European Network

of

Civil Aviation

Safety Investigation Authorities

ANNUAL REPORT

2014

FOREWORD

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

As I said it last year, ENCASIA has now reached its cruising speed. I am also grateful to have been re-elected chairman of this network for another mandate of three years.

This report summarizes the fourth year of ENCASIA's activities. Training has remained a priority, as well as the setting up of a peer review programme that aims to support each safety investigation authority. I am also pleased to present the first outputs of the safety recommendation database that has been analysed by ENCASIA. This represents a very important tool for the aviation community in Europe to continue to further improve safety.

The year 2014 has seen a resurrection of high profile accidents in the world where a number of colleagues have been directly or indirectly involved.

The list that is in Appendix contains the two Malaysian airlines accidents as well as the accident over Mali involving a European operator (Swiftair) and the Air Asia Indonesia in the Java Sea of 28 December 2014.

This report mentions safety recommendations that are based on safety studies and on the analysis of a series of investigations. ENCASIA has facilitated the issuance of common safety recommendations from various authorities related to similar occurrences. The Network has continued to grow to find its place in the overall European safety scheme.

In 2015, ENCASIA will focus on consolidating the peer review programme, which will contribute to foster cooperation among its Members with the support of the Union.

Our next step will consist of presenting our various and growing outputs on a website so that ENCASIA will be better known by the European citizens.

I look forward to leading our safety actions in cooperation with our ENCASIA members and with our observers.

Ulf KRAMER

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

OUTLINE

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.

This 2014 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.

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/safety/accident_investigation/authorities_en.htm

1) ENCASIA's organisation

1.1) ENCASIA Elections

On 21 January 2014, the incumbents were re-elected for another three-year mandate, Mr Ulf Kramer, Director of the BFU (Germany), as Chairman and Mr Keith Conradi, Director of the AAIB (UK), as Deputy Chairman.

1.2) ENCASIA's legal personality

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 asbl[1] 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.

In 2014, the only change to note concerned the change of address in order to reflect the head-office move of the safety investigation authority of Belgium.

1.3) ENCASIA's rules of procedure

The Rules of Procedures were slightly amended in 2014 in order to include a new provision which aims at addressing the required level of confidentiality of peer review reports. The following paragraph was added in Article 9:

Paragraph 3 "*Peer Review reports are confidential. Extracts from the reports may be released outside the network subject to the prior permission of the Chairman and the Member State which had been peer reviewed.*"

1.4) Commission's grants

The practical result of having a legal personality has enabled ENCASIA to open a bank account in order to receive grants from the European Commission as foreseen by Article 7(7) of the Regulation (EU) No 996/2010.

In 2014, ENCASIA formally closed the first grant of approximately €100,000 (called ENCASIA-1). It used the funds of a second grant (also of approximately €100,000) subsidized by the European Commission (called ENCASIA-2). This grant supported the "Peer reviews" programme and a training/table top exercise, simulating responses to accidents and also testing the procedures of mutual help. These two actions are described in the ad-hoc paragraphs of this report.

[1] 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

For 2014-2015, the Commission also managed to sponsor the creation of the ENCASIA web pages through a framework contract. This contract (about €20,000) was attributed to the company TIPIK/All Starks with a request for services concerning the creation of a website for ENCASIA hosted on the European Commission's DG MOVE website.

In 2014, ENCASIA also successfully applied for another grant (ENCASIA-3, of approximately € 80,000). This grant will sponsor the expansion of the Peer Review Programme as well as training for European safety investigators (one investigator per Member State).

2) ENCASIA's work programme

The 2014 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"

Financing the ENCASIA website has been challenging. WG1 elected to go ahead with the ENCASIA website integrated in the EU website. Because the Commission services have been rationalizing their websites, the ENCASIA website will finally be hosted on the DG MOVE webpages in a manner that will keep ENCASIA's specificity.

To develop and implement this action, the Commission contracted the company TIPIK/All Starks.

The ENCASIA website will serve for the general public and for the aviation stakeholders who would like to know more about accident/incident investigations in Europe. It will also contain more specialised material on the foreseen restricted pages, which will be reserved to its members.

The next step will consist of the addition of restricted webpages containing guidance material and common procedures, which have been developed by WG2. This later section will mainly be composed of documents with hyperlinks and should be easily updated in a user-friendly manner.

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

During 2014, WG2 continued to work on the inventory of a number of investigation practices. The initial inventory, performed in 2012 and 2013 via a questionnaire sent to all SIAs, was reviewed and used as a basis for drafting a document aimed at grouping the collected practices, identifying areas of variability, and proposing some good practices when deemed useful or necessary. Areas such as incident/serious incident classification, drafting investigation reports, health and safety on the accident site, have been developed. Works from other ENCASIA working groups (mainly Peer Reviews (WG5) and Safety Recommendation (WG6)) are being taken into account.

A first practice for incident/serious incident classification was proposed to ENCASIA in the autumn plenary meeting.

As the first cycle of Peer Reviews took place in October 2014, it is expected that the inventory of good practices will continue to grow thanks to these reviews. WG2 will progressively integrate those practices in its document, making it a global ENCASIA document about investigation practices, complementary to ICAO existing documents.

The aim is to have this documentation easily accessible for safety investigators.

2.3) Working Group 3 (WG3): "Procedures for asking and providing help"

WG3 organised a tabletop exercise/training with emphasis on the procedures for asking and providing help to be tested. The table-top exercise also addressed some early lessons learned from the MH370 case (from a communication viewpoint) and put some emphasis on family assistance.

This training took place in the premises of the German safety investigation authority (BFU) on 1-3 December 2014. The main training objectives were to:

- Prepare SIAs to respond to a major accident, wherever it occurs in the Union;
- Provide guidance in how to deal with the immediate environment of SIAs, in particular the aspects on media, politics and families;
- Test and further develop ENCASIA procedures on mutual assistance.

In addition to a number of presentations, this training session enabled to conduct two main exercises. The central part of the training was the simulation of an accident based on the 2002 Uberlingen Mid-air collision. The scenario was modified so that it implied a mid-air over the North Sea between Denmark and Germany (under German ATC but in international waters). The registration(s) of the aircraft involved was the one(s) of the trainee's MS so that each SIA had to respond and explain how they would plan and conduct an investigation under their responsibility.

The first exercise covered how the Investigator-In-Charge (IIC) would organise his investigation, allocate tasks and possibly seek support from other SIAs.

The second exercise simulated the first 30 days of an investigation and enabled common work in groups. It is important to note that the BFU provided access to its hangar where participants could examine the actual wreckage of the two aircraft involved in the mid-air collision. The flight recorders' laboratory was also made available so that the participants could obtain more data and at the same time familiarize themselves with the BFU capabilities.

Note: The previous ENCASIA training sessions took place in the United Kingdom and in France. In both cases, visits of the technical capabilities of the AAIB-UK and the BEA were organized. This approach has contributed to update the guidance material on investigation resources available in the Union.

The appointed IIC of each sub-group had to organise the activities based on the scenario and the given tasks or inputs. Each participant had an active role during the training. Five teams produced solutions to address the challenges posed by the simulated accident. Each group then presented an aspect of their investigation while the written documents were sent to WG3 for further analysis. In a subsequent meeting, WG3 should refine some procedures on the basis of the material produced and develop guidance material on a number of ways to structure an investigation team.

The scenario, based on a real case, was helpful to check how SIAs cooperate with each other and how they cope with various requests (political, media, families, which have increased in the recent years).

The training also enabled to cover the increased interest of political leaders in major aircraft accident investigation, in particular with regard to assistance to victims and their relatives. Both the Netherlands and France shared privileged information on their respective responses to the MH17 and AH5017 accidents.

A couple of presentations on psychological aspects were part of the programme in order to better understand the risk factors for complications of grief in case of sudden death. Indeed, grief is a mental process that takes time and can be especially painful in case of violent deaths as well as in case of absence of bodies (which is often the case after a high energy crash).

Finally, Iceland presented its activities at national level as well as its national emergency plan and how practical exercises are conducted on a regular basis. This should encourage other SIAs to emulate their approach and help them strengthen their investigation capabilities thanks to national and international cooperation.

2.4) Working Group 4 (WG4): "Training of investigators"

WG4 worked with WG3 on the preparation of the table top exercise with the support of the training steering committee. WG4 and the training steering committee were also involved in adjusting logistics for the training of the Peer Review Panels. In both cases they liaised with the sub-contractor (B&S Europe) for these logistical aspects.

In 2014, two training events took place:

- In Farnborough, United Kingdom, in the AAIB premises 15-17 September 2014
- In Braunschweig, Germany, in the BFU premises on 1-3 December 2014

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

In 2014, the peer reviews involved four Members States: Croatia, France, Slovenia and the United Kingdom.

Manpower: Two panels, each consisting of three investigators, were formed with individuals from large and small, single and multi-modal SIA. One of the investigators was subsequently unable to continue with the process and it was not possible in the short time available to find a suitable replacement; therefore, it was necessary to continue the peer review with one panel consisting of two investigators. This eventuality had been considered during the planning process and was one of the reasons that the panels comprised three individuals. The use of two individuals on one panel did not appear to affect the quality of the review.

The average time that each reviewer spent on peer review related activities was:

- Training/first review of questionnaires 4 days in September 2014
- Preparation of on-site visits 2 days
- On-site visits 5 days in October 2104
- Analysis and report writing 3 days in October/November 2014

Training: The peer review training covered the guidance material in the questionnaire and provided a general overview of all the aspects necessary to comply with Regulation (EU) No 960/2010.

The three-day training course was successfully carried out at Farnborough, UK, during the week of 15 September 2014. There were eight trainers, of which two were also undergoing training as a peer reviewer. Fourteen individuals attended this course. The feedback from the attendees was that the overall content and length of the course was sufficient to enable them to carry-out the peer review.

Peer review final report: The reviewers found the final report to be one of the most difficult parts of the peer review process. Except for the template and the example

prepared by the working group, the reviewers had no previous reports to refer to and had limited time in which to complete the report. They were also sensitive to the request from the working group not to write the report as if an audit had been carried out. In an attempt to ease the process, the four panels were encouraged to share their draft reports. This helped to further share best practice and to ensure consistency across the four peer reviews. Some coaching was also provided by members of the peer review working group.

France and the UK are large SIAs, both single modal and have agreements with countries outside Europe to assist with their safety investigations. These two SIAs took the opportunity to review the performance of their own organizations against the guidance in the PR questionnaire.

Croatia, which is multi-modal, and Slovenia, which is single modal, were also peer reviewed. These are two small SIAs in Europe, which support a relatively small aerospace industry. Both countries have relatively few individuals available to investigate accidents and serious incidents; however the numbers do appear to be sufficient to handle the small number of general aviation accidents that occur each year. Croatia and Slovenia are both in the process of developing their SIA and they both considered that peer reviews as a useful experience in helping them to move forward.

Two possible ways that ENCASIA could further assist SIAs to face a challenging accident would be by:

- Running a workshop where SIAs could share good practice and provide copies of documents to help develop:
    - Processes to ensure their independence from the State and judicial authorities;
    - Procedures and agreements with other SIAs to assist with the investigation of commercial transport accidents and serious incidents.
- Encouraging SIAs to arrange for their investigators to gain experience of investigating commercial transport accidents and serious incidents by undergoing on-the-job training/work experience with other SIAs.

Benefits of peer reviews: The four objectives of the peer review programme were to improve air safety by: assisting SIAs to develop their capability; verifying that investigations are conducted by a permanent national SIA in an effective and independent manner; spreading best practice across SIA and the harmonisation of practices where multiple SIAs are involved; and helping States to meet the requirements of Regulation (EU) No 996/2010.

Feedback from the participants was that the emphasis on this process being a review, and not an audit, made it easier for all parties. All the participants were positive in their comments regarding the benefits of the peer review process which they felt met the four objectives set by ENCASIA. Moreover, it was commented that

the peer review process helped to raise the profile, within their own States, of some of the SIA and moved their development forward by several years. Some of the main benefits realised by the process were:

- The SIA under review used the questionnaire, which is effectively 'soft' standards set by ENCASIA, to undertake a thorough review of their own internal processes. This thorough review was possible because the completed questionnaires were retained by the SIA in accordance with the Peer Review Handbook.
- The training and opportunity for individuals from different SIAs, reviewed and reviewers, to work together helped to foster closer co-operation, share ideas and experiences, and to gain a good understanding of the requirements of Regulation (EU) No 996/2010.
- Good practices were identified and shared between all the participants.
- The development of a closer working relationship between SIA, which will help with the development and harmonisation of practices across Europe.
- The need to assist some SIA in developing practices that ensure their independence and to help them prepare contingency plans in the event of a commercial air transport accident or serious incident.

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

WG6 has developed general guidelines for common procedures to be used by all the Member States for the processing of Safety Recommendations (SR) and the subsequent responses. The guidance is well aligned with advice provided by ICAO and is expected to contribute to better quality and more harmonised approaches among European Safety Investigation Authorities.

The use of the European safety recommendations database, SRIS (Safety Recommendations Information System), remains a priority. In October 2014, ENCASIA WG6 presented status and plans for SRIS at the ECCAIRS Steering Committee meeting in Milan. A number of National Aviation Authorities have been following the development closely, and welcomed the decision to open SRIS for reading access on request. This was seen as a step forward with a view to improve user friendliness and avoid unnecessary duplication of efforts in the future.

While gathering more experience with SRIS, some areas where improvement is needed have been identified. Guidelines on particular issues like identification of Safety Recommendations of Union-wide relevance, handling of third country safety recommendations, harmonised policies for response assessment, closing of safety recommendations and classification of responses are under development. With a

more mature system, the promotion of a consistent use of SRIS will be intensified. Guidelines for Headlines are finalised. Applied, these should enhance the quality of the SRIS Public view on the Joint Research Centre (JRC) ECCAIRS Web Portal[2].

The Joint Research Centre has continued its involvement in the working group through technical support on the tool and assistance to Member States. The functionality to duplicate a SR is enabled, and this helps to save time when an occurrence has multiple SRs. It is now possible to file Change proposals and Problem reports in the existing Joint Research Centre ECCAIRS Portal. Focal point for handling proposals that require the experts' harmonised opinion is appointed. Changes that could have an influence on the ECR for occurrence reports (ECCAIRS) will be co-ordinated with the ECCAIRS community. In 2015, additional resources will be available to support SRIS development.

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

At the beginning of 2014, the Commission 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.

The main comment on the possible future role of ENCASIA concerned a more formal way to provide long-term commitment to support each other on major investigations. The concept of service level agreements was recommended to be looked into, with a possibility of them being free of charge. It was also highlighted that these commitments should be "subject to available resources".

2.8) Update on advance arrangements

The 2014 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".

One year ago, the Commission started EU Pilot procedures towards 18 Member States on advance arrangements. The EU Pilot system represents a flexible tool between the Commission services and the Member States to clarify questions regarding insufficient implementation of EU Regulations.

[2] http://eccairs-dds.jrc.ec.europa.eu/pubsris/default.asp

Regarding the 18 EU Pilot cases, the majority were closed positively as the Commission received positive replies.

Although the EU Pilot system is quite flexible, it is not supposed to last too long. If the cases cannot be closed positively, they must then be closed negatively and afterwards, transferred to the more formal system of infringement procedures: The first step of an infringement procedure is a letter of formal notice, which still gives some time to the Member State to become compliant. This step is dealt at the level of the college of Commissioners. It is not public yet. It becomes public when the Commission sends a reasoned opinion prior to sending the case to the European Court of Justice.

Late 2014, about six remaining cases were closed or in the process of being closed negatively.

ENCASIA Members have kept working on these issues to reach agreements with other authorities, in particular their national judicial authorities.

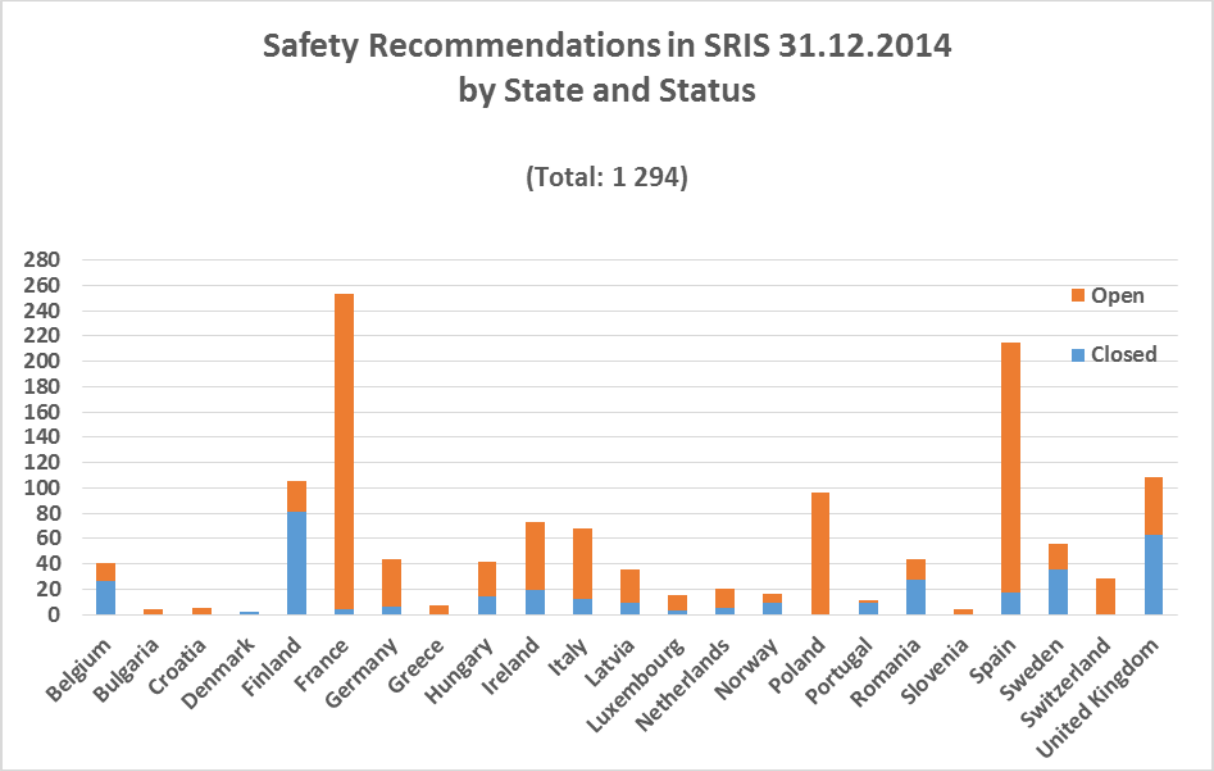
3) Data Analysis of the Safety Recommendations Information System (SRIS)

3.1) SRIS Overview

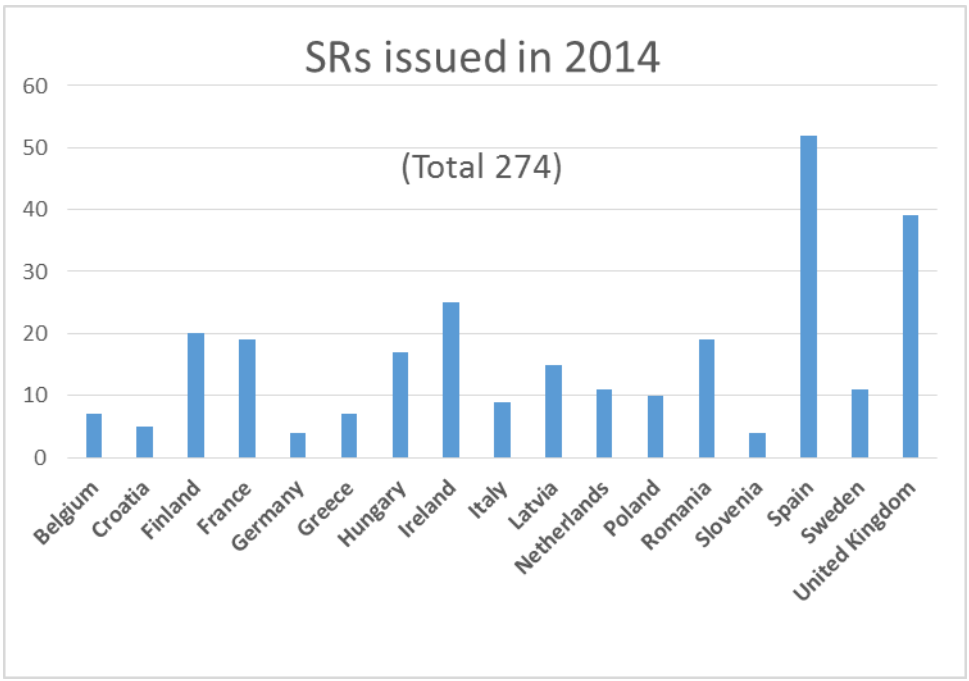
After almost three years of operations, 1 294 safety recommendations were recorded in SRIS by the end of 2014. 274 of these Safety Recommendations were issued in 2014 and a backlog of additional ones was also entered during the year.

Note: By the end of 2013, SRIS contained 811 safety recommendations.

The following chart represents the breakdown per Member State. Twenty three European States have entered data in 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 volume of investigations. In addition, policies regarding when a Safety Recommendation should be issued vary among States. The tendency in many States is to encourage the involved organisations/stakeholders to take action in the process. When this is a success, the SIA could refrain from issuing formal safety recommendations in the final report.



The variation in closure rate between States indicates a need for a harmonised approach regarding when a SR should be considered closed.



3.2) Safety recommendations stemming from safety studies

Regulation (EU) No 996/2010 (Article 2(15) and Article 17(2)) stipulates that safety recommendations can be issued based on safety studies as well as single occurrences. In total, about 6% of the recorded SRs in SRIS are based on safety studies.
Studies recorded in 2014 were:

- the German Study of Reported Occurrences in Conjunction with Cabin Air Quality in Transport Aircraft,
- the Dutch study of Pitch-up Upsets due to ILS False Glide Slope,
- an Italian study to mitigate a phenomenon of runway incursions on civil airports.

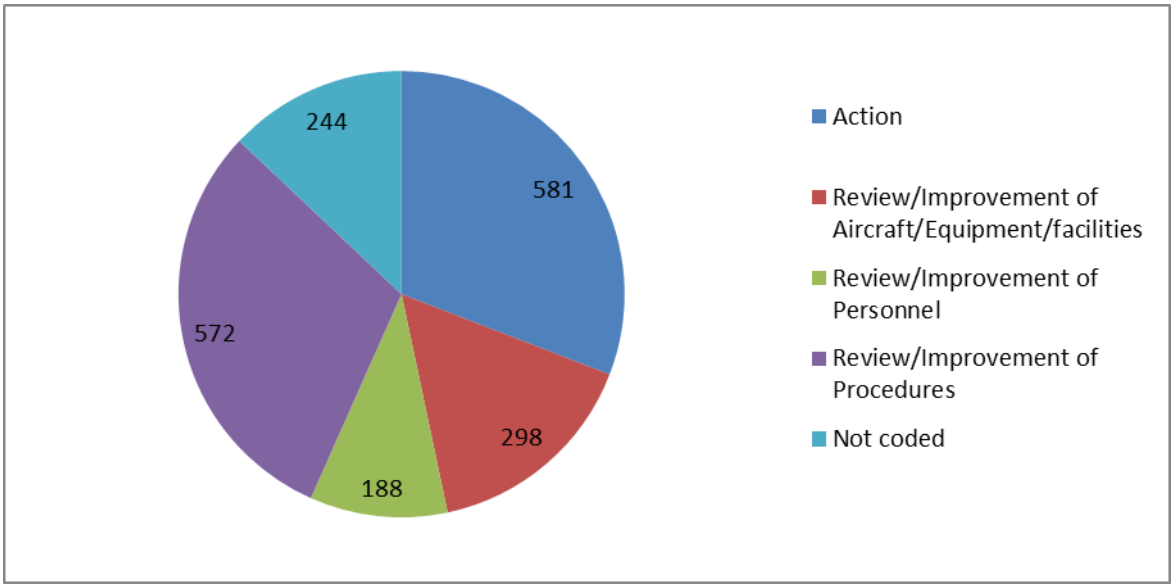
There are examples where SRIS contains a set of safety recommendations that have been jointly conceived, drafted and issued by different European SIAs in a common effort to address similar events having occurred over a period of time. Such initiatives are to be encouraged. In addition, SIAs should use SRIS and endorse safety recommendations that could be supported by more occurrences. This will probably become even more important in the future, as risk- and performance-based priorities tend to be referred to more frequently in follow-up activities.

Three ongoing safety investigations have identified a pattern of at least six occurrences involving severe vibrations on the ATR72-212A right engine propeller during descent at a speed close to VMO with the power levers in the 'Flight Idle' position. Two of these investigations are conducted by an authority belonging to ENCASIA: the BEA (France) is investigating an incident that occurred in Trinidad and Tobago on 5 May 2014, while the SHK (Sweden) is investigating an incident that occurred in Sweden on 30 November 2014. The third investigation is conducted by the NTSC (Indonesia). The three investigation authorities are cooperating and the BEA, in coordination with the SHK and the NTSC, issued safety recommendations to EASA in December 2014:

- to inform pilots that severe vibrations have occurred during descent at a speed close to VMO with power levers in Flight Idle; (FR.SIA-2014-0016)
- to ensure that all pilots plan and operate their flights to avoid operations close to VMO at Flight Idle; (FR.SIA-2014-0017)
- to ensure that all pilots report to maintenance if they experience severe vibrations during descent at a speed close to VMO with power levers in Flight Idle position. (FR.SIA-2014-0018)
- to ensure that ATR develops an appropriate operational procedure addressing severe vibrations of a propeller and that airlines include that procedure in their operational documentation. (FR.SIA-2014-0019)

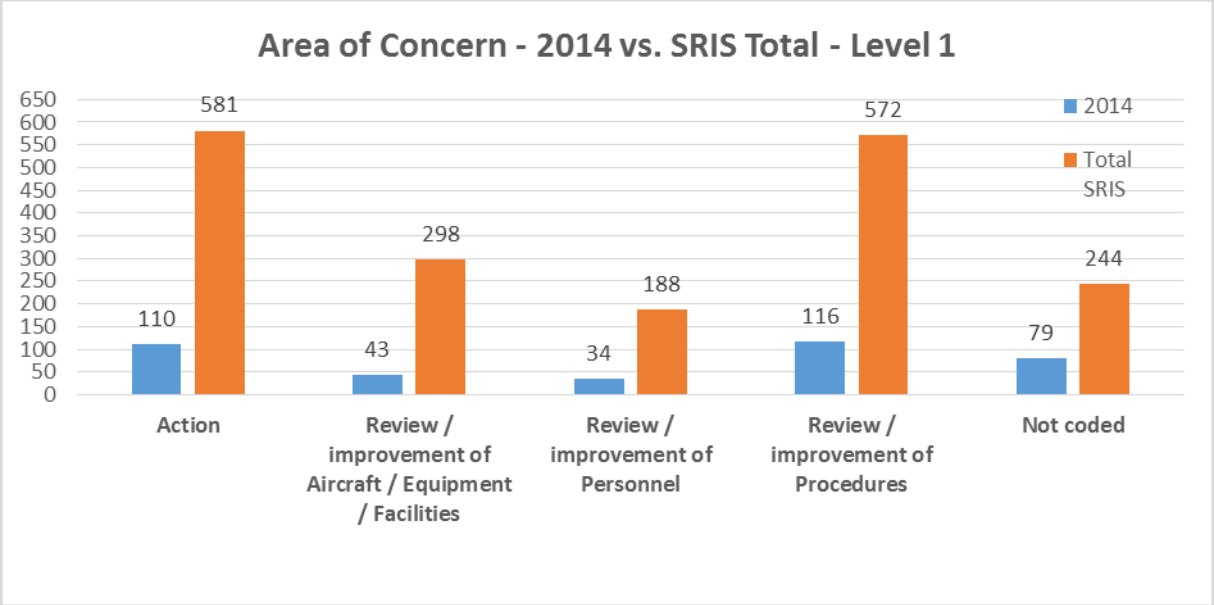
3.3) Areas of concern

The deficiencies underlying the safety recommendations are coded in SRIS using four high-level areas of concern. The following chart illustrates the distribution of all SRs contained in SRIS by this level-1 area of concern:



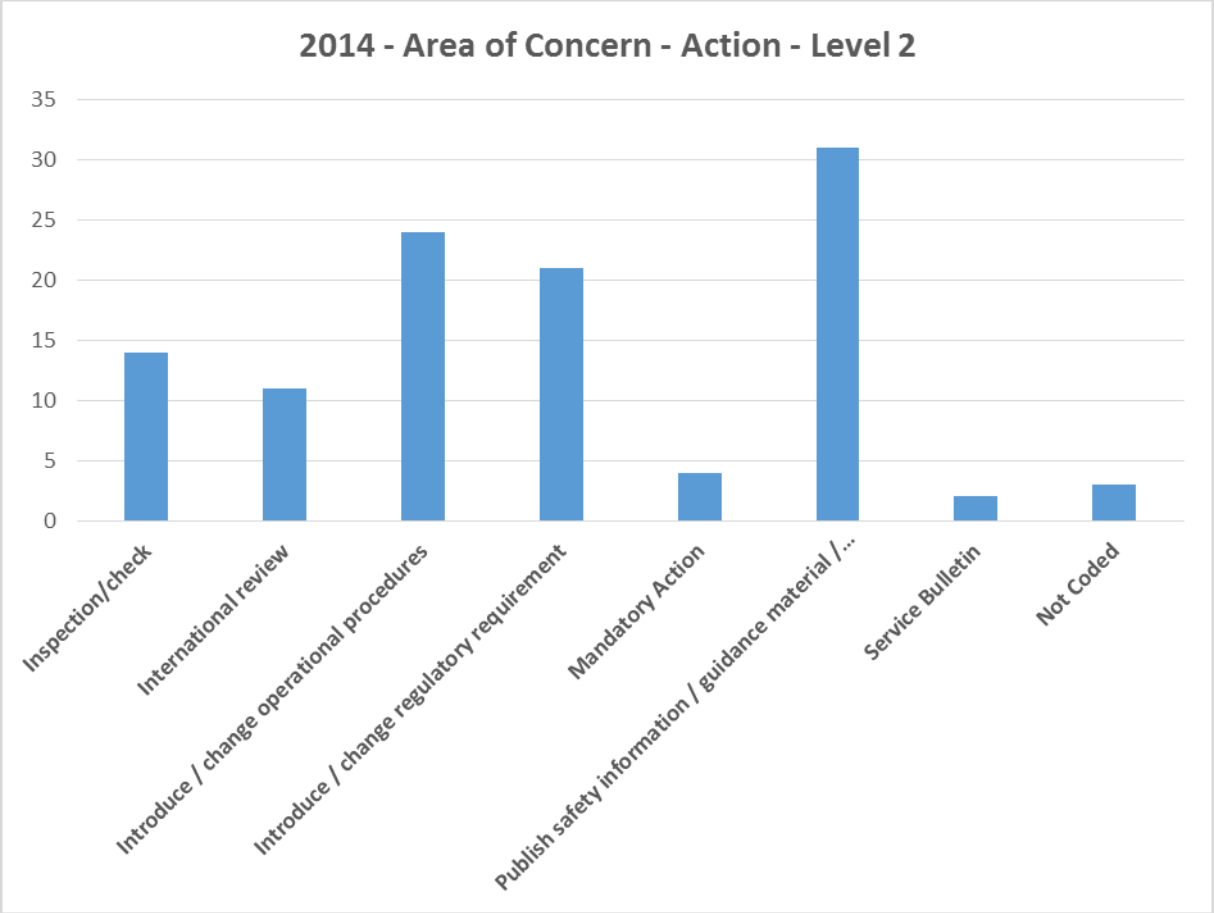
Comparing the recorded Areas of Concern associated to the SRs issued in 2014 with the total data set, it can be noted that the proportion of recommendations focusing on *Review/improvement of Aircraft/Equipment/Facilities* was slightly lower, with a corresponding increase in *Review/improvement of Procedures*. Otherwise, the distribution was proportionate to the overall picture.

The Action category is still frequently used. According to SRIS taxonomy, a safety recommendation for action «relates to compliance with any aviation related regulations or procedures». There seems to be some overlap with other categories, and taxonomy or policy changes in this area might be expected in the future. The proportion of Not Coded at Level 1 is still relatively high.

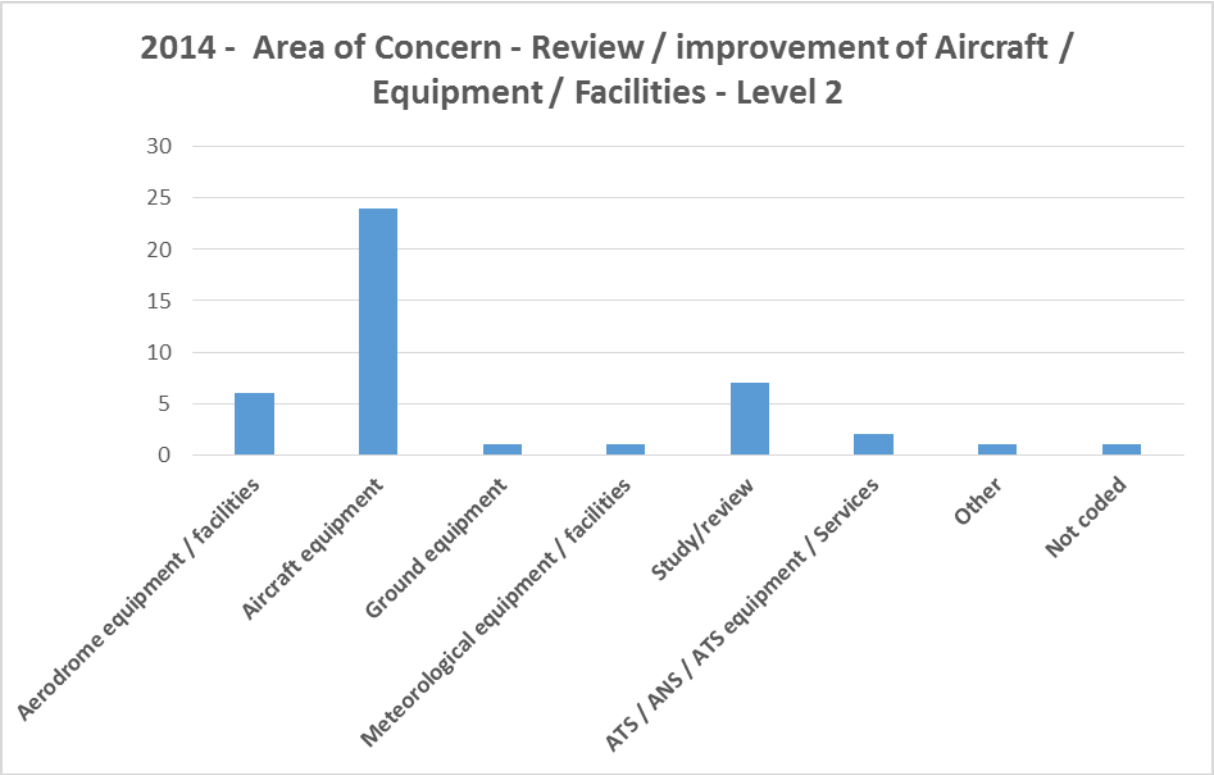


Each level-1 Area of Concern contains sub-categories further enriching the taxonomy for the underlying deficiencies of safety recommendations.

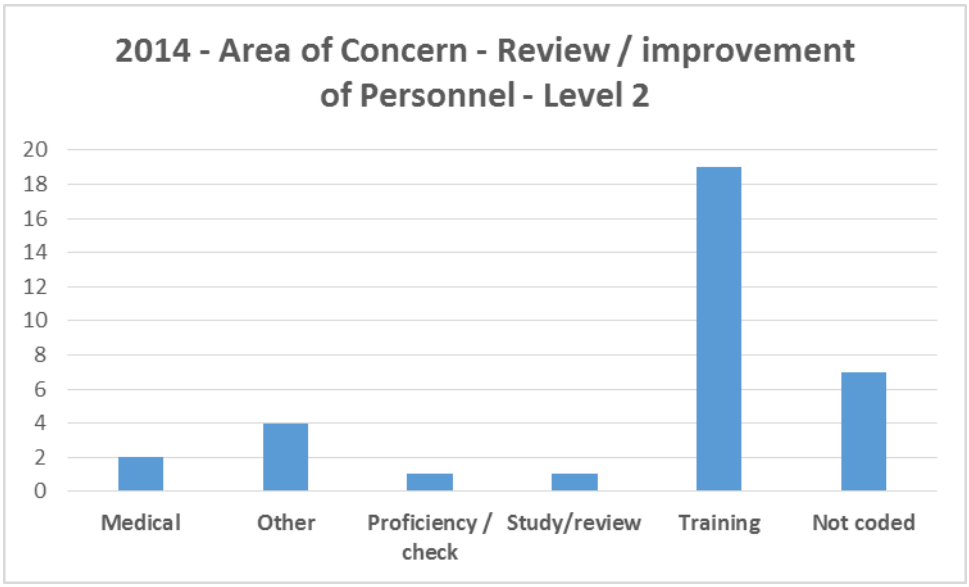
Level 2 should pinpoint the Area of Concern in more detail. The distributions within the four main categories (action; review/improvement of aircraft/equipment/facilities; review /improvement of personnel; review / improvement of procedures) are shown in the figures below.



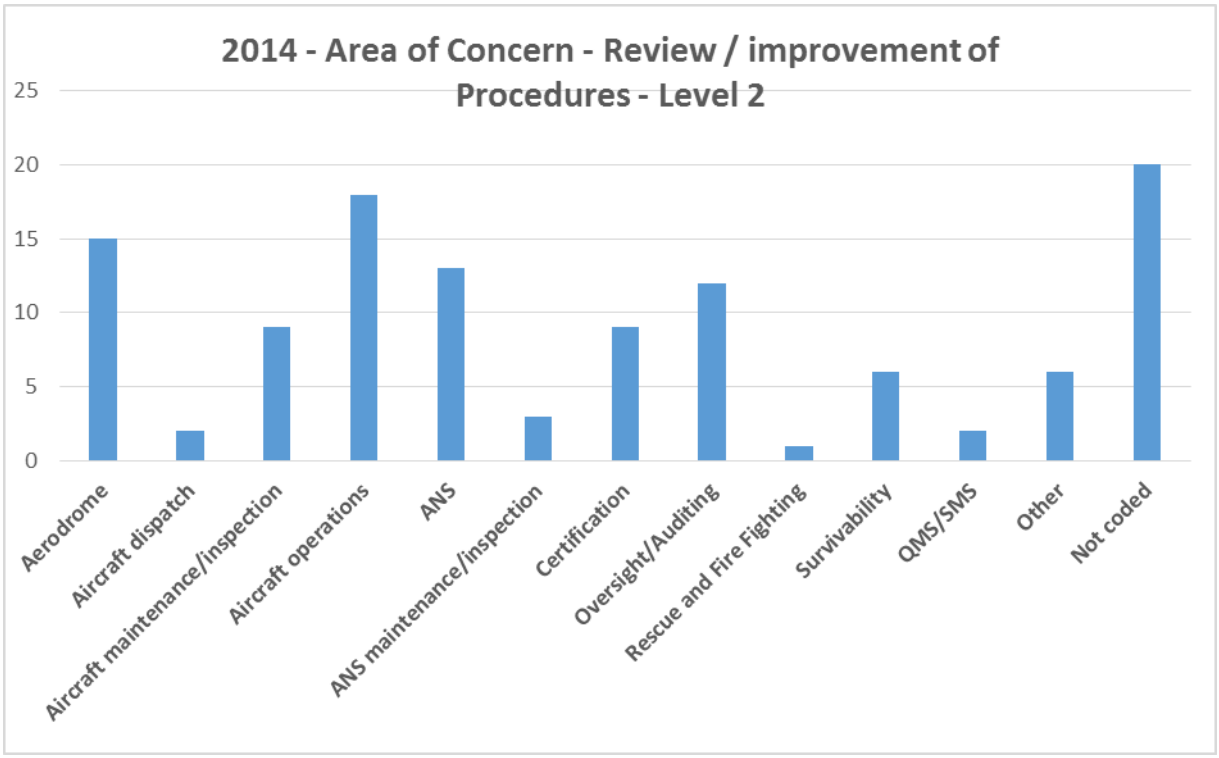
For example, in 2014, the majority of SRs in the area of concern for Actions called for Publishing safety information/guidance material/advisory material. They are related to augmenting the Ops Manual with an operational instruction in case of an STCA alert and instruction as regards missed approaches and non-standard go-around clearances, detailed and standardised training instructions on exercises that involve stalls, stalls with wing drop, spin avoidance, incipient spins, spirals and unusual flight attitudes including also their proper recovery techniques, including the False Glide Slope characteristics in the published manuals and training material, guidance to prevent pitch-up upsets.



The majority of safety recommendations on the review Review/Improvement of Aircraft/Equipment/facilities deal with aircraft equipment. In particular, a number of them are related to checks of the seatbelt of general aviation aircraft class, installation of "Remove before flight" marks at the fuel control valve for light fixed wings, inclusion of a mirror with telescopic handle to allow the latches inspection on A320 aircraft.



Most safety recommendations on the **review/improvement of personnel** cover training. This result is consistent with previous analyses. Many SIAs issued SRs that include training instructions on exercises that involve stalls, stalls with wing drop, spin avoidance, incipient spins, spirals and unusual flight attitudes, including a minimum number for both stall and spin avoidance manoeuvres in the PPL(A) flight training syllabus, improvement the planning of student pilots' flight schedules, additional training on the flight simulator on landing in night conditions, training in identifying high angle of attack protection in a mixed flying situation (AP ON and A/THR OFF), training on risks on takeoff with contaminated wings, manual flight control input during high altitude operations. Regarding cabin crew, a SR concerning training for emergency descent and de-pressurization events was also issued in 2014.



Regarding the Review/Improvement of Procedures, the safety recommendations related to **aircraft operations** were ranked first in 2014. SRs in this area are related to modification of the procedure to be followed in case of the warning sound indicating a drop in the cabin pressure going off on the Boeing 737 type, to include in the list of reportable occurrences of the operational manual the stick shaker and pitch-up upset events, review of operator procedures relative to manual flight control input during high altitude operations and review of the VFR Flight Planning and the Pre-flight Risk Analysis for helicopter operations.

Regarding the improvement of procedures, SRs concerning **aerodromes** include review of procedures related to calibration flights, in particular with regard to

planning, scheduling, calibration documentation and the requirement for face to face briefings, to mitigate the risks caused by the proximity of different aeronautical activities and the risks of runway incursions and improvement of procedures on emergency situations.

SRs in the area of concern for Review/improvement of Procedures - **ANS procedures** are related to assessing the effect of obstacles and modify procedures to enable pilots to comply simultaneously with ATC instructions, improvement of procedures for issuing landing authorization for VFR traffic, specifying the instructions on segregated parallel operations with regard to when the criteria of segregated parallel operations are no longer met and review of the missed approaches and non-standard go-around clearances.

Regarding the area of **certification**, during the investigation into the accident to the Boeing 737-800 registered TC-JGE, on 25 February 2009, it was shown that the information and warnings available in the cockpit were not sufficient for the flight crew to be aware, at an early stage, of a significant decrease in speed. In 2010, a SR related to aircraft certification was issued by the Dutch Safety Board to recommend that Boeing, the FAA and EASA evaluate the use of an aural low speed warning as a way to alert the crew. In addition, the study conducted by the FAA, to which EASA was associated, showed the relevance of the need to improve protection systems to alert crews so as to make it possible for them to anticipate a low speed situation. Subsequently in 2014, the BEA issued a SR addressed to EASA, in coordination with the other certification authorities, in particular the FAA, to develop specifications aimed at making mandatory the systems intended to warn and protect crews from low speed situations in every phase of flight and aircraft configuration.

Another major area of concern where SRs were issued is related to **oversight/audit**. 80% of them were considered as adequate and closed. These SRs contain a review of maintenance and operational approvals by CAAs as well as a review of procedures for auditing approvals. It also was recommended to establish the means to better ensure that flight academies carry out and monitor flight training in accordance with regulations, to regulate and to require flight instructors to enter comments into a student pilot’s training records after each flight and to describe in the pilot´s handbooks in sufficient detail the slow flying and stall characteristics or any other essential, flight safety-related peculiarities. Two other SRs of this area of concern on oversight are the above-mentioned ones that were addressed to the European Commission.

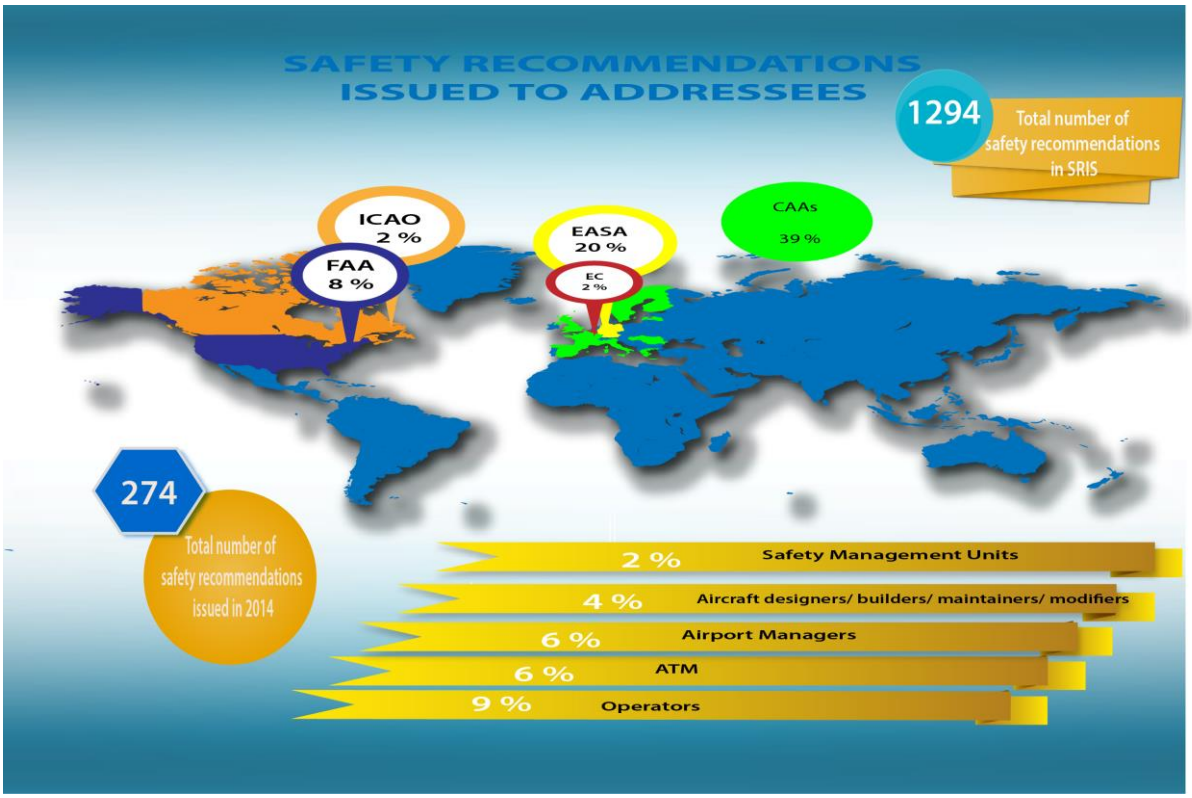
Other areas like aerodromes or survivability have also been mentioned as areas of concern in a number of safety recommendations.

A number of SR records are incompletely coded (category - not coded), which could be related to the absence of the appropriate field or to the usage/knowledge of the SRIS tool. The ad-hoc working group has already planned to work on refining the taxonomy to facilitate more in-depth analyses. A more harmonized use of the SRIS tool should also be promoted in order to further improve the consistency of the records.

3.4) SR Addressees

Note: to facilitate the follow-up of SRs, ENCASIA has developed guidelines to have one addressee per safety recommendation. SRIS contains a number of SRs with multiple addressees, explaining differences in the numbers of addressees and the total number of SRs recorded in SRIS.

The graphical illustration below shows the regional distribution of the addressees of the 274 SRs that were issued in 2014.



In 2014, National Civil Aviation Authorities (CAAs) and EASA continued to be the main addressees of European SRs. By considering the total number of SRs recorded until the end the 2014, 39% of the SRs was addressed to CAAs, while EASA received 20% of this total. Operators/Commander of aircraft took the third position with 9%.

3.5) Recommendations addressed to international organisations

In 2014, several safety recommendations relating to a review to be conducted by an international organization were issued by the European SIAs. It primarily concerned EASA to review/improve procedures or requirements, to:

- Include a minimum number for both stall and spin avoidance manoeuvres in the PPL(A) flight training syllabus;
- Provide guidance to Operators concerning successive instrument approaches, should review the syllabus for appointment to commander;
- Ensure that EASA Member States in their supervision check that operators have established operational limitations;
- Assess whether mandating the use of Helicopter Terrain Awareness and Warning Systems compliant with Technical Standard Order C194 or European Technical Standard Order C194 would provide safety benefits for helicopter operations within Europe;
- Train on risks on take-off with contaminated wings;
- Train in identifying high angle of attack protection in a mixed flying situation;

Safety recommendations issued in 2014

Four safety recommendations were also addressed to the European Commission. They dealt with:

- the obligations of Member States to implement penalties, in accordance with the Standardisation Regulation (EU) No 628/2013, as a result of transgressions including Flight Time Limitations as provided for in Regulation (EC) No 216/2008;

- the role of the ticket seller when engaged in providing air passenger services and restrict ticket sellers from exercising operational control of air carriers providing such services, thus ensuring that a high and uniform level of safety is achieved for the travelling public;
- the improvement of safety oversight including the efficacy and scope of SAFA Inspections and the possible extension of oversight responsibilities, particularly in cases where effective oversight may be limited due to resource issues, remote operation or otherwise;
- the scope of the Air Safety Committee, and consider including oversight of Operating Licences issued by Member States and the processes by which such oversight is carried out.

Some SIAs issued SRs addressed to ICAO concerning provision of information regarding the flight-specific approach capability of aircraft/flight crew in an ATC flight plan and to direct the attention of signatory countries to the unambiguity of the in-flight safety demonstration concerning the use of oxygen masks with special attention to the function and status of the clear plastic bag while in operation.
Moreover, ICAO should review its policy with regard to continuing oversight of air carriers, in particular those conducting remote operations.

3.6) Safety Recommendations of Union-Wide Relevance

According to Article 7.3(g) of the Regulation, ENCASIA shall have access to SRIS, and analyse the safety recommendations therein with a view to identifying important safety recommendations of Union-wide relevance. For the time being, there is no definition, nor specific field in SRIS to flag such SR of Union-wide relevance.

At international level, ICAO (letter sent on 9 September 2011 - Ref.: SD 37/4-11/63) defines the concept of a Safety Recommendations of Global Concern (SRGC) as follows: A safety recommendation made to a State civil aviation authority, to a regional certification authority, or to ICAO regarding a systemic deficiency having a probability of recurrence with potential for significant consequences, and requiring timely action to improve safety.

A SRGC would meet one or more of the following criteria:

a) the deficiency underlying the recommendation is systemic and not solely a local issue;
b) the probability of recurrence of the accident and the adverse consequences are high;
c) the risk to persons, equipment and/or environment is high;
d) the urgency for taking effective remedial safety action is high;
e) there is a history of recurrence of the relevant deficiency;

f) the deficiency underlying the recommendation constitutes a risk to the airworthiness, design, manufacture, maintenance, operation and/or regulation of the involved aircraft type;
g) the deficiency underlying the recommendation constitutes a risk to more than one aircraft type, to more than one operator, to more than one manufacturer and/or to more than one State; and
h) the mitigation of the risks associated with the deficiency will require coordinated efforts of more than one entity of the air transport industry, such as civil aviation authority(ies), manufacturer(s) and operator(s).

Being relevant internationally, it was agreed that such SRs are most likely also of Union-wide relevance.
Other sources for potential SRs of Union-wide Relevance (SRUR) could be those stemming from Safety studies, those addressed to the EC or ICAO and some of those addressed to EASA.
It would facilitate the analysis if the SIAs identified SRUR when recording SRs in SRIS. Contrary to SRGC, there is no current definition of SRUR. The following is a draft proposal that needs to be further evaluated:
SRUR: The deficiency underlying the SR is systemic and not solely a national issue:

- *Not related to a specific aircraft type, operator, manufacturer component, maintenance organization, air navigation service and/or approved training organisation;*
- *There is a history of recurrence across Europe of the relevant deficiency.*

Examples of SRUR identified by ENCASIA

For the 2014 analysis, ENCASIA notably identified the four safety recommendations that the Irish investigation authorities have addressed to the European Commission. These SRs were based on an analysis of the EU legislation on the four above-following topics:

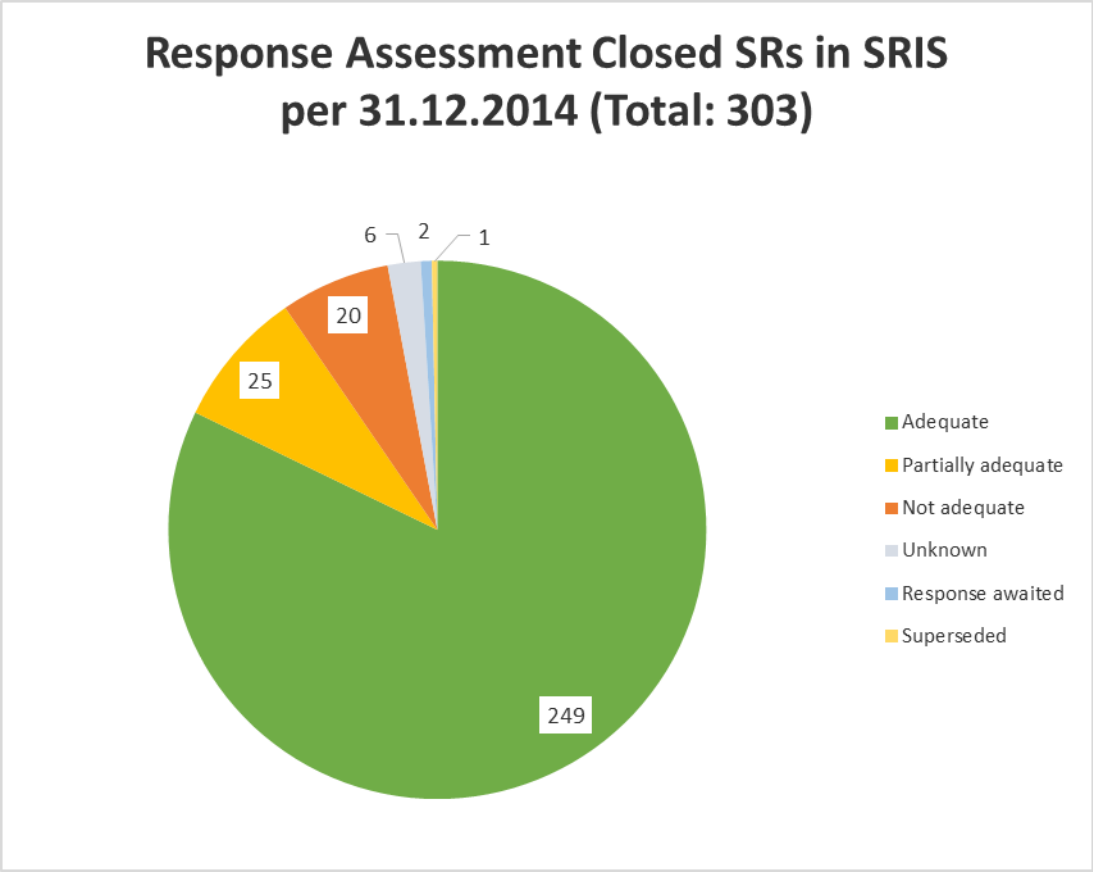
- Implementation of penalties as a result of transgressions including: Flight Time Limitations;
- The role of the ticket seller;
- Safety oversight in cases of remote operation;
- The scope of the Air Safety Committee and considering oversight of Operating Licences.

The follow-up of these SRs enabled the Safety Investigation Authority of Ireland to close these four SRs; three answers were assessed as adequate while one considered as not adequate.

3.7) Response assessment statistics

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 illustrates the assessments that were recorded in SRIS at the end of 2014. Note that open SRs are excluded.



It appears that 90% of the replies in closed SRs were considered adequate or partially adequate by the safety investigation authorities.

CONCLUSIONS (THE WAY FORWARD)

ENCASIA has reached a number of important milestones. It has worked on all the objectives set out in Article 7(3)[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.

After 4 years, Article 24 of the Regulation called for a review. That review naturally encompassed ENCASIA's role, which remains central in the European cooperative framework. The way forward will be to increase 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.

Finally, the ENCASIA website will be the tool to better explain the investigation process to the general public, which has been exposed to the specificities of safety investigations. Indeed, the year 2014 was marked by major and tragic accidents that have affected a number of European citizens.

[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.

APPENDIX: List of 2014 Fatal Airplane Accidents involving commercial activities

Date	Location	Aircraft type	Air carrier	Number of fatalities
18-JAN-2014	Olive Crek, Guyana	Cessna 208B Grand Caravan	Trans Guyana Airways	**2** fatalities
16-FEB-2014	Sandhikhark, Nepal	de Havilland Canada DHC-6 Twin Otter 300	Nepal Airlines	**18** fatalities
17-FEB-2014	Rubkona Airport, South Sudan	British Aerospace BAe-748-371 LFD Srs. 2B	Global Airlift, operated for IOM	**1** fatality
21-FEB-2014	near Grombalia, Tunisia	Antonov 26	Libyan Air Cargo	**11** fatalities
08-MAR-2014	Unknown, Indian Ocean	Boeing 777-2H6ER	Malaysian Airlines	**239** fatalities
08-APR-2014	Bethel, Alaska, USA	Cessna 208B Grand Caravan	Hageland Aviation Services	**2** fatalities
08-MAY-2014	near San Vicente del Caguán, Colombia	Douglas DC-3C	ALIANSA Colombia	**6** fatalities
17-MAY-2014	Xieng Khouang Airport, Laos	Antonov 74TK-300	Laos Government	**16** fatalities
02-JUL-2014	Nairobi Airport, Kenya	Fokker 50	Skyward International	**4** fatalities
17-JUL-2014	Hrabove, Ukraine	Boeing 777-2H6ER	Malaysian Airlines	**298** fatalities
23-JUL-2014	Magong Airport, Taiwan	ATR 72-500	TransAsia Airways	**48** fatalities

24-JUL-2014	Gossi, Mali	McDonnell Douglas MD-83	Swifair, operated for Air Algérie	**116** fatalities
10-AUG-2014	Tehran-Mehrabad Airport, Iran	HESA IrAn-140-100	Sepahan Airlines	**39** fatalities
23-AUG-2014	Mulume Munene, D.R. Congo	Let L-410UVP	Doren Air Congo	**4** fatalities
30-AUG-2014	Tamanrasset Airport, Algeria	Antonov 12BK	Ukraine Air Alliance	**7** fatalities
31-AUG-2014	Kogatende, Tanzania	Fokker F-27 Friendship 500	Safari Express Cargo	**3** fatalities
20-SEP-2014	Port Moresby Airport, Papua New Guinea	de Havilland Canada DHC-6 Twin Otter 300	Hevilift	**4** fatalities
29-OCT-2014	Sint Maarteen-Juliana Airport, Neth. Antilles	Shorts 360-200	SkyWay Enterprises	**2** fatalities
14-NOV-2014	Payagor Airstrip, South Sudan	British Aerospace BAe-748-399 LFD Srs. 2B	Global Airlift	**2** fatalities
28-DEC-2014	Java Sea, Indonesia	Airbus A320-216	Indonesia AirAsia	**162** fatalities
28-DEC-2014	Uvira, D.R. Congo	Antonov 26	Air Sirin	**6** fatalities

TOTAL: 21 fatal accidents and 990 fatalities

At least one SIA from ENCASIA has appointed an Accredited Representative or even lead the safety investigation for ten of these worldwide accidents. The worst accident last year happened on July 17 when a Malaysia Airlines Boeing 777 (flight MH17) crashed in Ukraine, killing 298.

Source: http://aviation-safety.net

-END-