



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

ANNUAL REPORT

2016

FOREWORD

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



This report summarizes the sixth year of ENCASIA's activities. The working groups have continued to be very active and we have made great progress in developing the website, which has a public and restricted area for investigation authorities.

Training and the peer review programme continue to take priority and we have now reviewed 16 member States and trained 58 investigators in investigation management and peer review. In addition to sharing our experience and documents with the European Rail Safety Investigation Authorities, who are also setting up a peer review programme, the success of our programme has attracted interest from ICAO and other countries outside of Europe.

Further work has continued on the development of the European Safety Recommendation Information System, which is an important tool for the aviation safety community. I am pleased to report that the public have access to the safety recommendations and we continue with the work to give the public access to the responses.

This year we established a new working group who have undertaken an extensive consultation exercise and led workshops on providing assistance to air accident victims and their families. One result of this work is the development of a leaflet, written in all the languages of the Member States that explains the process and milestones in a safety investigation. The leaflet should be readily available on the ENCASIA website later in 2017.

In October 2016, the International Society of Air Safety Investigators Conference was held in Iceland and in April 2017 the European Society of Air Safety Investigators Conference will be held in Ljubljana, Slovenia. Once again ENCASIA members will take a leading role in organising these conferences and sharing their experience with the wider aviation safety community.

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According to the Air Safety Network, 2016 was the second safest year on record for aviation. A list of fatal accidents involving airliners is at Appendix 1. High profile events include the Airbus EC225 LP Super Puma helicopter, which crashed near Bergen in April and the EgyptAir Flight 804, which crashed in the Mediterranean on route from Paris to Cairo in May. ENCASIA Member States are involved in both safety investigations. The BEA (France) also published their final report into the Germanwings Airbus A320 event that occurred in France in March 2015. The Germanwings and Super Puma investigations are good examples of the cooperation and mutual support between European Safety Investigation Authorities. Nevertheless, ENCASIA continues to work on sharing best practice and in identifying ways to strengthen the mutual support across Europe.

After serving two terms as Chairman, I will stand-down in early 2017 when my current term in office comes to an end. I am pleased to leave the organisation in such a strong position and I am confident that my successor will continue to develop the activities of the Network and further strengthen the strong ties that have developed across the European safety investigation community. I would like to thank Mr Keith Conradi, the former head of the AAIB (UK), who held the position of Deputy Chairman during my tenure. In August 2016, Keith left the AAIB and stood down as Deputy Chairman of ENCASIA in order to use his experience in safety investigation to establish the new Healthcare Safety Investigation Branch in the UK. I am confident that the transfer of the principles of an independent safety investigation and 'Just Culture' developed in the aviation community will have a positive impact on patient safety.

We can all be proud of ENCASIA's many initiatives and achievements, a number of which can be found on the ENCASIA website. However, one of the most important successes has been the informal connections and friendly relations that have evolved between our members. This informal network has greatly facilitated the sharing of safety information and the mutual support in undertaking complex safety investigations.

I thank everyone for their support and wish ENCASIA great success.

Ulf KRAMERENCASIA

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

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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 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.

This 2016 report is the sixth ENCASIA annual report related to the implementation of its work programme. The report will be provided to the European Parliament and European Council, and will be made publically available on the Commission's webpages at:

http://ec.europa.eu/transport/modes/air/safety/accident_investigation/authorities_en.htm

1) ENCASIA's organisation

1.1) Change of Key Positions

Deputy Chairman

The Chairman and Deputy Chairman of ENCASIA are elected by the Members for a period of three years, with both positions requiring re-election in early 2017. However, the Deputy Chairman, Mr Conradi (UK), retired from ENCASIA in August 2016 and it was agreed at the plenary meeting held on 26 and 27 September 2016 to leave this position vacant until the elections for the new Chairman and Deputy Chairman had taken place in the New Year.

ENCASIA Secretary

In 2011, it was originally envisaged that there would be two secretaries representing the SIAs and the EC. However, both roles were combined and carried out by Mr Ferrante, who was seconded from the BEA to the EC between January 2012 and July 2016. After this secondment ended, it was decided to revert to the original approach and Mr McDermid (UK AAIB) was appointed as the SIA-Sec and Ms Barbero (DG MOVE) as the EC-Sec. The responsibilities of both posts were formalised by a document titled '*Working Arrangements*' signed in July 2016 by Mr Kramer (Chairman), Mr Cornelis (DG Move) and Mr Conradi (UK AAIB). The intention is that the SIA-Sec and EC-Sec would jointly ensure coordination of ENCASIA activities, including matters relating to the interpretation of rules, in order to provide the best support to ENCASIA, its Chairman, and Working Groups.

1.2) ENCASIA's legal identity

ENCASIA's legal identity was established in September 2012 under Belgium Law and is represented by a non-profit organization ASBL (Association Sans But Lucratif). However, membership of ENCASIA-ASBL is based on named individuals rather than a named organisation. Changing the identity to an International ASBL would allow each SIA, as an organisation, to be a member in its own right. This change would better reflect the objectives of ENCASIA and the financial manner in which it operates. Preliminary work is underway to establish the costs and benefits in changing the legal identity of ENCASIA.

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1.3) Commission's grants

Table 1 summarizes the status of the Commission grants, which are related to the ENCASIA work programme.

Year	Name	Grant Actions	EC grant	Co-financing rate	Status
2012	ENCASIA 1	Two training sessions carried out in the UK and FR during 2013.	€98,630	95% (EC) 5% (UK and FR)	Closed 2014
2013	ENCASIA 2	Training for peer reviews (UK) and mutual assistance (DE) in 2014. Peer review of four SIA in 2014.	€99,932	100% (EC)	Closed 2015
2014	ENCASIA 3	Training for peer reviews (PT) in 2015. Peer review of six SIA in 2015.	€79,947	95% (EC) 5% (ENCASIA)	Closed 2016
2015	ENCASIA 4 & 5	Training for peer reviews (AU) in 2016. Peer review of six SIA in 2016.	€159,942	95% (EC) 5% (ENCASIA)	50% of grant received and actions completed for 2016.
2016		Training on mutual support and preparation for peer reviews (CZ) in 2017. Peer review of six SIA in 2017.			Request submitted in January 2017 for 2 nd advanced payment of grant

Table 1. Status of the grants from the Commission

1.4) Outreach activities

During 2016 representatives from ENCASIA working groups provided feedback to the international community on a variety of topics. For example, at the International Society of Air Safety Investigators (ISASI) conference held in Iceland in October 2017, ENCASIA led the discussions on peer reviews and family assistance during a one day workshop titled '*Extending the Networks*'. This workshop covered the wide variety of networks that play a role in safety investigations.

The ENCASIA peer review programme also generated interest from a number of external organisations. ENCASIA was invited to conduct a peer review of the Israeli SIA and a representative from FYROM and rail investigators from Norway and the UK

attended the peer review training. ENCASIA has also assisted the European Rail National Investigation Body Network (NIB Network) in developing their peer review process and provided advice and documentation to the Australian Transport Safety Board (Australia). In addition, discussions have taken place with ICAO as to how the peer review process might form part of the ICAO Continuous Monitoring Programme.

ENCASIA has also advised ICAO on the use of SRIS for safety recommendations of a global concern and has had informal discussions with a number of non-Member States on the use of SRIS.

2) Mutual Support

One of the main remits of ENCASIA is the mutual support of Member States in undertaking safety investigations. The Norwegian SIA (NAIG) provided the following example of mutual support and cooperation between European SIAs and regulatory authorities on a high profile safety investigation.

The accident occurred on the 29 April 2016 and involved an Airbus EC 225LP Super Puma helicopter operating in the North Sea in support of the oil and gas industry. The investigation was complex and early findings of the investigation lead to an EASA decision to ground EC 225LP and AS 332L2 helicopters. EASA subsequently defined additional maintenance inspections, which allowed a partial lifting of the ground. The CAAs in Norway and the UK decided to retain the restriction prohibiting all commercial flying of these types by Norwegian and UK operators.

Following the accident, the AIBN immediately took the lead in investigating the cause and formed an investigation team that included representatives from the following States:

Norway

Norway was the State of Occurrence and Operator; the majority of the fatalities were Norwegian. The NAIB was the lead investigation authority and was supported by advisors from the Operator, RNoAF laboratories, Norwegian CAA, UK CAA and EASA.

France

France was the State of Design and Manufacture of the helicopter. The BEA appointed an Accredited Representative who was supported by advisors from Airbus Helicopters, Safran (Turbomeca), and an independent expert in gear and bearing failures. The memory card from the HUMS Unit was downloaded by the BEA, who also participated in the examination of other structural and mechanical components.

Germany

Germany was the State of Manufacturer for the bearings that failed in the gearbox. The BFU appointed an Accredited Representative who was supported by advisers from the gear and bearing manufacturer.

UK

The UK (AAIB) had experience of a similar gearbox component mode of failure on an AS 332 L2 helicopter in 2009, and supported the material examination of components from the failed gearbox at QinetiQ in the UK. The AAIB appointed an Accredited Representative who was supported by advisers from the UK CAA and QinetiQ, who was contracted by AIBN. The Combined Cockpit Voice and Flight Data Recorder was downloaded at the AAIB facilities.

3) ENCASIA's work programme

The 2016 ENCASIA annual work programme is at Appendix 2 and covers the activity of the six active working groups and the coordination of ENCASIA training activities. The progress of each of the work streams is summarised in the following Working Group (WG) reports.

3.1) Working Group 1: Network Communication and Internet Presence

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 website is hosted by the EC and can be accessed at: <http://ec.europa.eu/transport/modes/air/encasia> or <http://www.encasia.eu>.

During 2016, WG1 continued to advise the EC on updating the public pages of the ENCASIA website and the development of the restricted area, which uses an application called Drupal. Access to the restricted area (Drupal) is limited to ENCASIA members and will serve as a repository for ENCASIA documents, images, and videos.

As a result of testing to assess the usability of the website, the restricted area (Drupal) was restructured to make it easier for members to capture and access guidance material and information on best / good practice. A training corner was also added where tutorial videos, such as how to use SRIS, can be shared with members.

Work is also being carried out to improve the security of the restricted area (Drupal) by issuing Member SIA with a single 'log-in' identity and delegating the authority to allow access from individuals within their SIA.

3.2) Working Group 2: Inventory of best practices of investigation in Europe

WG2 ran an investigation safety practices workshop on the 27 April 2016, which resulted in the production of a draft guidance paper, which would be included in the

Health & Safety section of the ENCASIA document titled '*Safety Investigation Practices*'. This document also included previously collected information on the minimum standards of Health & Safety on-site. During 2017, WG2 intended to complete the guidance on drafting a safety investigation '*final report*' and planned to hold a meeting to discuss this task in the second half of the year.

WG2 had worked with DG MOVE in restructuring Drupal so that it would form the depository of best practice and had upload documents on best practice onto the site. In addition, a comprehensive briefing on a number of '*best practices*' was presented to ENCASIA members during the peer review training held in Vienna in September 2016.

Consideration had been given to WG2 producing an ENCASIA document on the management and organisation of a major civil aircraft accident safety investigation. Such a document would need to capture the results from the peer reviews and the outcome of the work undertaken by WG3 on mutual assistance. This proposal would be discussed at the plenary meeting in February 2017.

3.3) Working Group 3: Procedures for asking and providing help

Immediately following the ENCASIA plenary meeting in September 2016, the Chairman of WG3 led a table top exercise and group discussions to explore how Member States might best assist each other in conducting safety investigations. The following areas were covered:

- Identifying national resources.
- MoUs between States.
- Budgeting and allocation of costs.
- Investigation management.
- Composition of investigation teams.
- Coaching and technical assistance.

The workshop concluded that some small SIA face significant challenges in investigating a major civil aircraft accident and would have to either delegate the investigation to, or be heavily reliant on the support of another State.

Support from other States could take the form of coaching where an experienced investigator shadows the Investigator in Charge during, at least, the early stages of the investigation. Other support could include the downloading of electronic data and technical assistance, both on and off-site, such as the examination and testing of components.

Member States indicated a willingness to assist each other providing their resources were available and the extent of their involvement was made clear at the onset. The issue of finance was discussed and in principal it was accepted that supporting States could provide manpower at no cost, but the State of Occurrence would be expected to cover other costs such as accommodation and technical support.

The workshop concluded that SIAs should include in their advanced planning arrangements details of the assistance that they would require in order to investigate a major civil aircraft accident. Prior arrangements with other States would allow joint training and procedures to be developed before they are needed.

The next stage in the development of ENCASIA procedures for mutual assistances would be discussed at the plenary meeting to be held in February 2017.

3.4) Working Group 4: Training steering committee

The training steering committee assisted the other working groups with the investigator training, which was held in Vienna, Austria, during the week of 5 September 2016. The training covered peer reviews, the use of SRIS and best practice. Further details are given in the working group reports.

3.5) Working Group 5: Peer Reviews

Change in membership

In September 2016 the Chairmanship of WG5 moved from the UK to Germany. At the same time, the representative from Netherlands stood down.

Overview

Peer Reviews were carried out during 2016 in the SIAs of the six following Member States: Czech Republic, Greece, Italy, Lithuania, Netherlands, and Slovakia. In addition, at the request of the Head of the Israeli SIA, ENCASIA carried out a peer review of Israel during February 2016. Sixteen member States and two external States, Israel and Singapore, have now been peer reviewed

WG5 also assisted the European Rail National Investigation Body Network (NIB Network) in developing their own peer review program. This assistance consisted of a presentation given to the NIB plenary meeting, held on 1 March 2016, on how to develop and operate a peer review process and by sharing the ENCASIA Peer Review Handbook and Questionnaire. Representatives of the ATSB (Australia) have also been briefed on the peer review process and provided with copies of the ENCASIA peer review documentation.

Discussions have continued with ICAO to determine how the ENCASIA peer review might form part of the ICAO Continuous Monitoring Programme for Member States.

Training

The peer review training took place in Vienna, Austria, during the week of 5 September 2016 when a total of 26 investigators including two representatives from the European Rail NIBs and a safety investigator from FYROM attended. A total of 58 representatives from 25 Member States, the EC, Israel, and FYROM have undergone the peer review training.

While the initial aim of the peer review training was to prepare investigators to undertake a peer review and meet investigators from other States, the training is also used by smaller SIAs to provide their new investigators with an overview of the investigation process. This use of the peer review training is helping to ensure a common approach to accident investigation across Europe and improve the capability to handle a major investigation anywhere in Europe.

Findings

The findings from the peer reviews undertaken during 2016 reflected the findings from previous years, in that smaller SIA's generally do not have the necessary resources and experience to conduct, without assistance, an investigation into a major civilian aircraft accident. With such accidents relatively rare, larger SIAs also experience difficulty in ensuring that new investigators gain the necessary experience. In summary, the results of the peer review program have reinforced the view that it would be advantageous for smaller SIA to make advanced arrangements with larger SIA to not only provide assistance, but to enable their investigators to act as observers on major investigations.

3.6) Working Group 6: Safety Recommendations

The Chair of WG6, Edith Irgens from Norway, passed away in September 2016 and the Chair moved to the UK. Other changes included the representative from Poland leaving and representatives from Hungary and Slovakia joining the working group. At the end of 2016, WG6 consists of representatives from France, Hungary, Italy, Ireland, Romania, Slovenia, Sweden, and the United Kingdom. In addition, the working group was assisted by representatives from EASA, EC-JRC, and DG-MOVE.

During 2016, WG6 continued to develop the European Safety Recommendation Information System (SRIS) and the European Central Repository (ECR) database. Regulation (EU) No 996/2010 (Article 18) required Member States to record in ECR all Safety Recommendations issued in accordance with Article 17(1) and (2).

In June 2016, the EC hosted a meeting to discuss the future use of SRIS by authorities such as EASA and the National Aviation Authorities (NAA). The main discussion point was whether to allow NAAs to place responses directly on SRIS, which would then be assessed by SIAs for adequacy under Article 18. Following the meeting, EASA, with EC-JRC, started work on a pilot project to determine the effectiveness of this proposal.

Group meetings were held in June and December 2016 and the following papers were produced by WG6 and presented at the September 2016 plenary meeting:

- Guidance on who to address recommendations to in relation to EU Regulation or Directives;
- Guidance on response assessment;
- Guidance on preparing response text for entry onto public SRIS.

The Public side of SRIS, which came about as a result of the Commission Decision, is now available at:

http://eccairsportal.jrc.ec.europa.eu/index.php?id=114&no_cache=1

Work continues to explore amending the Commission Decision to expand Public SRIS with the inclusion of responses and response assessments. To assist with this possible expansion of SRIS, guidance material has been produced by WG6.

WG6 also contributed to the peer review training held in Austria by running a tutorial on the use of SRIS. An amended handbook on the use of SRIS had been produced and during 2017 WG6 intend to produce additional training material that would include videos focussed on specific areas of the system.

The quality of information entered into SRIS has an impact on the analysis of the safety recommendations, which is a requirement placed on ENCASIA by Regulation (EU) No 996/2010 (Article 7.3(g)). To assist SIAs in using SRIS, and to ensure the quality of the entries, each member of WG6 will act as a mentor for a number of Member States.

3.7) Working Group 7: Assistance to Air Accident Victims and their relatives

The 2016 ENCASIA work programme included a task to:

‘Prepare a practical guide in the form of a manual or leaflet for victims and their relatives in order to facilitate their understanding of the role and the different phases of a safety investigation, as well as its relationship to the other entities involved in dealing with the accident.’

A subgroup was initially formed to address the task, which at the ENCASIA plenary meeting held in September 2016 became WG7, chaired by France with members from Germany, Spain, the Netherlands, and the United Kingdom. WG7 is supported by the EC (DG MOVE) and the Spanish OAV (Oficina de Asistencia a Víctimas de accidentes aéreos) who are a permanent observer advising the Spanish SIA (CIAIAC).

WG7 developed two documents: a leaflet and a memo.

Leaflet. The Leaflet is a practical guide for victims and their relatives on the conduct of a safety investigation into identifying the cause of a commercial air transport accident. It describes the main milestones of an investigation and describes the role of a SIA and the interactions SIA may have with victims and their relatives.

Memo. The Memo has been prepared as a guide for safety investigators to help them interact with air accident victims and their relatives during the different phases of the investigation.

The Leaflet and the Memo were developed using the collective experience of SIAs and feedback from the following events:

- The ISASI tutorial/workshop on ‘*The social dimension of a safety investigation*’ held in Augsburg (Germany) on 24 August 2015.
- The ECAC ACC workshop on ‘*Social Communication Associated with the Air Accident Investigation Process*’ held in The Hague (Netherlands) on 10 May 2016.
- The ECAC ACC workshop on “*Assistance to Victims of Air Accidents and their Families*” held in Malaga (Spain) on 9-10 June 2016.

The Leaflet, when complete, will be publically available on the ENCASIA website in all EU languages. In addition, the website will contain details of victim association (support) websites. Additionally, both the Leaflet and Memo will be regularly updated in order to capture the lessons learned by ENCASIA members when dealing with victims and their relatives.

4) Evaluation of Regulation (EU) No 996/2010

Article 24 of Regulation (EU) No 996/2010 states ‘*this regulation should be reviewed no later than the 3 December 2014*’. In 2014 DG MOVE organised a consultation of stakeholders and in 2015 presented the draft report on ‘*The implementation of Regulation (EU) No 996/2010*’ as a Commission Staff Working Document (SWD), which the Commission published on 27 April 2016. The document can be found at the following link:

[https://ec.europa.eu/transport/sites/transport/files/modes/air/safety/accident_investigation/doc/swd\(2016\)151-part-1-of-2.pdf](https://ec.europa.eu/transport/sites/transport/files/modes/air/safety/accident_investigation/doc/swd(2016)151-part-1-of-2.pdf)

In the conclusion to the SWD the Commission stated its intention to carry out an ‘*evaluation during 2016 / 2017 whether or not there is a need for the revision of the existing regulatory framework or for any other additional action*’.

In 2016, DG MOVE started preparatory work for the evaluation, which would conform to the Commission’s ‘*Better Regulation Guidelines*’ taking into account effectiveness, efficiency, coherence, relevance and the EU added value of the intervention. The evaluation would assess the current accident investigation capability within the EU, identify possible obstacles to SIAs carrying out their tasks and make recommendations to overcome these deficiencies.

DG MOVE awarded a six-month contract to an external consultant on 31 December 2016 who would undertake the evaluation under the control of DG MOVE. A Focus Group, consisting of a wide range of stakeholders, will be formed to assist and advise the consultant and to help interpret the findings, including the results of the earlier public consultation exercise. ENCASIA representatives from the BEA (France) and AAIB (UK) have been nominated as members of the Focus Group.

The stakeholders, such as ENCASIA, CAAs, EASA and judicial authorities, will be invited to a Workshop organised by the EC on June 2017. The outcome of the

discussions from the workshop will be used by the consultant as part of the evaluation exercise.

5) Revision of Regulation (EC) No 216/2008

On 7 December 2015 the Commission presented its Aviation Strategy, which included a proposal to review the Basic Regulation (New Aviation Safety Regulation), (EC) No 216/2008. The review of the Commission proposal by the Council and the European Parliament was conducted in 2016 by the Council Aviation Working Party. This review was undertaken by the successive Dutch and Slovak Presidencies, as well as the TRAN¹ Committee of the European Parliament lead by the rapporteur Mr Marinescu.

On 10 November 2016 the TRAN Committee voted on the Report² prepared by the rapporteur and on 1 December 2016 the Transport, Telecommunications, and Energy Council adopted its General Approach³. The next step in the legislative process, the trialogues⁴ involving the Council and European Parliament with the support of the Commission, would start in February 2017.

The review of the Basic Regulation would have an impact on Regulation (EU) No 996/2010 as it is important that the scope of these two Regulations should remain consistent. In particular, the Commission proposal contains an amendment to Article 5 of Regulation (EU) No 996/2010 to include unmanned aircraft; this amendment had been drafted on the basis of a recommendation from ENCASIA. The General Approach adopted by the Council was that the *'consequences of the accident or serious incident'* should be taken into account in paragraph 3 of Article 5.

A proposed amendment from the European Parliament, related to real-time flight data recording⁵, was that *'all flight data including cockpit voice recordings shall be down loaded to a ground database in real time and that such data should be gathered by EASA.'* Granting direct EASA access to CVR/FDR data is considered by ENCASIA to be incompatible, in principle, with the objectives of confidentiality of CVR / FDR data as defined in Article 14 of Regulation (EU) No 996/ 2010, and with the principle of independence of SIA's defined in Article 4 of the same regulation.

The regulatory process is currently at the dialogue stage, where the Council and European Parliament, together with the Commission, meet to discuss an agreement on the basis of the three documents. These documents are: the Commission proposal;

¹ TRAN is the abbreviation for the Transport and Tourism Committee of the European Parliament (EP)

² [http://www.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2015/0277\(COD\)&l=en](http://www.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2015/0277(COD)&l=en)

³ <http://data.consilium.europa.eu/doc/document/ST-15155-2016-INIT/en/pdf>

⁴ Commission proposals, Parliament's amendments, and the Council's common position are considered in a so-called 'trialogue' meeting with representatives from the three institutions who seek to negotiate an agreement or a compromise.

⁵ Recital 54a and amendment 346

the General Approach adopted by the Council; and the voted amendments from the TRAN committee of the European Parliament.

6) Future of ECR-ECCAIRS

At the plenary meeting held in September 2016, the EC reported that owing to budgetary constraints the current support and development of ECR- ECCAIRS⁶ by DG-JRC might cease, which would have an impact on SRIS. It had been proposed by the ECCAIRS Steering Committee⁷ to transfer the support, development, and data storage of ECR to EASA. Additionally the system could be redeveloped to create a new database using 'cloud' storage. But, such a move would not be compatible with the current systems, thus rendering any tailored system, as used by a number of SIA, based on the current database framework redundant. The EC asked EASA to conduct a feasibility study, which they contracted to an external consultancy. However, the study did not consider the impact on the full ECCAIRS community including Member State SIAs and NAAs. The EC advised ENCASIA that no decision had been taken on the results of the study as the study did not consider the impact on all the users. Given the concerns raised by ENCASIA members, WG6 produced a position paper on the future of ECR-ECCAIRS, which is at Appendix 4.

While each SIA was entitled to be a member on the ECCAIRS Steering Committee, there was no formal link between the ECCAIRS Steering Committee and ENCASIA; this relationship would be discussed at the plenary meeting to be held in February 2017.

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

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

This section provides the results of the analysis conducted by WG6 on the information recorded on the database up to the 31 December 2016.

7.1) SRIS Overview

By the 31 December 2016, 2,414 safety recommendations had been recorded on SRIS, of which 375 had been issued in 2016. See Figure 1, 2 and 3.

⁶ECR-ECCAIRS is an occurrence database required by regulation 376/2014.

⁷ ECCAIRS Steering Committee consists of representatives from the ECCAIRS users, which amongst others includes EC Member States, Canada, EASA, Eurocontrol and the USA.

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Of the 31 European States that had the ability to add their safety recommendations to SRIS, only three States (Malta, Lithuania, and Slovakia) had yet to update SRIS. Malta, after a period without an investigator, appointed a new Chief Inspector in 2016 who advised that Malta had nothing significant to report, but would use SRIS in the future. Lithuania only gained access to SRIS in late 2016 and intended to introduce procedures incorporating ENCASIA 'Best Practice' on issuing and recording safety recommendations.

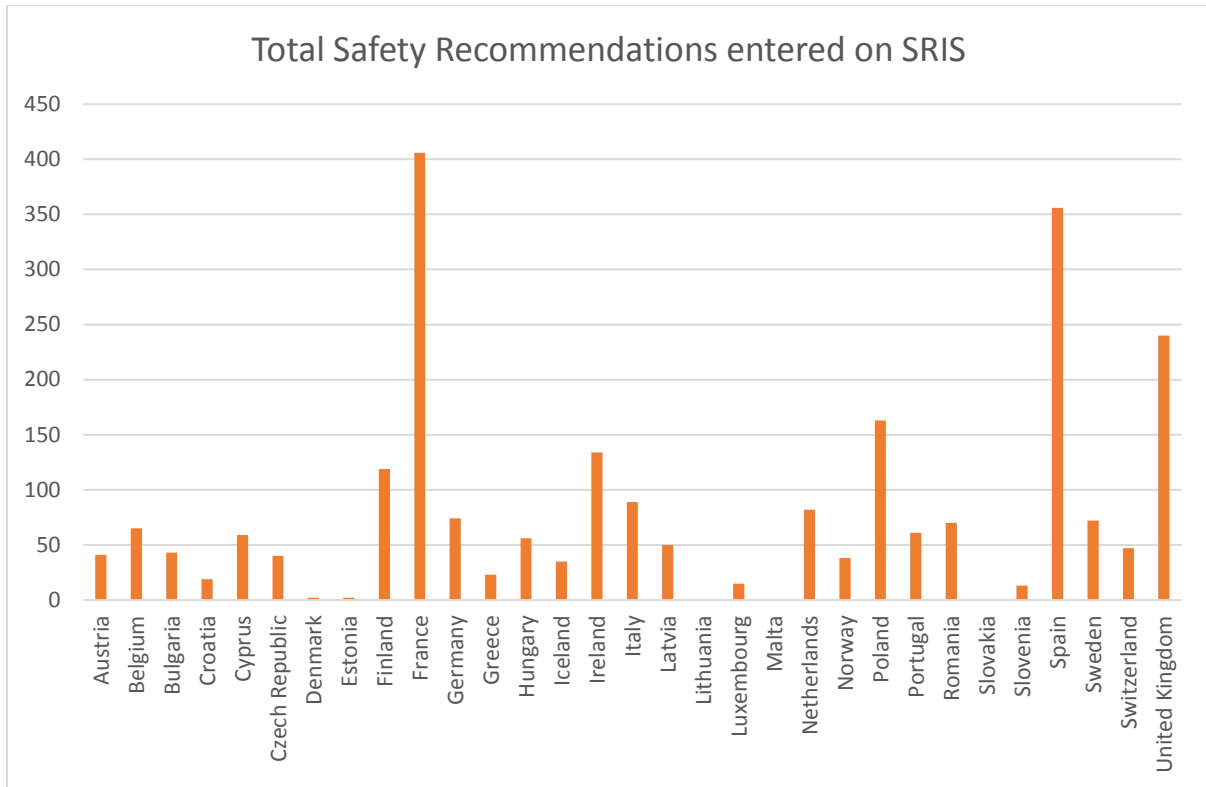


Figure 1. Total number of safety recommendations recorded in SRIS, by State, on 31 December 2016.

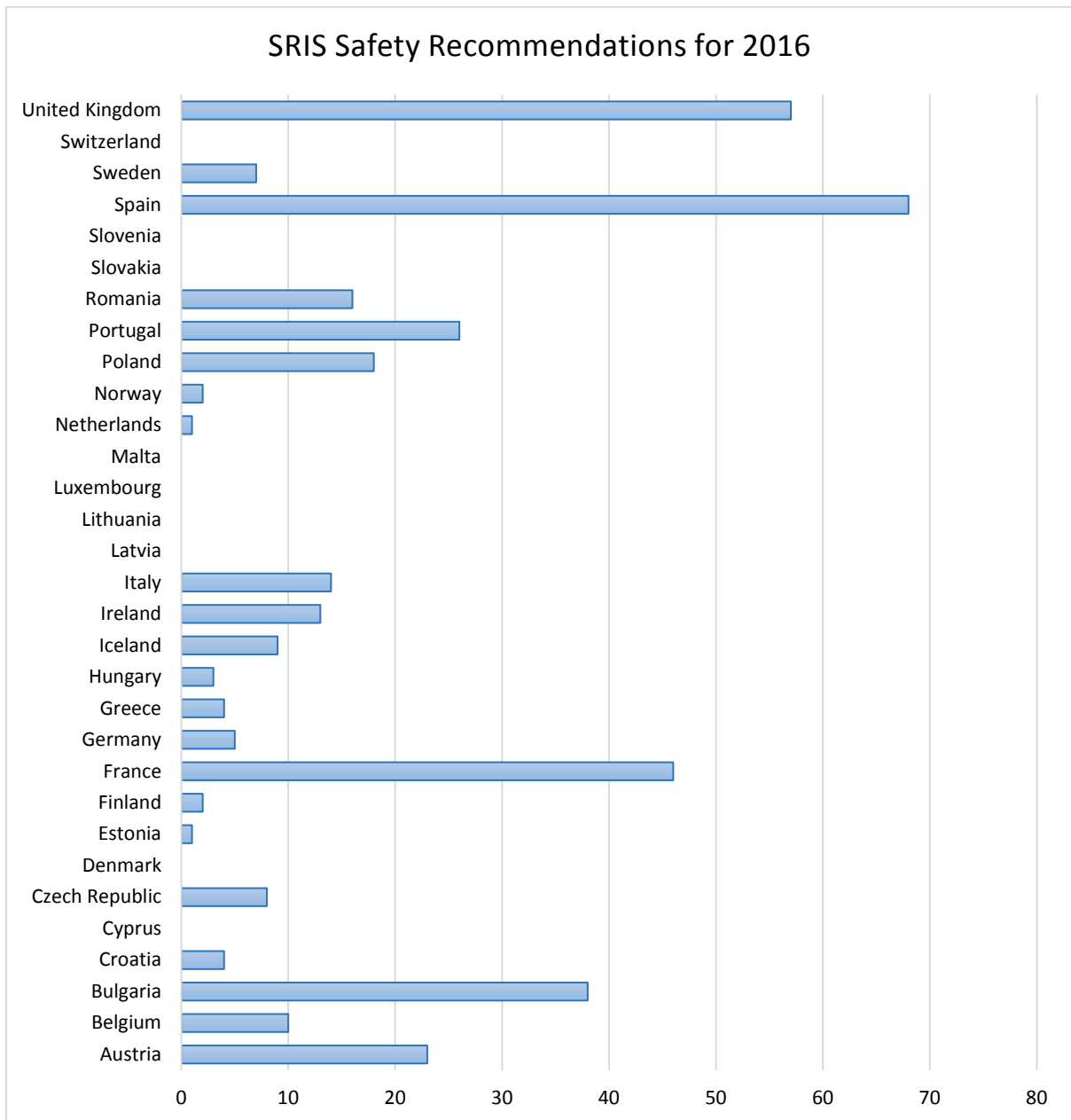


Figure 2. Number of Safety Recommendations recorded on SRIS, by State, during 2016

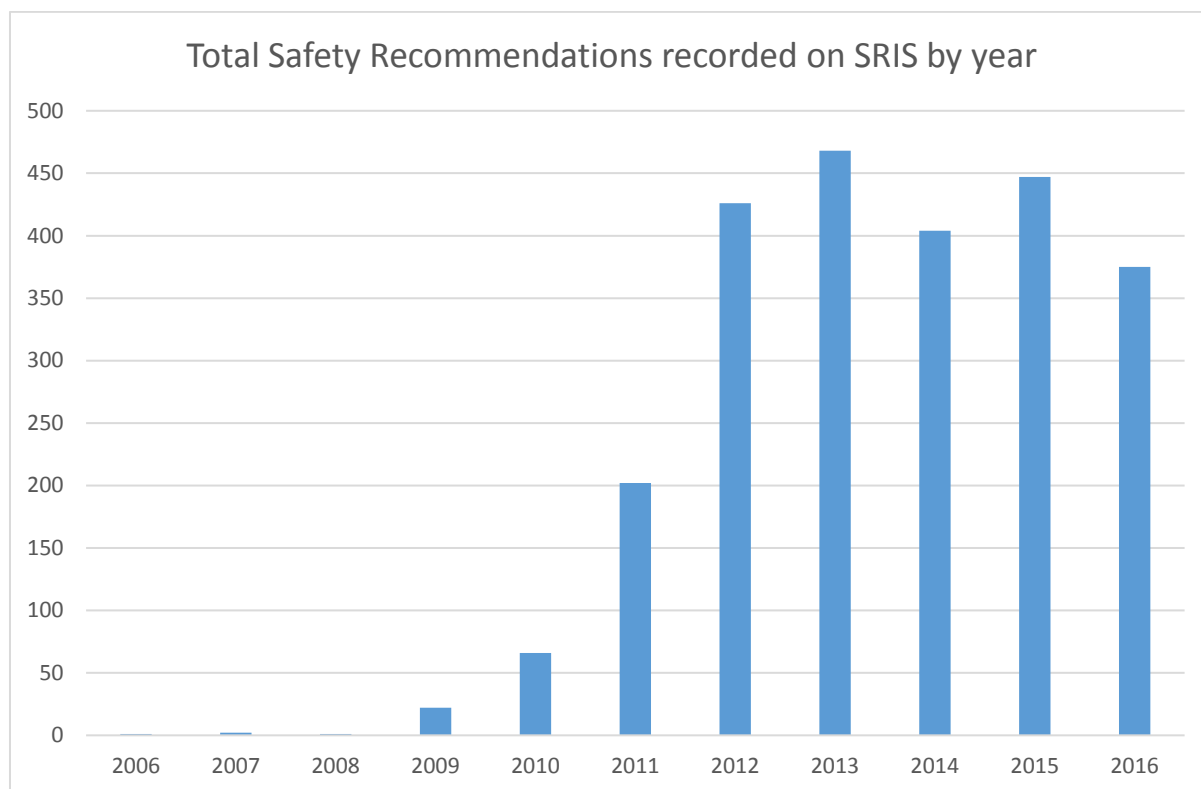


Figure 3. Number of safety recommendations recorded on SRIS by year

7.2) Safety Recommendations of Union Wide Relevance

A Safety Recommendation of Union Wide Relevance (SRUR) is defined as meeting one or more of the following criteria:

- The deficiency underlying the safety recommendation 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 2016, sixty-three Safety Recommendations were made that were classified as SRUR. These related to: flight crew medical, helicopter survivability, aircraft recorders, terrain alerting and warning systems, flight crew training, and other.

Flight Crew medical

Following the accident to an Airbus A320-211, registration D-AIPX, at Alpes-de-Haute-Provence, France, the BEA (France) identified a number of safety issues relating to in-flight incapacitation and the reliance on a second pilot to mitigate these risks. These safety issues relate directly to mental incapacitation of a pilot who decides to put an aircraft in an unsafe condition. The safety recommendations made by the BEA to ICAO, EASA, IATA, and the World Health Organisation recommended:

- Follow-up action regarding the fitness-to-fly for pilots issued with a Class 1 medical certificate who have a history of psychological issues.
- Member States perform routine analysis of in-flight incapacitation and undertake a reevaluation of medical assessment criteria.
- Measures are introduced to mitigate socio-economic risks related to the loss of a pilot's licence due to medical reasons.
- Clarification of the regulations in relation to fitness- to-fly for pilots who are taking anti-depressant medication under medical supervision.
- Introduction of rules to require healthcare providers to inform authorities when an individual's health is likely to impact public safety, while still protecting private data from unnecessary disclosure.
- Promoting the implementation of peer support groups to enable pilots to discuss any personal or mental health issues.

Helicopter survivability

Following the accident to a Eurocopter AS332 L2 helicopter, registration G-WNSB, on approach to Sumburgh Airport in the Shetland Islands, the AAIB (UK) issued several recommendations relating to survivability following the ditching of a helicopter. The safety recommendations covered:

- Operational requirements for commercial helicopters to provide compressed air breathing systems for passengers and crew.
- The requirement for all passengers and crew to have undertaken helicopter underwater escape training at an approved training organisation.
- Several recommendations related to floatation devices.
- The scope of EASA RMT 120 to include the design requirements for liferafts to be amended such that liferafts are readily deployable from a helicopter in any attitude.
- Automatic arming and deployment of floatation devices and the provision of a side floating capability for helicopters after water impact or capsize.
- EASA researching the regulations relating to evacuation and survivability for occupants of commercial helicopters.

Aircraft recorders

The ANSV (Italy) made a safety recommendation that all experimental aircraft that are required to be fitted with recorders following their certification, should

be fitted with such recorders during the experimental phase of their development.

Following an incident to an Airbus A320, the ANSV (Italy) issued a safety recommendation that flight recorders should continue recording following an electrical power failure.

Following the accident to a Eurocopter AS332 L2 helicopter, registration G-WNSB, the AAIB (UK) recommended the installation of cockpit and cabin image recorders on aircraft already equipped with flight and cockpit voice recorders.

The BEA (France) carried out an investigation to a Socata TBM700 aircraft, registration N129AG, which was not fitted with nor required to be fitted with a flight recorder. The cause of the loss of control was not established and the provision of the flight recorder could have aided the investigation. The BEA (France), therefore, recommended that the accident to N129AG be considered as part of EASA RMT 0271 which is looking at regulations on in-flight recording for light aircraft.

Safety recommendations were also made relating to the need to establish and develop guidance material on detection logic for helicopter flight data monitoring programmes.

Terrain Alerting and Warning systems (TAWS)

Following the accident to Eurocopter AS332 L2 helicopter, registration G-WNSB, the AAIB (UK) recommended the installation of Helicopter TAWS on all helicopters used in offshore air transport operations.

Following an accident to a King Air, registration G-BYCP, the AAIB (UK) made a safety recommendation to ICAO to revise Annex 6 to require the installation of TAWS on all turbine aeroplanes with a Maximum Certificated Takeoff Mass of 5,700 kg or less and authorised to carry more than five but not more than nine passengers maximum.

Flight crew training

Flight crew training was highlighted in SRURs in 2015 and 2016. Recommendations in this area related to:

- The development of alternative training programmes for pilots of complex high-performance single-pilot aircraft where a flight simulator is not adequate or available.
- Reinforcing training on such aircraft to include management of asymmetric flight.

- Ensuring instrumented rated pilots receive initial or recurrent training on instrument scan for the aircraft type being operated and for EASA to research scan techniques for glass cockpit aircraft.

Others

Other safety recommendations related to:

- Ensuring that the information on the number of persons on board for non-commercial aircraft operations is recorded on the flight plan.
- The adequacy of the failure mode and effect analysis for critical and complex electronic equipment and systems.
- Ensuring, during the design safety analysis, there is appropriate independence between the control system and monitoring systems to avoid common point failures.
- Effect of deliberate or reckless illumination of aircraft by laser light
- Provision of operational information in flight manuals and the development of FCOM for large rotorcraft used in public transport.
- Safety of EC225 Helicopter gearboxes.
- Use of aircraft in a State where a 'Permit to Fly' has been issued by another State.
- Training and awareness of crews to detect and react to stall warnings in MD80 and similar type aircraft

7.3) Safety Recommendations 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.

During 2015 and the early part of 2016, the ANSV (Italy) registered an increase in safety occurrences within the Italian airspace caused by unmanned aerial vehicles interfering with manned aircraft operations. Most of the events happened in the vicinity of airports where commercial flights were carried out and resulted in an infringement of national rules. As a result of this increase in occurrences, the ANSV (Italy) undertook a Safety Study, which led to five Safety Recommendations. The ANSV (Italy) report on the safety study and details of the Safety Recommendations is at Appendix 4.

7.4) Safety Recommendation Topics

When adding a safety recommendation to SRIS, States are required to allocate at least one safety recommendation topic to identify the areas that the safety recommendation

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addressees. The number of topics that a State can assign to a Safety Recommendation is unlimited.

The topics are split into four main areas: aircraft/equipment/facilities; personnel; procedures/regulations; QMS/SSP/SMS. Under these areas there are two further levels to identify the detailed topics.

At a high level the majority of safety recommendations have at least one topic related to procedures / regulations. At the detail level the majority of these safety recommendations relate to aircraft operations.

At a detail level the second highest topic was related to training and proficiency of personnel. The third highest topic was related to aircraft systems. See Table 4 and 5.

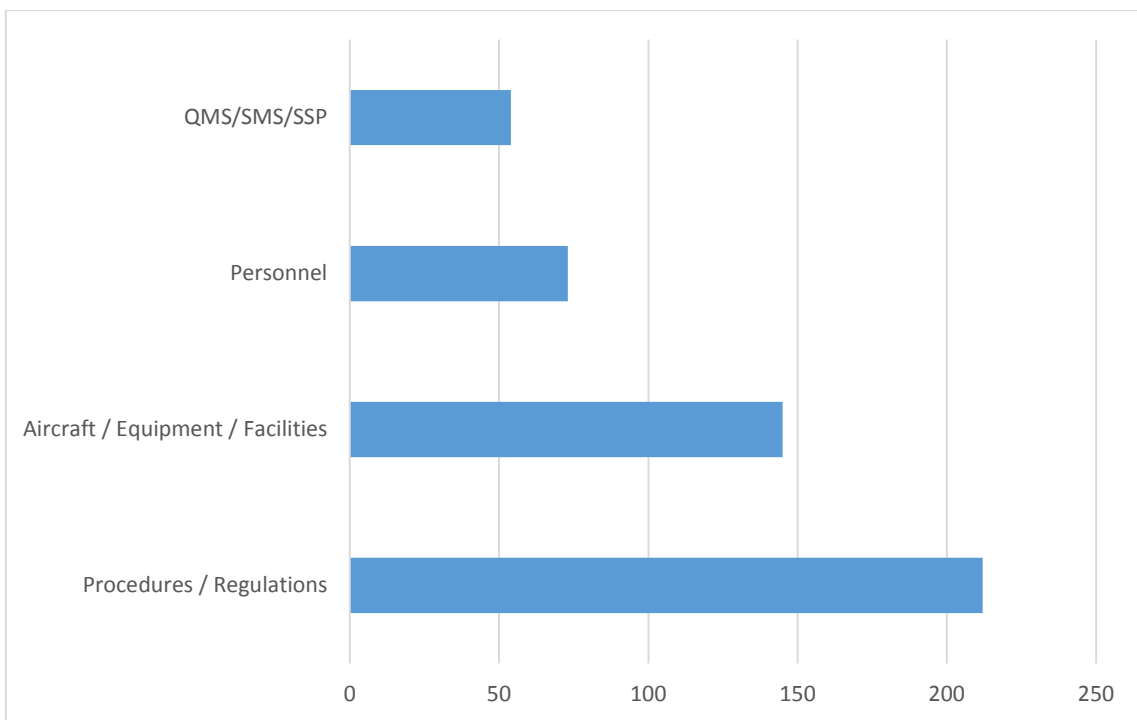


Table 4. Breakdown of safety recommendations by main topics

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Table 5. Detailed breakdown of safety recommendation topics

7.5) Safety Recommendation Addressees

In 2016 the majority of Safety Recommendations were addressed to either Civil Aviation Authorities (ie the NAA for a Member State) or EASA. The remainder were mostly sent to aircraft operators, design organisations, and air navigation providers. National authorities are those addressed to authorities that are not the Civil Aviation Authority or Air Navigation provider, but may be involved in aviation and includes local government bodies. A breakdown of the addresses is at Table 6.

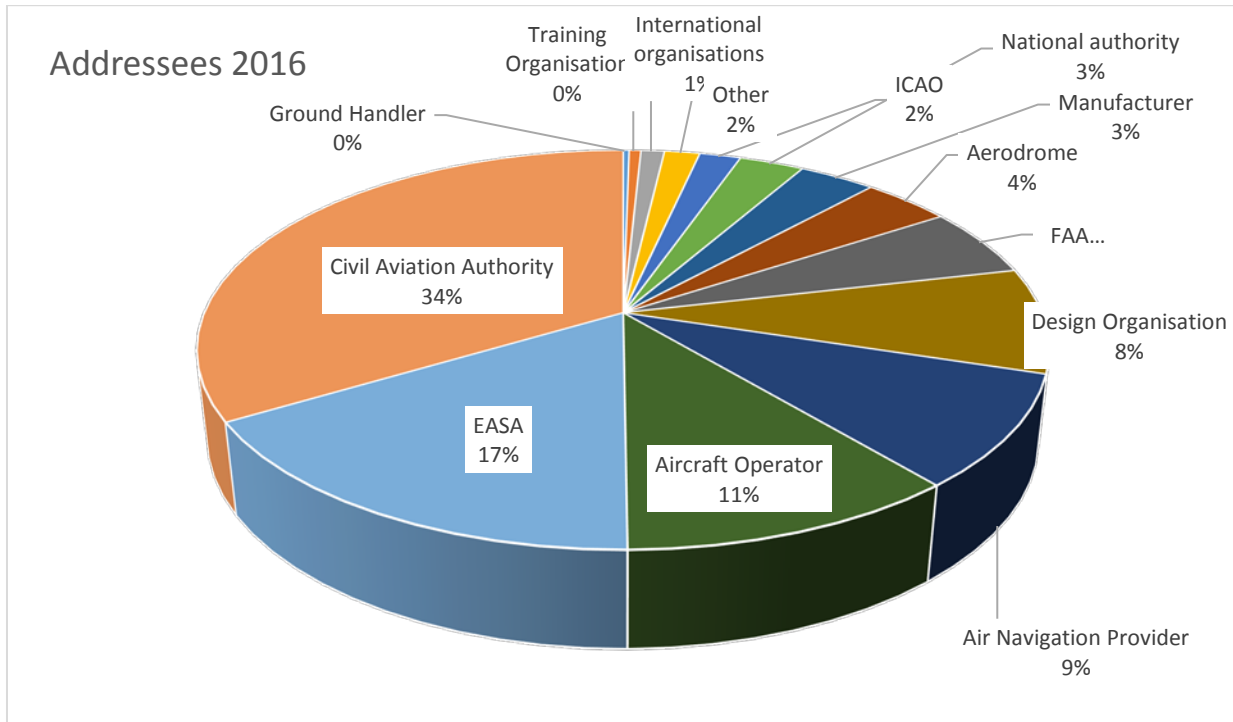


Table 6. Breakdown of Safety Recommendations by addressees

7.6) Safety Recommendation Response assessment by SIA

Regulation (EU) 996/2010 Article 18(1) requires:

'The addressee of a safety recommendation shall acknowledge receipt of the transmittal letter and inform the safety investigation authority which issued the recommendation within 90 days of the receipt of that letter, of the actions taken or under consideration, and where appropriate, of the time necessary for their completion and where no action is taken, the reasons therefor.'

Having received a reply from the Addressee pursuant to Article 18(1), the SIA is required by Regulation (EU) 996/2010 Article 18(2):

'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.'

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To assist with this process, WG6 provided guidance to Member States on the assessment of responses using the classification: Adequate, Partially Adequate, Not Adequate, or Response Awaited.

The majority of safety recommendations issued in 2016 are awaiting a response from the addressee; additionally a number are still in the 60 day assessment period for the SIA to assess the responses. See Table 7.

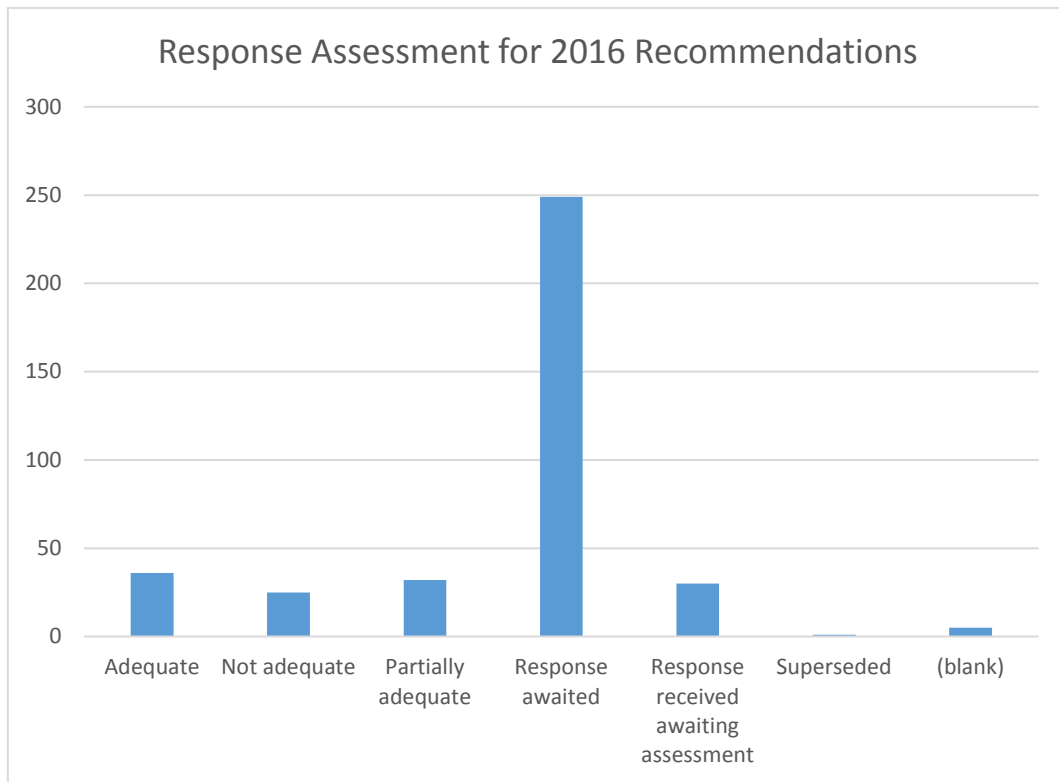


Table 7. Response assesment for 2016

7.7) Update on 2015 Safety Recommendations

The 2015 ENCASIA Annual Report stated that 375 safety recommendations had been entered into SRIS during 2015; however, a review carried out in December 2016 revealed that a total of 452 had been added to SRIS. See Table 8. Among the additional 77 recommendations were several issued by the Netherlands in their report into the loss of a Boeing 777, registration 9M-MRD. These safety recommendations highlight a concern regarding the consequences on the safety of civil aviation operating in airspace over conflict zones and the need for a review of the standards and recommended practices.

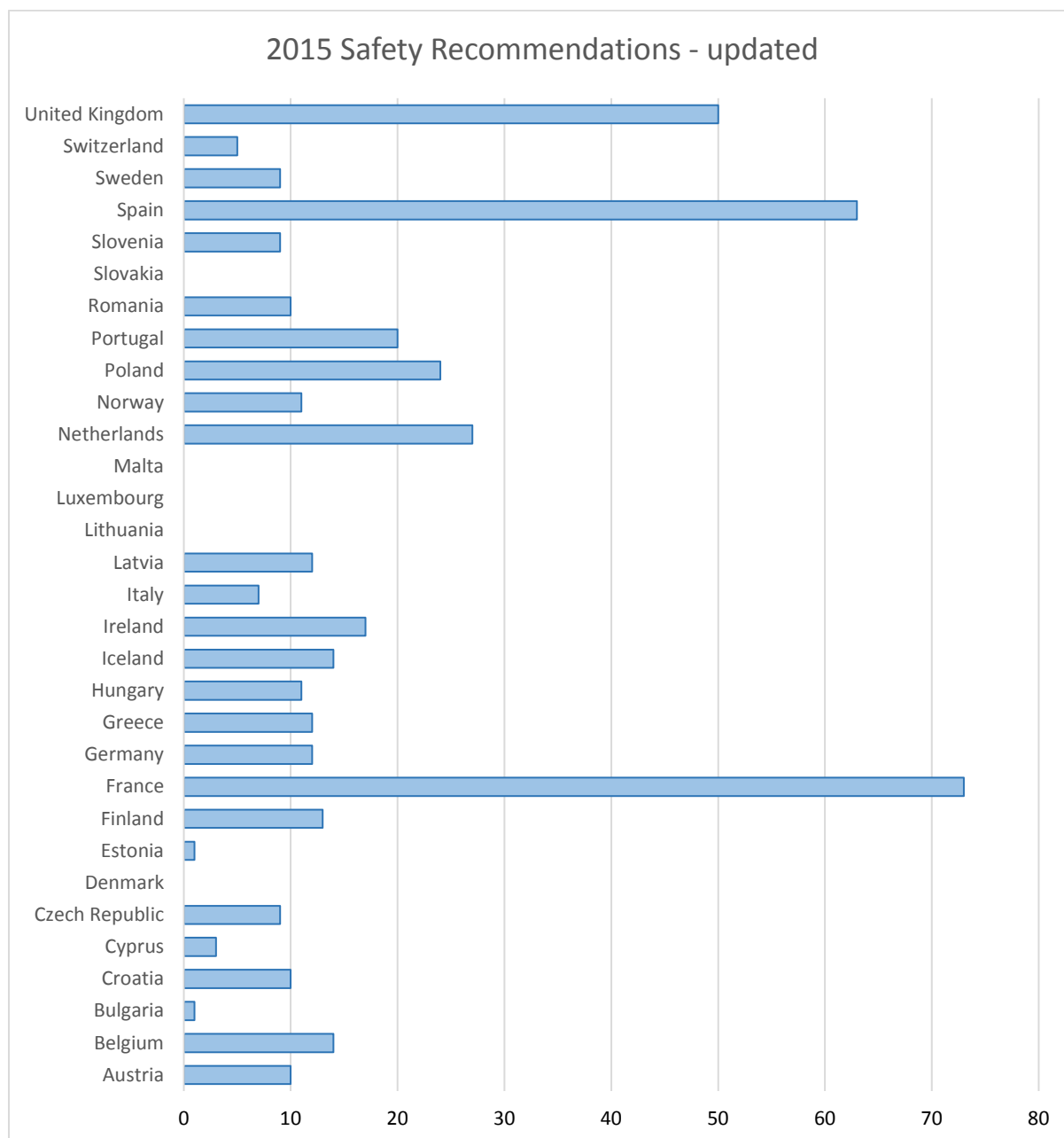


Table 8. Originator of safety recommendations not included in the ENCASIA Annual Report 2015

Of the 452 safety recommendations recorded on SRIS during 2015, a response is still outstanding for 120 of the recommendations. See Table 9.

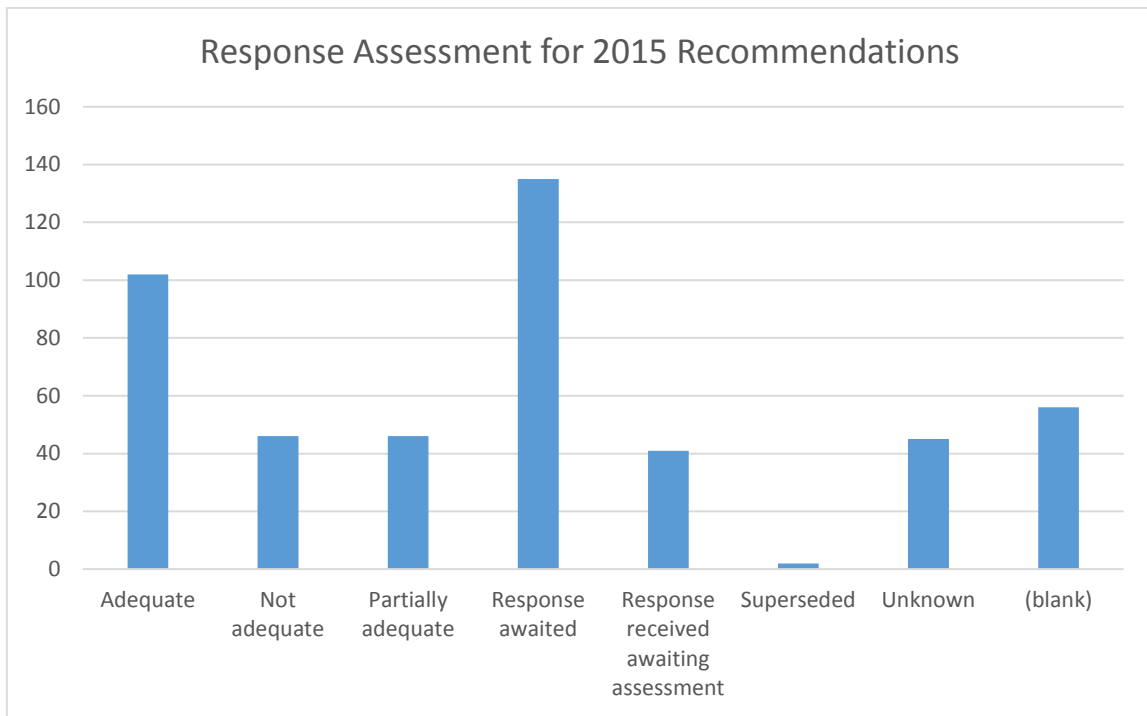


Table 9. Number of responses still outstanding

CONCLUSIONS (THE WAY FORWARD)

While a number of ENCASIA activities, such as the peer review process, have reached a level of maturity there is still more work to be done in developing a system of mutual assistance and training. In order to support and financially manage this activity, ENCASIA relies on ENCASIA ASBL whose membership is limited to named individuals. ENCASIA will look into ways to have a more representative legal body and the status of an International ASBL will be an option to be considered.

A priority is the further development, management, and oversight of the Safety Recommendations and Information System. To this end, ENCASIA will continue to work with Member States to ensure the consistency and accuracy of the information entered into the database. The analysis and sharing of this information will allow common trends and safety issues to be identified, which will help to further improve aviation safety across Europe.

ICAO has sought comments in a recent State Letter on a proposed amendment to the Standard and Recommended Practices regarding airborne image recordings. With increasing mutual support between members, this is an area where ENCASIA would wish to develop a common approach in the use of image recordings in investigations.

The evaluation of Regulation (EU) No 996/2010 has the potential to have a positive impact on safety investigations and the manner in which Member States operate. ENCASIA is fully committed to working with the other stakeholders in supporting this activity.

The revision of Regulation (EC) No 216/2008 will help to address the investigation of unmanned aerial vehicles, which was the focus of a recent safety study undertaken by the ANSV (Italy). One result of this revision is the proposed amendment to Article 5 of Regulation (EU) No 996/2010 to include unmanned aircraft. However, Members have expressed concern at a proposal from the European Parliament, which could give EASA the power to coordinate the gathering of Flight Data and Cockpit Data Recordings. This amendment is considered to be incompatible, in principle, with the objectives of independence of safety investigation and the protection of sensitive safety information defined in Regulation (EU) No 996/2010 and ICAO Annex 13. ENCASIA will continue to monitor this issue and where necessary provide guidance and feedback to ensure the clear separation of roles and the protection of this data which is an essential element of a no-blame, safety investigation.

ENCASIA will continue to extend its networks, work closely with other safety partners, and increase its visibility both inside and outside Europe. It will encourage the sharing of information, the development of common practices and support international seminars. Additionally, ENCASIA will seek to liaise with ICAO when it starts the review

of its manual on Regional Accident and Incident Investigation Organisations (Doc 9946).

APPENDICES

Appendix 1:

List of 2016 Fatal Accidents involving commercial activities

The Aviation Safety Network database⁸ showed that during 2016 there were 19 fatal airliner accidents, resulting in 325 fatalities involving aircraft with a minimum capacity of 14 passengers. See Table 1. It was reported that two of the 25 accident airplanes were operated by airlines on the EU 'black list'.

The accident with the most fatalities occurred on 28 November 2016 when a LaMia Bolivia Avro RJ85 crashed near Medellin, Colombia, killing 71. With regard to the security of air travel, in February 2016 one passenger was killed when a bomb detonated in the cabin of an Airbus A321 that had just departed from Mogadishu, Somalia.

Date	Location	Aircraft type	Air carrier	Number of fatalities
8 January	Near Akkajaure, Sweden	Canadian Regional Jet CRJ-200PF	West Air Sweden	2
2 February	Mogadishu airport, Somalia	Airbus A321-111	Daallo Airline	1
24 February	Near Tirkhe Dungha, Nepal	Viking Air DHC-6 Twin Otter	Tara Air	23
9 March	Near Cox's Bazar Airport, Bangladesh	Antonov 26B	True Aviation	3
19 March	Rostov-On-Don Airport, Russia	Boeing 737-8KN	Flyduabi	62
1 April	Near San Ignacio, Mexico	Cessna 208B Grand Caravan	TADSA	3
18 May	Camp Dwyer Airport, Afghanistan	Antonov 12B	Silk Way Airlines	7
19 May	200km north of Egyptian coast	Airbus A320-232	EgyptAir	66
1 July	Near Rybnyi Uyan, Russia.	Ilyushin 76TD	Russian Ministry of Emergency Situations	10

⁸ <https://news.aviation-safety.net/2016/12/26>

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Date	Location	Aircraft type	Air carrier	Number of fatalities
20 July	Jinshan City, China	Cessna 208B Grand Caravan EX	Joy General Aviation	5
31 August	Near Russian mission Airport, Alaska, USA	Cessna 208B Grand Caravan EX	Raven Connect	3
30 September	Near San Antonio de Prado, Columbia	Cessna 208B Grand Caravan	Llanera de Aviación	4
2 October	Near Togiak, Alaska, USA	Cessna 208B Grand Caravan	Raven Connect	3
24 October	Near Luqa Airport, Malta	Swearingen SA227-AT Expediter	CAE Aviation	5
31 October	Near Ilaga airport, Indonesia	DHC-4T Caribou	Puncak Regency Administration	4
28 November	Near Medellin, Colombia	Avro RJ 85	LaMia	71
5 December	Near Pelham, Georgia, USA	Swearingen SA227-AC Metro III	Key Lime Air	1
7 December	Near Havelian, Pakistan	ATR 42-500	PIA	47
20 December	Near Puetro Carreno Airport, Columbia	Boeing 727-2JOF Adv	Aerosucre Colombia	5

Table 1. Fatal Accidents Involving Airliners

Appendix 2

ENCASIA 2016 Work Programme

The 2016 ENCASIA Annual Work Programme included the following activities:

- Working Group 1. Management of the Working Group on '*Network communication and Internet presence*'. The objective was to develop a user-friendly platform accessible from the ENCASIA website. The members of WG1 are Belgium, Hungary, Portugal, the United Kingdom, and the European Commission. This group is chaired by the Belgian Safety Investigation Authority.
- Working Group 2. Update of the inventory of '*best/good practices*' for Safety Investigation Authorities in Europe. The members of WG2 are France, Germany, Hungary, Italy, Poland, Sweden, and the European Commission. This group is chaired by the French Safety Investigation Authority.
- Working Group 3. Establishment of an inventory of safety investigation resources/capabilities available in EU Member States, and reinforcement of procedures/automated tool for sharing these resources/capabilities and providing assistance between the EU authorities, on the basis of the experience learned from the 2014 & 2015 table top exercises related to the response to a major accident. This will lead to a proposed model of cooperation. The members of WG3 are Croatia, Czech Republic, Finland, France, Germany, Kosovo, Luxemburg, the Netherlands, and the European Commission. This group is chaired by the Finnish Safety Investigation Authority.
- Coordination of training activities. This steering committee on training is coordinated by the Danish and Belgium Safety Investigation Authorities.

Working Group 5. Implementation of the '*Peer Review*' programme to help authorities enhance their investigating capabilities. Members of WG5 are France, Germany, Iceland, Italy, Netherlands, the United Kingdom, and the European Commission. The Chair of the group changed during 2016 from the United Kingdom to the German Safety Investigation Authority.

- Working Group 6. Operation of the safety recommendations database by all authorities with the progressive identification of safety recommendations of Union-wide relevance. Members of WG6 are France, Ireland, Hungary, Italy, Norway, Romania, Slovenia, Sweden, the United Kingdom, and are supported by the European Aviation Safety Agency, and the European Commission. The Chair of this group changed during 2016 from the Norwegian to United Kingdom Safety Investigation Authority.

- Working Group 7. Preparation of a practical guide in the form of a manual or leaflet for victims and their relatives in order to facilitate their understanding of the role and the different phases of a safety investigation, as well as its relationship to the other entities involved in dealing with the accident. This action was initially supported by a sub-group, which then became WG7, composed of France, Germany, the Netherlands, Spain, the United Kingdom, and the European Commission. This group is chaired by the French Safety Investigation Authority.

Appendix 3

ENCASIA Position Paper on the Future of ECCAIRS and SRIS

At the ENCASIA plenary meeting held in Brussels on 26 and 27 September 2016, the European Commission indicated that owing to budgetary constraints the current support and development of ECCAIRS⁹ and SRIS¹⁰ by DG-JRC may cease. As a result, there are proposals to transfer the support, development, and data storage of the European Central Repository to EASA. There are also plans to redevelop the system and create a new database which is based on “cloud” storage and this will not be compatible with the current systems, thus rendering any tailored system based on the current database framework redundant.

ENCASIA’s position on the future of ECCAIRS and SRIS is

- 1) That responsibility for the provision and maintenance of ECCAIRS and SRIS remains with the European Commission.
- 2) For reasons of independence and avoidance of potential for conflicts of interest, ECCAIRS and SRIS should not be transferred to an aviation regulatory body such as EASA.
- 3) Any change to ECCAIRS and SRIS takes on board the needs of SIAs that currently use tailored versions of the system for occurrence, Safety Investigation, and Safety Recommendation management.
- 4) That any data entered on the system from SIAs is stored in a secure and confidential environment to meet the requirements of Article 14 of EU 996/2010 and remains under the control of the European Commission.
- 5) That appropriate resources are allocated to the maintenance and future development of ECCAIRS and SRIS software,
- 6) That decisions on priorities regarding future evolutions of ECCAIRS and SRIS software and associated EU-wide data bases take into account the views of appropriate governing bodies, and that SIA’s are suitably represented.

⁹ ECCAIRS is the European Co-ordination Centre for Accident and Incident Reporting Systems, however in this paper it refers to ECR-ECCAIRS which is an occurrence database required by regulation 376/2014.

¹⁰ SRIS in this paper refers to ECR-SRIS which is the Safety Recommendation database required by regulation EU 996/2010.

1. Introduction

- 1.1. At the ENCASIA plenary meeting held in Brussels on 26 and 27 September 2016, the European Commission indicated that owing to budgetary constraints the current support and development of ECCAIRS and SRIS by DG-JRC may cease. As a result, there are proposals to transfer the support, development, and data storage of the European Central Repository to EASA. There are also plans to redevelop the system and create a new database which is based on “cloud” storage and will not be compatible with the current database framework, thus rendering any tailored system based on the current database framework redundant.
- 1.2. ENCASIA Working Group 6 on Safety Recommendations undertook to provide a position paper to the European Commission on behalf of ENCASIA.

2. Discussion

- 2.1. European Regulation EU 996/2010 Article 18(5) places a requirement on Safety Investigation Authorities (SIAs) to record on the central repository established under Commission Regulation (EC) No 1321/2007 of 12 November 2007 laying down implementing rules for the integration into a central repository of information on civil aviation occurrences exchanged in accordance with Directive 2003/42/EC (1) all safety recommendations issued in accordance with Article 17(1) and (2) as well as the responses thereto. Safety investigation authorities shall similarly record in the central repository all safety recommendations received from third countries. The occurrence database module is referred to as ECR-ECCAIRS and the module for recording safety recommendation is the Safety Recommendation Information System (ECR-SRIS).
- 2.2. In addition, Article 7(3(g)) states that the European Network of Civil Aviation Safety Investigation Authorities shall have 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. To meet this requirement ENCASIA set up Working Group 6 to carry out this function.
- 2.3. Article 18 also requires each Safety Investigation Authority to have procedures to record the responses to the safety recommendations it issued. To achieve this most SIAs use SRIS in conjunction with a local version of ECCAIRS.
- 2.4. ECCAIRS and SRIS is currently developed, supported and maintained by European Commission DG-JRC. ENCASIA Working Group 6 continue to work closely with DG-JRC and have proposed many changes to ensure the system works well for SIAs.

- 2.5. Owing to budgetary constraints and a possible reorganisation the European Commission is considering transferring responsibility for ECCAIRS and SRIS to the European Aviation Safety Agency (EASA) and have also engaged with consultants to create a new version of ECCAIRS with “cloud” storage.
- 2.6. Transferring control of ECCAIRS to EASA could mean the European aviation regulator would now control the occurrence and Safety Recommendation database and the data stored within. This has a potential conflict of interest with regards to data that is stored on the system by individual SIAs, in particular information in covering letters to Safety Recommendations (Article 14 (2c)) transmittal letters, responses and their assessments by SIAs. This could be perceived as not being in the spirit of the SIA being suitably independent of the aviation regulatory body.
- 2.7. Currently any changes to SRIS are made, currently by European Commission DG-JRC, only after discussion with ENCASIA Working Group 6 (of which EASA is a participant). In transferring the system, there is potential for changes to be made to SRIS, without consultation with SIAs, which could mean that ENCASIA are no longer able to carry out their function under Article 7.
- 2.8. Some SIAs use ECCAIRS and SRIS to manage their investigation process and any change to the system that makes this redundant would have a detrimental effect on their ability to carry out their investigative functions and indeed research and analyse the databases.
- 2.9. As SIAs use ECCAIRS and SRIS to store confidential safety information, some of which is protected from being made available or used for purposes other than safety investigation by Article 14 of EU 996/2010, any such changes to system where this data is held in a “cloud” or controlled by an aviation regulator there is potential for breaches of this regulation unless appropriate security and confidential arrangements are made.

3. Position

- 3.1. ENCASIA’s position on the future of ECCAIRS and SRIS is
 - 3.1.1. That responsibility for the provision and maintenance of ECCAIRS and SRIS remains with the European Commission.
 - 3.1.2. For reasons of independence and avoidance of potential for conflicts of interest, ECCAIRS and SRIS should not be transferred to an aviation regulatory body such as EASA.
 - 3.1.3. Any change to ECCAIRS and SRIS takes on board the needs of SIAs that currently use tailored versions of the system for

occurrence, Safety Investigation and Safety Recommendation management.

- 3.1.4. That any data entered on the system from SIAs is stored in a secure and confidential environment to meet the requirements of Article 14 of EU 996/2010 and remains under the control of the European Commission.
- 3.1.5. That appropriate resources are allocated to the maintenance and future development of ECCAIRS and SRIS software,
- 3.1.6. That decisions on priorities regarding future evolutions of ECCAIRS and SRIS software and associated EU-wide data bases take into account the views of appropriate governing bodies, and that SIA's are suitably represented.

Appendix 4

ANSV Safety Study - Interference of Unmanned Aerial Vehicles in the Italian Airspace with Associated Risks for the Safety of the Flight of Manned Aircraft.

During 2015 and early 2016, the ANSV registered an increase in safety occurrences within the Italian airspace in which an Unmanned Aerial Vehicle (UAV) interfered with manned aircraft operations. Most of the events happened in the vicinity of airports where commercial flights were carried out and resulted in an infringement of national rules.

In order to achieve a thoroughly understanding of the problem, the ANSV promoted three workshops that included: the ENAC¹¹, ENAV SpA¹², the Italian Ministry of Transportation, the Italian Air Force, and several national and international associations. ANSV also carried out an exchange of subject related data with other SIAs and identified several common areas of concern. The ANSV findings were presented at the EASA 8th Network of Analysts meeting held in Cologne, on 23 and 24 February 2016. The main areas of concern were:

Inadequate aeronautical culture and indiscriminate sale of unmanned aerial vehicles.

The sale of small UAV through mass retailers, and on-line outlets, has led to equipment being acquired by individuals who lack an aeronautical culture and have no knowledge of aviation legislation and the rules and structure of the airspace. Moreover, the indiscriminate sale of small UAVs and the consequent failure to identify the owners makes it difficult, if not impossible, for the security forces to identify the individuals responsible for the airspace violations. The following actions would help to reduce the number of violations:

- Promote an extensive information campaign, aimed at encouraging the development of an aeronautical culture and, therefore, the correct use of airspace by UAV operators.
- Enforce sanctions against individuals who operate UAVs in violation of existing regulation, especially in the case of squatter operators.
- Introduce technology that automatically prevents the use of UAVs in restricted airspace.

¹¹ ENAC: Ente nazionale per l'aviazione civile, the Italian civil aviation authority.

¹² ENAV SpA: Società nazionale per l'assistenza al volo, the Italian ATS service provider.

- Introduce systems and/or procedures that facilitate the identification of violations carried on by UAVs.

Operation of unmanned aerial vehicles within restricted airspace.

Most UAVs currently operating in Italy are not equipped with geofencing systems that automatically inhibit their use in restricted airspace.

This area of concern results from the different methods in determining the position of UAV and manned aircraft. Indeed, while the small UAV industry uses GNSS (Global Navigation Satellite System) to determine both the horizontal and the vertical position, manned aviation uses the barometric pressure (QNH, QFE, QNE) for defining the altitude, height, and flight level. This different methodology in establishing the vertical position may pose a risk to flight safety.

During the meetings promoted by the ANSV, a need was identified to equip UAVs with a transponder or similar system in order for them to be identified by a manned aircraft's ACAS (Airborne Collision Avoidance System), when operating in the same airspace.

Requirement of designated radio frequency bands.

The need to identify specific frequency bands that can be allocated to commercial operators to allow them to safely operate their UAVs. This would help to prevent interference of the UAV control while performing air operations.

Whilst the EU is developing a regulation for UAVs, this study has led the ANSV to issue the following five Safety Recommendations:

IT.SIA-2016-0001 to Italian Ministry of transportation, ENAC, Aero Club d'Italia. ANSV took positive note of the FAA (Federal Aviation Administration), issued a regulation (Billing Code 4910-13-P), which norms the registration, in a simplified way, of all owners of small unmanned aircraft (with maximum take-off mass between 250 grams and 25 kilograms), regardless of whether it is considered a model aircraft or an aircraft. That regulation requires the registration of the owner instead of the unmanned aerial vehicle. The identification number issued following the above registration must therefore be affixed to all unmanned aerial vehicles belonging to the same owner.

ANSV therefore recommends evaluating the possibility of setting up a system similar to the American one in Italy, which in fact directs for the

registration of all owners (natural or legal persons) of unmanned aerial vehicles (regardless of whether RPA¹³ or model aircraft) with a maximum take-off weight between 250 grams and 25 kilograms. The identification number issued upon registration should allow the immediate identification of the type of use allowed to the aerial vehicle concerned (for recreational purposes or for non-recreational purposes). (Recommendation ANSV-3/SA/1/16)

IT.SIA-2016-0002 to Italian Ministry of transportation, ENAC, Aero Club d'Italia. ANSV recommends evaluating the possibility of promoting an extensive information campaign, aimed at encouraging the development of aeronautical culture and therefore the correct use of airspace by unmanned aerial vehicles operators/owners.

In order to achieve a deeper knowledge of the current regulation, ANSV recommends that when purchased, an adequate documentation is provided to the owner highlighting existing prohibitions and the dangers to the safety of flight by the use of unmanned devices not in compliance with current regulations. (Recommendation ANSV-4/SA/2/16)

IT.SIA-2016-0003 to Italian Ministry of transportation, ENAC, Aero Club d'Italia.

ANSV recommends evaluating the opportunity to raise awareness, as well as the Ministry of internal affair, even the Italian Municipalities (possibly through ANCI, as the main association), so that the Police forces sanction in an effective, fair and prompt way those who operate the unmanned aerial vehicles in violation of existing regulation, especially in case of squatter operators. (Recommendation ANSV-5/SA/3/16)

IT.SIA-2016-0004 to Italian Ministry of transportation, ENAC, Aero Club d'Italia.

ANSV recommends evaluating the opportunity, in coordination with the Ministry of economic development, if responsible, to foresee the installation on unmanned aerial vehicles with a maximum take-off mass between 250 grams and 25 kilograms (regardless of whether RPA or model airplanes), of geofencing systems that automatically restrict their use in unauthorized airspace. (Recommendation ANSV-6/SA/4/16)

IT.SIA-2016-0005 to Italian Ministry of transportation, ENAC, Aero Club d'Italia.

¹³ RPA: Remotely Piloted Aircraft.

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ANSV recommends evaluating the possibility to identify specific frequency bands that should be allocated to both data link flight control and data link payload control for professional RPA traffic. (Recommendation ANSV-7/SA/5/16)

Although the Safety Recommendations were addressed to the Italian authorities, the safety issues identified are of Union wide relevance (SRUR) and of Global concern (SRGC).

It is possible to read the official study and the safety recommendation issued by ANSV at the following web page:

<http://www.ansv.it/cgi-bin/ita/ANSV%20racc.%20%20sic.%20%20interferenze%20mezzi%20aerei%20unmanned.pdf>

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