence Does Not Mean Isolation*" was the first to be held in Europe since Shannon, Ireland, in 2000.

In 2016, Europe will again host the annual ISASI² seminar, this time in Iceland featuring the theme "Every link is important". ENCASIA with the support of the Union will continue to focus on training activities and consolidation of the peer review programme. ENCASIA will develop a practical guide specifically targeted to victims and their relatives in order to facilitate their understanding of the role and different phases of a safety investigation. This document will also present the relationship with other parties involved in the accident investigation process. In a way, it will address a number of aspects of the social dimension of safety investigations.

Looking to the future, ENCASIA will continue to strengthen and promote cooperation between the safety investigation authorities of the Member States. This will strengthen the investigation capabilities of each Member State and improve the investigation efficiency within the Union.

Ulf KRAMER

ENCASIA Chairman and
Director of the German Safety
Investigation Authority (BFU)

² International Society of Air Safety Investigator

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INTRODUCTION

Regulation (EU) No 996/2010 established the European Network of Civil Aviation Safety Investigation Authorities (ENCASIA) and has put strong emphasis on the coordination role of Safety Investigation Authorities (SIAs) and its reinforcement in a European context, in order to generate real added value in aviation safety. This is to be achieved by building upon the already existing cooperation between such authorities and the investigation resources available in the Member States. SIAs should be able, in each Member State, to conduct efficient and independent investigation and participate in the prevention of accidents through their activities. ENCASIA seeks to recognise and reinforce SIAs with a well-defined role and tasks.

ENCASIA is composed of the heads of the Safety Investigation Authorities in each of the Member States and/or, in the case of a multimodal authority, the head of its aviation branch, or their representatives, including a chairman chosen among these for a period of three years.

ENCASIA has worked on all the objectives set out in Article 7(3)³.

This 2015 report is the fourth ENCASIA annual report related to the implementation of its work programme. It will, in particular, highlight the sponsored activities on investigator training and on the Peer Reviews programme. It will also highlight the recent achievements of the working group on Safety Recommendations.

This report will be transmitted to the European Parliament and to the Council and made available on the Commission's webpages:

http://ec.europa.eu/transport/modes/air/encasia/activities/index_en.htm

³ Article 7 Paragraph 3: In order to achieve the objectives set out in paragraph 2, the Network shall be responsible, in particular, for:

- a) preparing suggestions to and advising Union institutions on all aspects of development and implementation of Union policies and rules relating to safety investigations and the prevention of accidents and incidents;
- b) promoting the sharing of information useful for the improvement of aviation safety and actively promoting structured cooperation between safety investigation authorities, the Commission, EASA and national civil aviation authorities;
- c) coordinating and organising, where appropriate, 'peer reviews', relevant training activities and skills development programmes for investigators;
- d) promoting best safety investigation practices with a view to developing a common Union safety investigation methodology and drawing up an inventory of such practices;
- e) strengthening the investigating capacities of the safety investigation authorities, in particular by developing and managing a framework for sharing resources;
- f) providing, at the request of the safety investigation authorities for the purpose of the application of Article 6, appropriate assistance, including, but not limited to, a list of investigators, equipment and capabilities available in other Member States for potential use by the authority conducting an investigation;
- g) having access to information contained in the database referred to in Article 18, and analyse the safety recommendations therein with a view to identifying important safety recommendations of Union-wide relevance.

1) ENCASIA's organisation

1.1) ENCASIA's legal personality and rules of procedures

ENCASIA's legal personality was established in September 2012 under Belgium Law. It is represented by a non-profit organization ("Association Sans But Lucratif": ASBL)". As stated in the bylaws, ENCASIA asbl⁴ was created for the sole purpose of representing the European Network of Civil Aviation Safety Investigation Authorities (ENCASIA) as established by Article 7 of the Regulation (EU) No 996/2010 on the investigation and prevention of civil aviation accidents and incidents.

The Rules of Procedures were not modified in 2015 after having been slightly amended in 2014.

1.2) Commission's grants

The following table summarizes the situation on grants which are related to the ENCASIA work programme:

Year of commitment / Grant Name	Grant Actions	EC max grant amount (Euros)	Co-financing rate	Status
2012 ENCASIA 1	Two training sessions in UK and in FR in 2013	98,630	95% (UK and FR contributions)	Closed
2013 ENCASIA 2	4 Peer Reviews - PR training (UK) - Training session on mutual help (DE) in 2014	99,932	100%	Closed (late 2015)
2014 ENCASIA 3	6 Peer Reviews Training session (PT) in 2015	79,947	95%	To be closed in 2016
2015 ENCASIA 4&5	6 Peer Reviews and training session in 2016 Same scheme for 2017	159,942	95%	Just started

⁴ Statutory registration number: 848.835.815

A copy of the ENCASIA asbl bylaws is publicly available on the website of the official Belgian Journal: http://www.ejustice.just.fgov.be/tsv_pdf/2012/10/01/12162581.pdf

Note: The Commission also supported the creation of the ENCASIA WebPages through a framework contract (about 20,000 Euros).

1.3) Advising Union institutions on safety investigation aspects

Article 7(3)(a) mentions that the "*Network shall be responsible, in particular, for preparing suggestions to and advising Union institutions on all aspects of development and implementation of Union policies and rules relating to safety investigations and the prevention of accidents and incidents*". In that respect, ENCASIA was consulted regarding the on-going work of the Commission on the possible revision the Basic Regulation (EU) No 216/2008. It included in particular the extension of its scope to include drones, which could have an impact on the investigation of drone accidents. The envisaged removal of the reference to Annex II aircraft (and the threshold for drones below 150 kg) could thus enlarge the scope of investigations covered by Regulation (EU) No 996/2010.

Consequently ENCASIA prepared an Opinion on the proposed draft regarding the possible amendment of Article 5 of Regulation (EU) No 996/2010 where Annex II is currently referred to (obligation to investigate). The opinion endeavours to strike a balance a balance between the pros and cons regarding the systematic investigation of accidents and serious incidents involving drones as well as GA accidents.

Due to resource issues, the general approach followed in most Member States has consisted in focusing on events that endanger third parties. It is likely that drones will be classified on a risk based approach with 3 categories (open, specific, certified), independent from their weight range and from its use (commercial or non-commercial).

The ENCASIA Opinion was used by the European Commission to elaborate its proposal⁵, which was released in December 2015 with the aviation strategy⁶.

1.4) Outreach activities

In 2015, ENCASIA liaised with the Civil Protection Committee to inform it about the new obligation of having a civil aviation emergency plan at national level and to study the possibility of organising an exercise involving both the civil protection actors and the civil aviation actors.

⁵ COM(2015) 613: Proposal for a Regulation of the European Parliament and of the Council on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and repealing Regulation (EC) No 216/2008 of the European Parliament and of the Council

⁶ <http://ec.europa.eu/transport/modes/air/aviation-strategy/>

The European Commission's Directorate-General Humanitarian Aid and Civil Protection (DG ECHO) was invited to present the Union Civil Protection Mechanism during the ENCASIA plenary meeting on 29 January 2015. This Mechanism aims to facilitate cooperation in civil protection assistance interventions in the event of major disasters inside and outside the EU.

Full scale exercises are part of the Civil Protection Mechanism and supported by EU subventions. The organisation of a combined scenario such as an aircraft crashing over a city or on an industrial area would be fully eligible for EU grants.

These outreach activities followed the information of the ad-hoc Committee dealing with civil protection in the Member States about the specific requirements on civil aviation emergency plans at nations level. The aim has consisted of generating more interactions both at EU and national levels through an enhanced mutual understanding and possible common exercises.

2) ENCASIA's work programme

The 2015 ENCASIA annual work programme was based on the management of the existing six working groups as well as making progress regarding the establishment of advance arrangements according to Article 12(3) of Regulation (EU) No 996/2010 and the review of this Regulation in accordance with Article 24.

2.1) Working Group 1 (WG1): "Network Communication and Internet Presence"

WG1, which had prepared the content of the website, has worked with the website developer (TIPIK) and DG MOVE to finalise the webpages.

In June 2015, ENCASIA released its own website to better inform aviation professionals and the public about civil aviation accident/incident investigations in Europe. The European Commission has also financially supported the development of the ENCASIA website, which is hosted on the DG MOVE website.

It be accessed at: <http://ec.europa.eu/transport/modes/air/encasia>

or <http://www.encasia.eu>

The following image displays the ENCASIA home page:

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MOBILITY AND TRANSPORT
ENCASIA

European Commission > Transport > Transport modes > Air > ENCASIA

Home Transport modes Transport themes Media corner Facts & fundings About us

European Network of Civil Aviation Safety Investigation Authorities

Restricted area

About the ENCASIA network

Word of the Chairman

Ulf Kramer, Chairman ENCASIA

Dear visitor,
Dear network colleagues,

Welcome to the ENCASIA website, designed to provide you with information on the European Network of Civil Aviation Safety Investigation Authorities (ENCASIA) and our role within the European framework. This site contains information about our members and other organizations involved in aviation safety. It also provides links to websites you might find useful. Our main focus is cooperation to further improve aviation safety. I hope that its content will provide you with the information you need.

With the financial implementation of the annual work programmes since 2011 and the ENCASIA ASBL legal basis, the Network has built the platform for a successful and solid work in the next years.

It is now important that the adopted resolutions continue to be implemented. This has required a substantial commitment of everyone involved and has tied up resources, but this cooperative effort has been crucial. I have been very thankful to everyone for providing resources and for the active involvement in the work programme.

Objectives

The Network constitutes an independent grouping of the air safety investigation authorities of the EU Member States. Its establishment is envisaged by the recently adopted **Regulation (EU) 996/2010** of the European Parliament and of the Council on the investigation and prevention of accidents and incident in civil aviation, which entered into force on 2nd December 2010.

WG1 will develop the content of the "restricted area" (the link to this area is visible on the preceding screenshot), which should contain guidance material and common procedures collected and prepared by WG2. This later section will mainly be a library of documents, which should be updated in a user-friendly manner.

2.2) Working Group 2 (WG2): "Inventory of best practices of investigation in Europe"

During 2015, WG2 activities focused on the collection and submission of comments to draft final reports with a view to having a common practice, including common templates for cover letters. It also studied the 2014 peer review reports that identified a number of "Best/Good Practices" in the SIAs that were reviewed.

WG2 also made progress in the inventory of SIA practices with respect to protecting the content of a CVR prior to returning it to its owner. It had noted different practices when returning Cockpit Voice Recorders (CVRs) to its owner after an investigation. In some Member States, the situation is to erase the CVR content before returning it to its owner in order to provide the best level of protection (while keeping a copy only for the purposes of the safety investigation). In other Member States, the CVRs are not erased as it would be considered as tampering with evidence or altering someone else's property. Some national laws could consider such a procedure as a possible obstruction of justice or as against a principle of protection of private property. In these cases CVR recordings must be safeguarded as they are considered as evidence that can incriminate or exonerate. It would be up to the entity having control of the CVR to make sure that the CVR recordings are not misused. It will be difficult having a common practice on this difficult subject where there has been high variability amongst SIAs.

While these different situations among Member States (depending on their national laws) have so far not created difficulties at Union level, WG2 considers that they do need to be further studied.

For 2016, WG2 will resume its work regarding the safety on the crash site and further develop the website's restricted area where the common documentation will be made available for SIAs.

2.3) Working Group 3 (WG3): "Procedures for asking and providing help" & Working Group 4 (WG4): "Training of investigators"

With the support of the training steering committee, WG4 worked with WG3 on the preparation of the investigators' training, including the organisation of table top exercises to simulate accidents. WG4 and the training steering committee were also involved in adjusting logistics and later for the missions of the Peer Review Panels. In both cases they liaised with the sub-contractor (B&S Europe) for these logistical aspects.

In 2015, the training event took place in Lisbon, Portugal on 21-24 September 2015 with the support of the Portuguese SIA (GPIAA).

The training session represented a key step for the preparation of the peer reviews. The courses covered all aspects of an investigation, the structure of safety investigation authorities as well as a number of provisions of Regulation (EU) No 996/2010. They had taken on board the feedback from the previous session and put more focus on the SRIS database and the collection of best/good practices. From the experience of the first Peer Review training session, it had been decided to extend the training to a wider audience than just the PR panel members (one representative per Member State).

The training session was completed by a workshop on Mutual Assistance between SIAs. This workshop, which was run by WG3, was based on two accident scenarios: a medium size accident and a major accident. Five sub-groups of about five investigators each worked in teams in order to organise the response to such cases by taking into consideration their own resources in their home countries. The objective was to further prepare SIAs to manage a major investigation and pool resources in Europe. It also aimed to share experiences on investigations among participants (and to give them confidence on handling major cases thanks to good co-operation between different Member States). The workshop mainly concentrated on the initial phase of an investigation and addressed its estimated duration as well as the resources needed to face it. The feedback collected during this workshop will be used by the working group on 'mutual assistance' (WG3) to develop guidance material on providing and requesting assistance.

The unmeasurable benefits of such training session are the numerous interactions between the participants that took place and especially during the breaks and meals. It has also helped a number of participants to better understand some provisions of the Regulation (in particular regarding the follow up of safety recommendations). The German SIA provided information about an emerging issue and presented the risks for first responders to an accident site associated to Ballistic Parachute Recovery Systems (BPRS). Their analysis on this issue echoed a similar study undertaken by Switzerland, which was subsequently disseminated to the participants. Plus, the section in this report on Safety Recommendation of Union-wide Relevance (SRUR) covers this international issue.

2.4) Working Group 5 (WG5): "Peer Reviews"

The peer reviews carried out during 2015 involved the Safety Investigation Authorities (SIAs) of the six following States: Denmark, Germany, Iceland, Norway, Portugal and Romania.

Training

The training was carried out at Lisbon, Portugal, during the week of 21 September 2015 when a total of 26 investigators, including the Head of the Israeli SIA, were trained. A total of 39 investigators from 27 States have now been trained in the peer review process and have been awarded an ENCASIA certificate recording this fact.

The Peer Review courses were given in accordance with the programme syllabus available in the Peer Review handbook. The overall objective of the programme was that everyone had a common understanding of the Peer Review process, and the related questions that will drive the reviews. As for the previous year, a lot of focus was put on the differences between peer reviews and audits.

After the courses, the panel members stayed an extra day in Lisbon to prepare the on-site visits. In order to maximize the benefits, the working group had instructed the

panels to review the questionnaires and to concentrate on the areas where they considered that the SIA would receive the maximum benefit.

Peer review manpower

To conduct the 2015 cycle of Peer Reviews, three panels were formed:

- Panel A to review Iceland and Germany
 - Reviewers from Latvia, Romania and the United Kingdom
- Panel B to review Norway and Portugal
 - Reviewers from Belgium, France and Romania
- Panel C to review Denmark and Romania
 - Reviewers from Germany, Greece and Poland

Note: Panels are composed of three individuals, so that in case of a last minute event, the minimum number of two is met.

In addition Romania and Hungary took the opportunity to nominate an observer. One of the panel members was unable to continue with the peer review process and was replaced by the observer from Romania.

Feedback

The feedback from the reviewers was that on average they spent a similar amount of time, 15 days, on the peer review process as the reviewers in 2014.

- Training and initial review of questionnaires 4 days in September
- Preparation 2 days
- On-site visits (including travelling) 5 days in October/November
- Analysis and report writing 4 days in November/December

Completing the final report in the time available, particularly when English might not be the first language, was still considered to be one of the most difficult parts of the peer review process. As in 2014, members of the Peer Review Working Group reviewed the draft reports and offered suggestions to the panels. All the reports were completed within the required time scale.

The feedback from the attendees was dependent on their previous experience. The more experienced felt that one day would suffice, whereas the majority felt that a two-day course split over the three days was more appropriate. Overall the majority of attendees felt that the content of the course was sufficient to enable them to undertake a peer review. WG5 will continue to refine the training in light of the feedback from the reviewers and SIAs.

External peer reviews

The Peer Review concept and process have triggered some level interest beyond ENCASIA, in particular in Singapore and Israel.

As part of the ICAO Continuous Monitoring Approach external audit, the AAIB (Singapore) invited the AAIB (UK) to conduct a peer review. The review was funded by Singapore and two investigators from the UK AAIB, with the agreement of ENCASIA, used the ENCASIA peer review process, including the questionnaire, to carry out the peer review during the beginning of November 2015. The review, which focused on the practical application of the SIA's process, was well received by both parties and reflected the feedback from European reviews.

In preparation for an ICAO audit and to help move closer to European standards and practices in air safety investigation, the Head of the Israeli SIA requested that ENCASIA carry out a peer review using their processes. Investigators from Finland and Germany, funded by Israel, were scheduled to carry out the peer review in February 2016.

It is notable that Singapore, Israel and Norway have all highlighted the complementary nature of the peer reviews in preparing for an ICAO audit.

The European Rail National Investigation Body Network (NIB Network) are in the early stages of developing a peer review process and have been provided with a copy of the ENCASIA peer Review Hand Book and Questionnaire. In addition the Peer Review Working Group was scheduled to brief the NIB Network plenary meeting in Lille on 1 and 2 March 2016.

Overview

The three Nordic States' SIAs, Denmark (AIB), Iceland (RNSA) and Norway (SHT) are all multimodal and are part of the Nordic Accident Investigation Group (NAIG). NAIG also includes Sweden (AIB) and Canada (TSB). The three States all have the resources and experience to manage small aircraft accidents and large aircraft serious incidents. As part of NAIG, whose members also have working arrangements with other European SIAs, they collectively have the experience and resources to manage an accident investigation involving a large commercial aircraft in a hostile terrain.

Likewise, it would be beneficial for the Romanian and Portuguese SIAs (both single modal), respectively CIAS and GPIAA, to have working arrangements with other SIAs to deal with an investigation involving a large commercial aircraft accident.

The German SIA (BFU), which is single modal, was considered to have sufficient resources and experience to handle a wide range of general aviation and large commercial aircraft accidents.

In 2016, six additional SIAs will be reviewed through the same process.

2.5) Working Group 6 (WG6): "Safety Recommendations"

In 2015, the main priority for WG6 has been to further develop the European Safety Recommendations Information System (SRIS), the central repository database mentioned in Article 18(5) of Regulation (EU) No 996/2010.

On 26-27 March 2015, WG6 met in the Joint Research Centre (JRC) premises in Ispra, Italy, to review the system on the basis of the first three years of experience accumulated by the users and in order to further facilitate data collection and data analysis. The objective was also to improve the analysis of the content of the database with a view to identifying important safety recommendations of union-wide relevance as required by Article 7.3(g) of Regulation (EU) No 996/2010.

Therefore WG6 focused on the simplification of the fields presented to the originator as the Regulation obliges Safety Investigation Authorities (SIAs) to record safety recommendations, responses and their assessments into the common database. A lot of emphasis has addressed ways to improve data quality:

- Promotion of a common doctrine to draft safety recommendation to obtain more consistency throughout the database, but also to limit the numbers of SRs (more focus on quality rather than quantity);
- Presentation of existing customisation possibilities, to make the interface more user-friendly and simpler;
- Encourage consistency through the consolidation of guidance material (in line with the interface reflecting the content of the guidance);
- Introduction of on a training module on SRs, which forms part of the ENCASIA training sessions. For training purposes, a short video/tutorial demonstrating the usage of SRIS was also prepared.

The fields related to the "areas of concerns" which are safety issues analysed in the ENCASIA annual report were reviewed by WG6 with a view to improve the taxonomy. This led to a change of name to "Safety Recommendations Topics" to differentiate from other parts of ECCAIRS and also a clarification on what data is required in the field.

On 25 September 2015, the first major change of SRIS was released, with revised user interface, updated taxonomy structure and new features (Appendix II contains a summary of the recent SRIS milestones). The new SRIS release has become more user friendly in many aspects. The structure and grouping of elements has become more logic, and effective data input is possible via a data link from the occurrence database (ECR). Other examples of improvements are that an e-mail function permits receiving notifications based on conditions related to the SR and a standard query form is available for quick searches in the database.

To contribute to more standardised use of SRIS and better data quality, WG6 has developed a SRIS handbook and instruction video. In addition, an e-mail list of SRIS

contact points in all Member States has been established to facilitate support and guidance.

WG6 has also continued to develop general guidelines for common procedures to be used by all the Member States for the processing of Safety Recommendations (SR) and the subsequent responses. Examples of deliveries in 2015 are administrative guidance on how to close out recommendations on which no response has been received for a long period of time and a definition of Safety recommendations of union-wide relevance (SRUR).

With respect to taxonomy, best practices as well as with respect to SR from third countries WG6 has engaged with international stakeholders. ICAO has been testing SRIS as a tool for safety recommendations addressed to them, as well as for Safety Recommendations of Global Concern (SRGC). EASA and a number of National Aviation Authorities have been following the development of SRIS closely. The European Commission's Joint Research Centre (JRC) has dealt with the technical cooperation with these stakeholders, while DG MOVE and ENCASIA have reviewed the policy on access rights.

The SRIS Public view on the Joint Research Centre ECCAIRS Web Portal⁷ is still a limited data set with no information on the follow-up and no query tools. As SRIS becomes more mature, it is the plan to develop also this part of the system. The public part of SRIS can also be accessed through the ENCASIA website thanks to a link in the chapter dedicated to safety recommendations:

http://ec.europa.eu/transport/modes/air/encasia/activities/investigation/index_en.htm

Chapter 3 of this report presents the analysis of the data contained in the SRIS EU database.

2.6) Article 24 on the review of Regulation (EU) No 996/2010

In 2014, DG MOVE organised a consultation of stakeholders with regard to the review of the Regulation in accordance with Article 24 and prepared a summary document that was circulated among ENCASIA members.

In 2015, DG MOVE presented the draft report on the implementation of Regulation (EU) No 996/2010, which should be published as a Commission Staff Working Document, and if possible being made part of the upcoming Aviation Strategy Package.

This document concludes with the next steps that could be taken towards an even more efficient accident investigation performance at Union level. This may involve voluntary agreements of the ENCASIA members that go beyond what is legally required and go into what is practically desirable. Signing cooperation agreements for

⁷ <http://sris.jrc.ec.europa.eu/>

assistance in case of a major accident, which include making available human and material resources, would equally help in particular smaller Member States having only limited national investigation resources. There is also a reference to the Commission's intention to evaluate during 2016 whether or not there is a need for the revision of the existing regulatory framework or for any other additional action.

2.7) Update on advance arrangements

The 2015 work programme also included the action to make progress regarding the establishment of advance arrangements according to Article 12(3), which states: *"Member States shall ensure that safety investigation authorities, on the one hand, and other authorities likely to be involved in the activities related to the safety investigation, such as the judicial, civil aviation, search and rescue authorities, on the other hand, cooperate with each other through advance arrangements"*.

ENCASIA Members have kept working on these issues to reach agreements with other authorities, in particular their national judicial authorities. This has also included work on the implementation of these national provisions.

In 2015, several SIAs reported having signed such advance arrangements, notably with their respective judicial authorities.

3) Data Analysis of the Safety Recommendations Information System (SRIS)

3.1) SRIS Overview

After almost four years of operations, **1,810** safety recommendations were recorded in SRIS by the end of 2015. **375** of these Safety Recommendations were issued in 2015.

Note 1: By the end of 2014 SRIS contained 1,294 safety recommendations, i.e. 141 new records are either backlog entries or historical data.

Note 2: By the end of 2015, 237 historical SRs (issued before 2012) were recorded in SRIS.

The following chart represents the distribution per Member State. The total picture shows that since SRIS was introduced only three of the 31 European States with access to SRIS have not yet either issued SRs or recorded issued SRs on SRIS.

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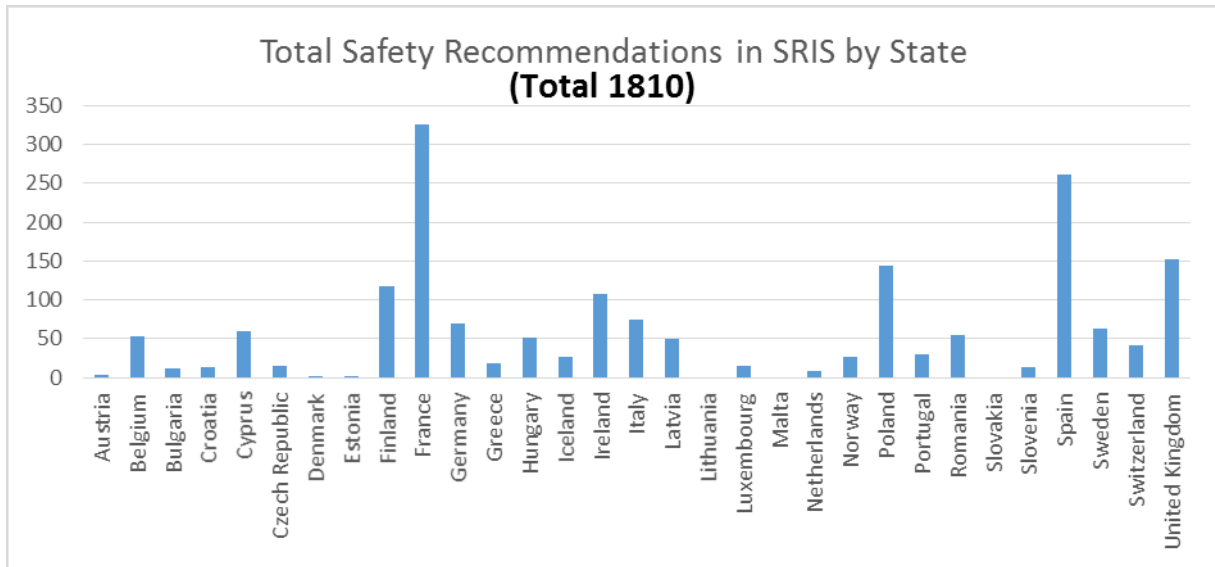


Figure 1: Total number of SRs in SRIS by State 31.12.2015

In 2015, 24 European States recorded recommendations on SRIS. Keeping in mind that not every safety investigation is concluded with safety recommendations, this is considered a high degree of participation. As expected, Member States have different volumes of investigations. In addition, policies regarding when a Safety Recommendation should be issued vary among States. The tendency in many States has been to encourage the involved organisations/stakeholders to take safety action during the investigation. When this is a success, the SIA can describe the safety action taken in the course of the investigation and negates the need to issue formal safety recommendations in the final report.

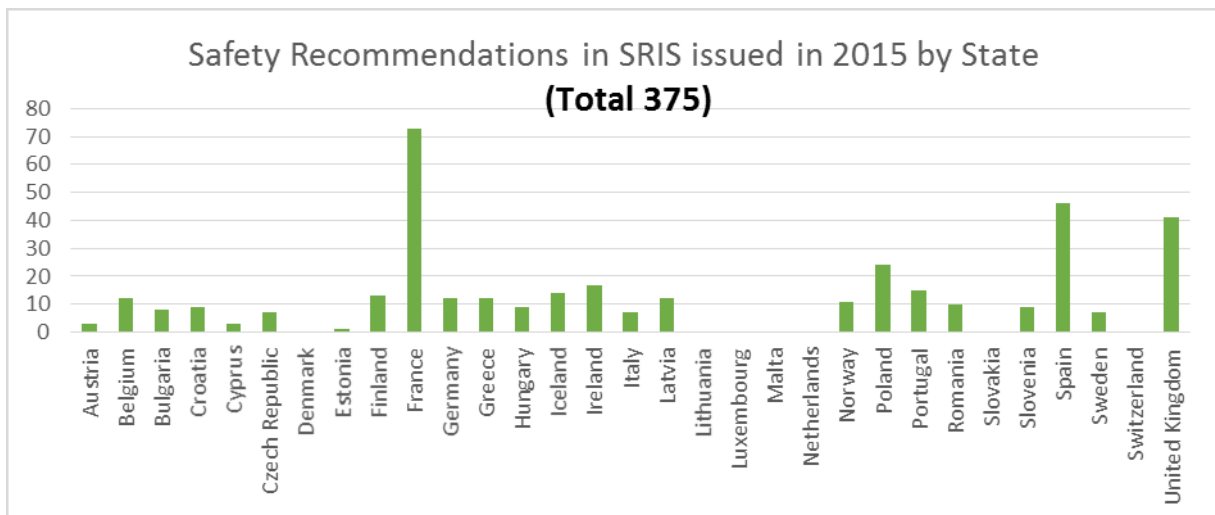


Figure 2: Number of SRs issued in 2015 by State

3.2) Safety Recommendations of Union Wide Relevance (SRUR)

Article 7.3(g) of Regulation (EU) No 996/2010) requires ENCASIA to analyse the Safety Recommendations that have been entered onto SRIS and to identify important safety recommendations of Union-wide relevance (SRUR).

In 2015, ENCASIA agreed that a Safety Recommendation of Union wide Relevance (SRUR) would meet one or more of the following criteria:

- The deficiency underlying the SR is systemic, not related to a specific aircraft type, operator, manufacturer component, maintenance organisation, air navigation service and/or approved training organisation, and not solely a national issue, or;
- There is a history of recurrence across Europe of the relevant deficiency.

In September 2015, SRIS was updated to include check boxes for Member States to identify those recommendations that meet the SRUR definition and also those that meet the ICAO Safety Recommendation of Global Concern. Member States were asked to review their 2015 recommendations and to classify those that were SRUR.

The initial analysis of the SRIS EU database has shown so far that a limited number of the Safety Recommendations that were initially identified as SRUR by an SIA did not fully meet the criteria as they were either covering a local issue or too specific to an aircraft type and not systemic. For these SRs, WG6 liaised with the national points of contact at the SIA to eventually reclassify the SR when it was agreed and justified.

The identified SRUR were issued by various Member States and in some cases for accidents or incidents that identified similar causal or contributory factors and safety issues, the safety recommendations were jointly prepared, which is encouraged:

The common SRUR issued in 2015 cover the following areas:

- **Parachute Jumping** – ensuring the skills and knowledge of the pilot are appropriate for sky diving operations, fitting light weight recorders, effective restraint systems and back protection for pilots.
- **Pilot licencing** – related to consideration on restrictions for flight in MEP aircraft category by pilots who have not flown for a significant period of time. Various medical aspects such as effect of cataract and definition of blood alcohol levels above which there would be impaired judgement that would affect flight safety.
- **Ballistic Parachute Recovery Systems (BPRS)** – highlighting the need to have a better means of identifying that an aircraft has a system fitted and to mitigate the risks to first responders by enabling access to the information. Also to recommend the BPRS is easily disarmed following an accident. This is a global issue that is being addressed by an international panel: the ICAO AIG-P.

- **Training for pilots** – including uncommanded nose-wheel steering, windshear, managing energy during transition from initial to final approach, rejected landings during flare, emergency evacuation and taking control on aircraft equipped with non-coupled control sticks. Also that training material provided by operators to include the latest updates from manufacturers and based on the latest manufacturers procedures.
- **Lithium Ion batteries in aircraft equipment** – with recommendations on circuit protection to mitigate against known failure modes, to quantify heat produced by the battery, battery and equipment level FMEA, review against toxic gas venting precautions in TSO-C142.

The other SRUR recorded in 2015 are:

- Standardisation of door numbering to reduce confusion between emergency services and aircraft crew members.
- ELT carriage on aircraft that file a flight plan.
- Traffic detection systems on light aircraft below 2,250 Kg.
- Ground spoiler position information to be available to the flight crew during landing.
- Fan cowl doors and the need to include them in a system safety assessment.
- Fatigue risk management for aircraft maintenance organisations.
- Certification of equipment that was not originally intended for aircraft use.
- Issues identified with old FMGS and aircraft fitted with a similar thrust management system as the DC9/MD83.
- Air traffic service providers to have requirements to manage unintentional circumstances.
- Fitment of light weight recorders and image recorders in helicopters undertaking emergency medical services regardless of weight.
- Runway edge lighting amendment to ICAO Annex 14, to develop lighting to enable pilots to identify them without reference to other lighting.
- To add the term aerial target demonstrations to EC 965/2012 SPO.GEN.005 scope (a).
- Amendment of definition of Vmini to reflect legitimacy of flight under IFR by reference to external visual cues below Vmini.
- Review of fan case module protection specifications to eliminate possibility of blades being released and entering the fuselage.

- Establishing and reviewing procedures and operational limits on initial or intermediate approach to enable compliance with stabilisation criteria during final approach.
- Ensure that aircraft holding points are not located in ILS critical areas.
- Review the certification requirements for stall warning and the associated crew procedures.
- Provision of clarification of CAT.GEN.MPA.135 regarding access to the cockpit and the supervision of a “third-person”.

3.3) Safety recommendations stemming from safety studies

Regulation (EU) No 996/2010 (Article 2(15) and Article 17(2)) encourages Member States to issue Safety Recommendations based on evidence gathered during Safety Studies.

In 2015 there were seven Safety Recommendations that stemmed from the following three Safety Studies.

- **BEA France - Events Associated with an Engine Malfunction of Thielert TAE 125 Engines.** Given the number of notifications of engine malfunctions of Thielert TAE 125 engines, the recurrence of specific malfunctions and the technological novelty of these engines, the BEA decided to conduct this study, the aim of which was to establish if a new request for review of the certification of the engine was needed. The study contained recommendations to EASA to adopt a definition of engine shutdown for CS23 certified aircraft. Another recommendation addressed to EASA was to define the acceptable occurrence rate for reductions in engine power that mean it is no longer possible to maintain level flight. The review did conclude that there was no justification for a review of the certification of the Thielert engines.
- **ANSV Italy – Review of air show organisation in Italy following several accidents at air shows and previous recommendations.** This has led to a Safety Recommendation that pilots who perform at air shows should hold a specific certification along similar lines to the Display Authorisation issued in the UK by the UK CAA and therefore to review the requirements of ITA CAA OPV-19 in Italy. Another Safety Recommendation was for a thorough review of the requirements to act as an "air show Director", his level of authority to inhibit flight by those that do not have the level of professional skills required to carry out flight manoeuvres. Lastly the review highlighted the need for specific medical requirements for pilots that undertake aerobatic flights in addition to the current air crew medical requirements.

- **UK AAIB - Airworthiness of aircraft registered overseas and resident in the UK.** Since 2008, the AAIB investigations of several general aviation (GA) fatal accidents involving aircraft registered overseas revealed common airworthiness issues. A safety study was initiated by the AAIB to determine if these issues were associated with aircraft not registered in the UK, but resident and operated within it. This has resulted in Safety Recommendations to EASA regarding a need to determine the extent to which airworthiness standards of aircraft resident within a Member State but registered elsewhere are being applied consistently across Member States. In the UK, the CAA have been recommended to ensure that foreign registered aircraft permanently based in the UK comply with the requirements of the Air Navigation Order and their Certificate of Airworthiness comply with the requirements of the Air Navigation Order and their Certificate of Airworthiness.

3.4) SR Topics

In the updated taxonomy of SRIS, the previous label “Area of Concern” has been replaced by “Safety Recommendation Topic.” There are four main topics (aircraft/equipment/facilities, personnel, procedures/regulations and QMS/SSP/SMS).

The following charts illustrate the SR distribution on the main topics (level 1) in SRIS in 2015.

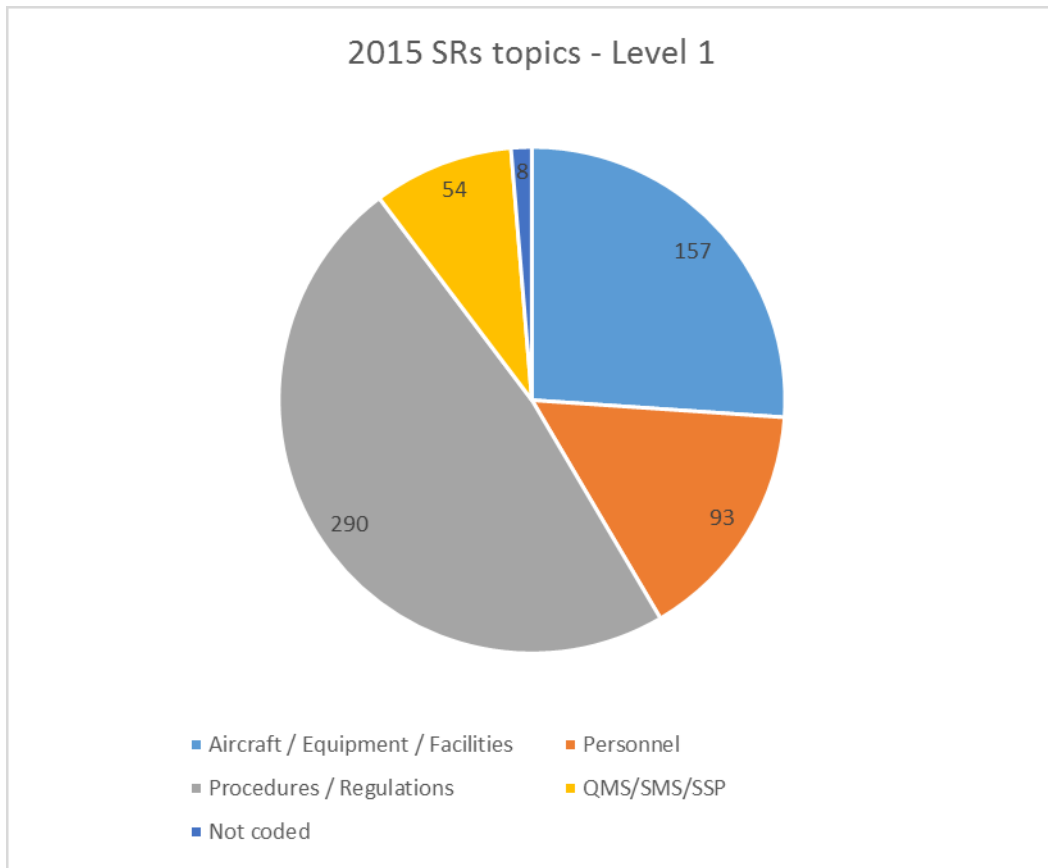


Figure 3: SR Topic distribution level 1 – SRs issued 2015

The majority of SRs issued in 2015 relates to the topic Procedures/Regulations, followed by Aircraft/equipment/facilities. Each level 1 Safety Recommendation topic contains sub-categories (level 2) that pinpoints the Safety Recommendation topics in more detail. The distribution within the main categories is shown in the figures below.

Note: Use of the value “Other” reduces the effectiveness of an in-depth analysis of the topics. In the new SRIS interface, coding of SR Topic at level 1 has become mandatory. SRIS users are encouraged to scan the value lists and pick the best possible predefined options for sub-categories as well.

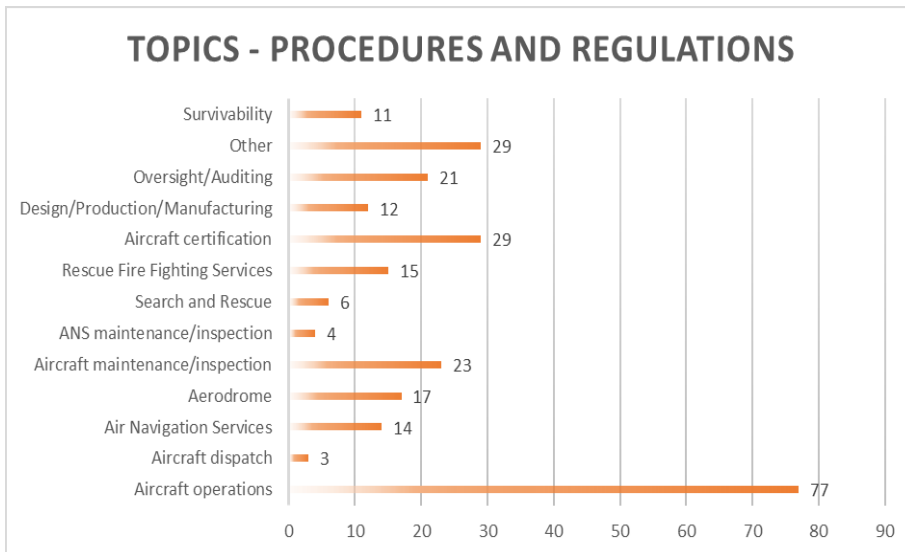


Figure 4: SR Topic Procedures/Regulations - sub-category distribution 2015

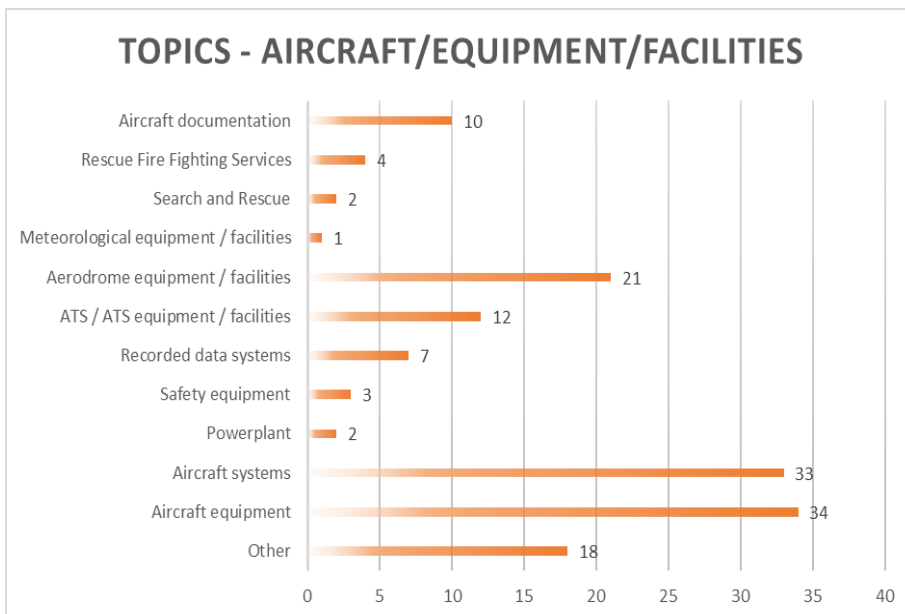


Figure 5: SR Topic Aircraft/equipment/facilities - sub-category distribution 2015

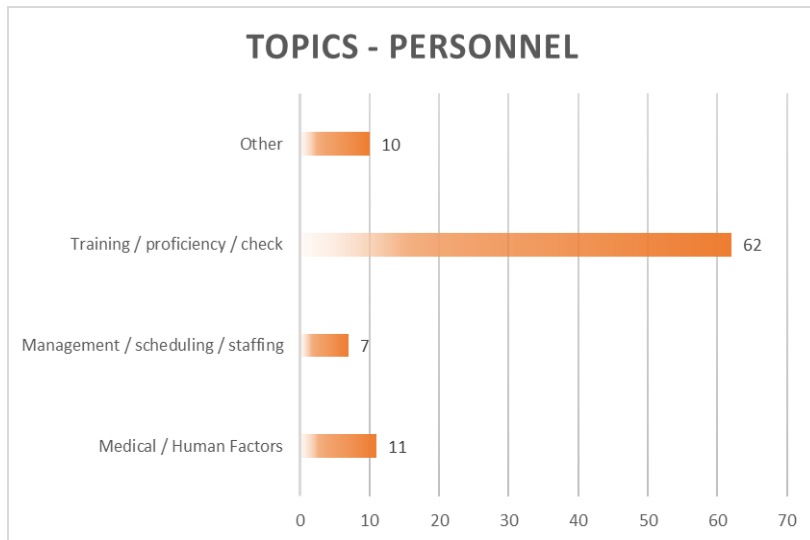


Figure 6: SR Topic Personnel - sub-category distribution 2015

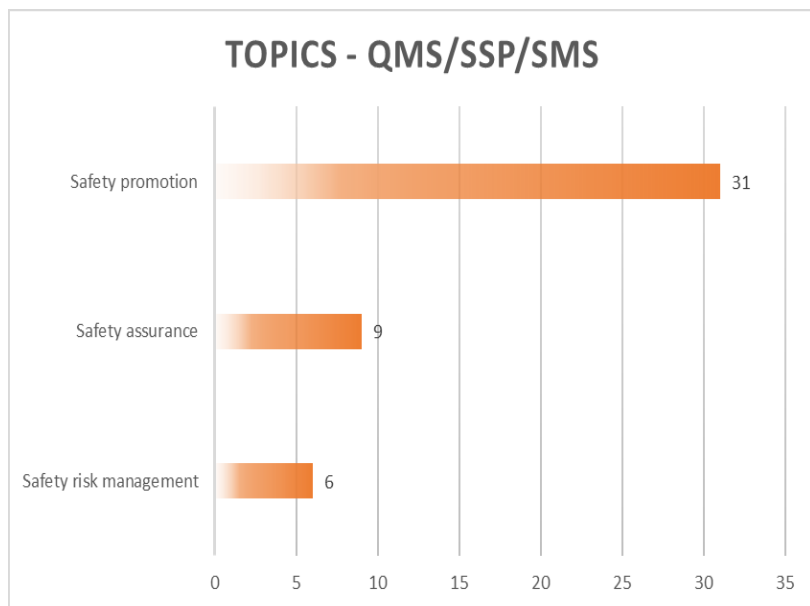


Figure 7: SR QMS/SSP/SMS - sub-category distribution 2015

3.5) SR addressees

Most SRs in 2015 were addressed to European National Aviation Authorities (CAAs). EASA was the main single addressee (19% - see chart hereafter). Various operators, FAA and Air Navigation Service Providers followed thereafter.

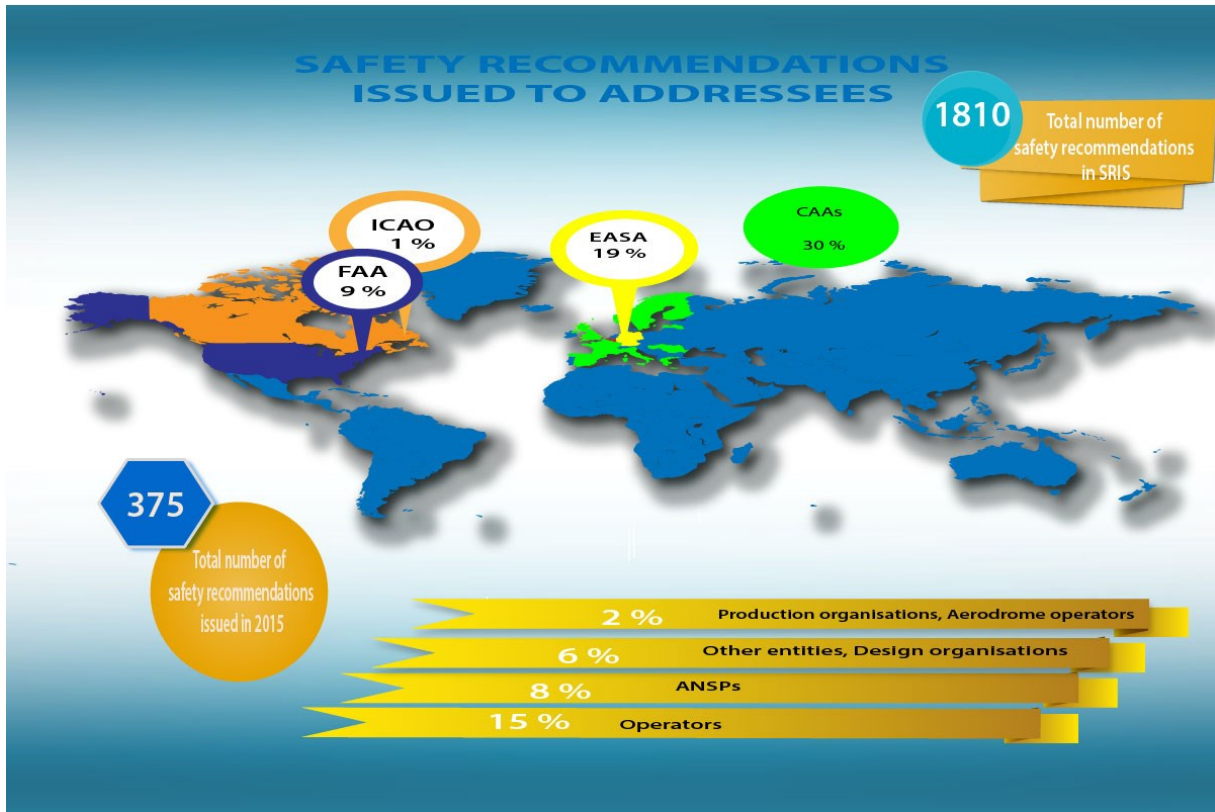


Figure 8: SR Addressee distribution 2015

3.6) Response assessment

Article 18(2) of the Regulation on the follow-up of safety recommendations requires that: *“Within 60 days of the receipt of the reply, the safety investigation authority shall inform the addressee whether or not it considers the reply adequate and give justification when it disagrees with the decision to take no action.”*

The following chart shows responses that were assessed in SRIS in 2015.

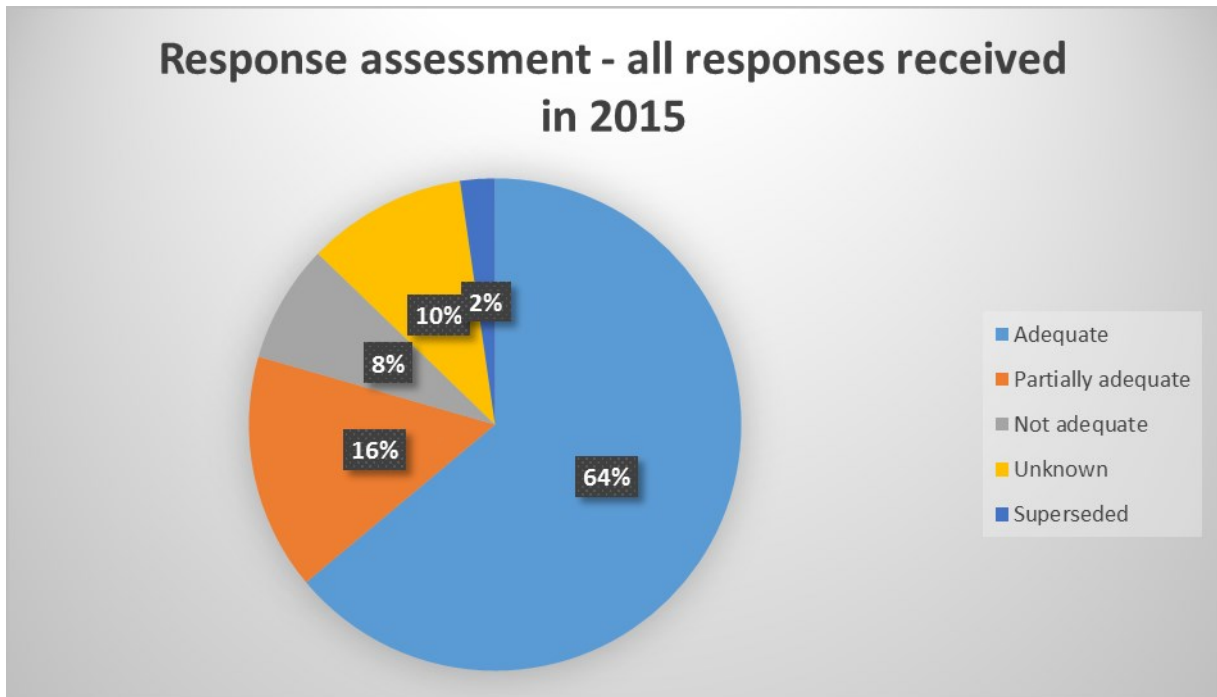


Figure 9: Response Assessment 2015

It appears that 80% of the replies were considered adequate or partially adequate by the safety investigation authorities in 2015.

CONCLUSIONS (THE WAY FORWARD)

Over the past years, ENCASIA has worked on all the objectives set out in Article 7(3). The main priorities for the upcoming years remain the conduct of Peer Reviews, the use of the SRIS database as well as the continuation of encouraging high standards in investigation methods and investigator training.

Regarding investigation tools, an important milestone is the publication of Commission Regulation (EU) 2015/2338 of 11 December 2015 amending Regulation (EU) No 965/2012 as regards requirements for flight recorders, underwater locating devices and aircraft tracking systems⁸. These rules address the issues raised by the accident of Air France flight AF447 in June 2009 and the disappearance of Malaysian Airlines flight MH370 in March 2014. They will notably improve the tracking of European aircrafts and the location of an aircraft in distress anywhere in the world. In case of an accident over water, they will also allow for a quick localisation of the wreckage and a swift recovery of the data contained in the flight recorders.

The year 2015 ended with the Aviation Strategy proposed by the Commission that includes a proposal to review the basic Regulation⁹. This will have an impact on Regulation (EU) No 996/2010 as it is important that the scopes of these two Regulations should remain aligned. In particular, the proposal contains a draft amendment to take into account the suppression of the reference 'unmanned aircraft with an operating mass of no more than 150 kg'. It is likely that the investigation of accidents and serious incidents involving drones will become a growing activity. The investigation criteria and expected safety benefits should represent recurrent discussion topics among ENCASIA members.

The year 2015 was also marked by the fact that Regulation (EU) No 376/2014 on occurrence reporting became applicable on 15 November 2015. Although this Regulation does not overlap with Regulation (EU) No 996/2010, it nevertheless means that the classification of incidents will have to be carefully and consistently undertaken. Indeed a serious incident is investigated by a safety investigation authority while an incident falls within the remit of the Regulation on occurrence reporting. It is anticipated that further guidance may be needed to identify serious incidents in a harmonised manner throughout Europe.

As we can see, ENCASIA members will probably be confronted with rising challenges related to the investigation of drone accidents and the classification of serious incidents.

⁸ <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1453200481817&uri=CELEX:32015R2338>

⁹ Regulation (EC) No 216/2008

The way forward continues to promote the undertaking of thematic safety studies and the issuance of common safety recommendations at Union level. It will also aim at increasing ENCASIA's visibility with its other safety partners in Europe. Outside Europe, a number of regions have shown interest in developing their own system on the basis of the EU experience, where cooperation has been formalized.

The next International ISASI seminar that is again organised in Europe will represent a great platform to expand these networks, and to link ENCASIA with other safety partners around the globe.

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APPENDIX I: List of 2015 Fatal Airplane Accidents involving commercial activities

Date	Location	Aircraft type	Air carrier	Number of fatalities
04/02/2015	Near Taipei-Sun Shan Airport, Taiwan	ATR 72-600	TransAsia Airways	43
11/02/2015	Miami Executive Airport, USA	Beechcraft 1900C	Aeropanameri cano	4
24/03/2015	Near Barcelonnette, France	Airbus A320-211	Germanwings	150
13/04/2015	Vancouver, Canada	Swearingen SA226-TC Metro II	Carson Air	2
02/06/2015	Querétaro Airport, Mexico	Swearingen SA226-TC Metro II	Aeronaves TSM	5
25/06/2015	Misty Fjords National Monument, Alaska, USA	DHC-3T Vazar Turbine Otter	Promech Air	9
16/08/2015	Near Oksibil Airport, Indonesia	ATR 42-300	Trigana Air Service	54
20/08/2015	Vrsatec, Slovak Republic	Let L-410MA	Dubnica Air	3
15/09/2015	Iliamna-East Wind Lake Seaplane Base, Alaska, USA	DHC-3T Texas Turbine Otter	Rainbow King Lodge	3
02/10/2015	Mount Latimojong, Indonesia	DHC-6 Twin Otter 300	Aviastar Mandiri	10

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14/10/2015	Yumbillo, Colombia	Cessna 208B Grand Caravan	Microsurvey	3
31/10/2015	Hasna, North Sinai, Egypt	Airbus A321-231	Metrojet	224
04/11/2015	Juba Airport, South Sudan	Antonov 12BK	Asia Airways, opf. Allied Services Limited	41
11/12/2015	Pickle Lake Airport, Canada	Cessna 208B Grand Caravan	Wasaya Airways	1

Source: Aviation Safety Network (01/01/2016)

Total: 16 fatal airliner accidents, resulting in 560 fatalities.

The worst accident last year happened on October 31 when a Metrojet Airbus A321 crashed in the Sinai Desert, killing 224. While investigation is still ongoing, it is claimed that the accident occurred as a result of the detonation of an explosion device. This accident represents the dark side of 2015, together with the accident involving Germanwings flight 9525. The Airbus A320 crashed in France on March 25 and has been attributed to pilot suicide.

Discounting the Germanwings and MetroJet Airbus events, the highest individual fatality count was 54 resulting from the crash of a Trigana Air ATR 42 in Indonesia during August. The second-highest, 43 casualties, also resulted from a turboprop accident when a TransAsia Airways ATR 72 came down after take-off from Taipei in February.

For the first time last year, not a single passenger fatality was recorded on a Western-built jet, excluding those from suspected acts of violence. This was achieved against the background of the global Western jet fleet's transporting 3.7 billion travellers and conducting 32 million flights (*source: Ascend*).

APPENDIX II: SRIS Enhancements Milestones

2015 Key Dates (technical side)

- 26-27 March 2015: Kick-off meeting for the upgrade of the SRIS database
- 30 June - ECCAIRS Common Framework update release (version 5.4.1.14 incl. new web data access services)
- July - New SRIS Repository configuration (users roles / profiles)
- August - SRIS taxonomy update and data integration (version 6.1.0.0)
- 25 September – Operational deployment of new SRIS User Interface (STANDARD used for data entry by Originators) and Data Conversion (>1300 records)
- 16 October - SRIS Extension distribution package (version 2.0.0.4 only available upon request for download on ECCAIRS Portal)
- 16 November - Data Link to European Central Repository of Occurrences in Aviation (ECR) is enabled
- December - Deployment of additional SRIS features : automatic Email notifications, Shared SRIS queries/export/graphs in Web

2015 Main Changes

A revised Taxonomy structure (release 6.1.0.0)

- Changed attributes: Headline format, Response assessment at the level of each response text, new values for SR topics, report hyperlink format
- New attributes: Safety recommendation (SRUR / SRGC) checkboxes, Event types for the occurrence (instead of descriptive factors)
- Updated definitions
- A more logical structure of elements by Groups (originators, addressees, etc.)
- Re-designed User Interfaces (views)
- A new simplified view for the public website
- A new interactive standard view for initial data entry (by Originators) and for visualization (SIAs, CAA, EASA, ICAO)

Some new features deployed

- Mandatory fields for data entry (indicated with a yellow background)
- Note confidential under recommendation
- Email automatic notifications (upon criteria / different recipients)
- ECR Data link for Occurrences
- Shared libraries for queries, queries forms, exports and graphs
- Data export and document template generation (windows version only)

-END-

