



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

**PEER REVIEW PHASE 1 REPORT  
2014-2018**



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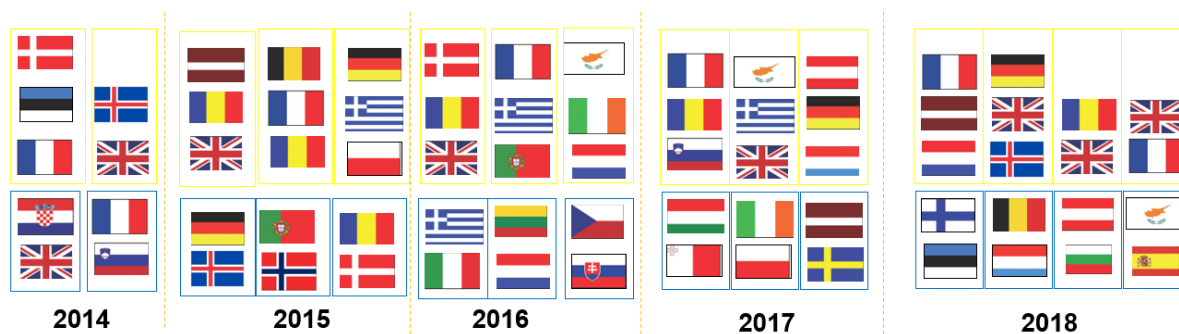
## FOREWORD

This report marks the end of an important body of work that has taken seven years to develop and implement. I would like to warmly thank the Chairman and members of Working Group 5 for developing and implementing the Peer Review programme and for producing this report on the outcomes from Phase 1 of the ENCASIA Peer Reviews.

ENCASIA Members are subject to audits from the International Civil Aviation Organisation (ICAO). The ENCASIA Peer Review programme is intended to be complementary to the ICAO audits with the goals of helping the Safety Investigation Authorities (SIA) within the European Union (EU) to be in compliance with Regulation (EU) No 996/2010 and to achieve the highest standards in safety investigation. I am pleased to report that this Peer Review programme was a success with all 30 SIAs reviewed.

The Peer Reviews were carried out by 15 Panels consisting of two to three investigators from different SIAs. The mix of investigators from the 30 SIAs on these Panels can be seen by the national flags in Figure 1, which shows the year in which each SIA was reviewed. This mix of nationalities was fundamental in the sharing of knowledge, best practice and experience at both individual and organizational level. Many European investigators have worked together on the Peer Review programme with a larger number attending the Peer Review training, which has, most importantly, helped to establish strong and friendly bonds across the SIAs and the EU. The Network has become a living reality!

The nationalities involved in the Peer Reviews is highlighted in Figure 1 where the blue boxes represent the SIAs reviewed and the yellow boxes the States that provided the reviewers.<sup>1</sup>



**Figure 1.** Peer Reviews conducted between 2014 and 2018

<sup>1</sup> Appendix 3 contains the list of the Peer Reviews, the dates they were carried out in each country, the composition of each panel as well as good/best practices samples



The ENCASIA Peer Review process has been adopted by our railway safety investigation colleagues. In parallel, a system of Peer Reviews has also been introduced in the European nuclear industry and is considered an important element in delivering continuous improvement to nuclear safety. In 2017, the revised Nuclear Safety Directive opted for a European system of Topical Peer Review (TPR) with the aim of providing a mechanism for EU Member States to: examine topics of strategic importance to nuclear safety; to exchange experience; and to identify opportunities to strengthen nuclear safety. The civil aviation and nuclear industries are comparable in that they are very specialized, have comparable high safety standards and require an independent system of checks and balances to ensure the maximum level of safety. In that respect, ENCASIA and the nuclear industry have recognised that a Peer Review programme represents an effective means by which to further improve processes and methods.

The ENCASIA Peer Review programme would not have been possible without the strong support of the European Commission (EC) and I would like to thank them for their guidance and support. I would particularly like to thank the staff in DG MOVE for their active involvement at all levels in advising on European Regulations, assistance in applying for grants and their logistical support in hosting the various plenary and working group meetings in Brussels.

I am pleased to report that we have now started Phase 2 of the ENCASIA Peer Review programme, which will draw on the lessons and results from Phase 1 with the aim of further improving the quality and timeliness of aviation safety investigations within the EU, and Observer States, and strengthening the independence of ENCASIA members.

*Rémi Jouty*

*Chairman of ENCASIA*



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## INTRODUCTION

### Regulatory Requirements

Regulation (EU) No 996/2010<sup>2</sup> sets out the European Union's Regulations on the investigation and prevention of accidents and incidents in civil aviation. Article 7.1 establishes the European Network of Civil Aviation Safety Investigation Authorities (ENCASIA) and Article 7.2 sets the following aim:

*"The Network shall seek to further improve the quality of investigations conducted by safety investigation authorities and to strengthen their independence, in particular, it shall encourage high standards in investigation methods and investigator training."*

With regard to aviation safety investigations, ICAO Annex 13<sup>3</sup>, para 3.2, states:

*"A State shall establish an accident investigation authority that is independent from State aviation authorities and other entities that could interfere with the conduct or objectivity of an investigation"*.

The European Commission (EC) is responsible for ensuring that EU Regulations are implemented and complied with. The use of Peer Reviews, carried out by ENCASIA, with respect to aspects of Regulation (EU) No 996/2010 helps the EC to ensure compliance while allowing SIAs to retain their independence. Article 7.3c of the Regulation establishes ENCASIA's responsibility for Peer Reviews:

*"The Network shall be responsible [...] for [...] coordinating and organising, where appropriate, 'peer reviews', relevant training activities and skills development programmes for investigators"*.

### ICAO Audits of SIAs

ENCASIA States are also audited by ICAO to ensure compliance with Annex 13 through the Universal Safety Oversight Audit Programme (USOAP), which was launched in January 1999 and expanded in 2005 to include safety-related provisions contained in all safety-related Annexes to the Chicago Convention. That expansion encompassed the full scope of Annex 13. This initially involved regular and mandatory audits of a States' safety oversight system, which included accident and incident investigations. In 2010, ICAO decided to move to a Continuous Monitoring Approach (CMA), which involves an on-line self-assessment with audits being conducted on a case-by-case basis.

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<sup>2</sup> Regulation (EU) No 996/2010 of 20 October 2010 on the Investigation and prevention of accidents and incidents in civil aviation.

<sup>3</sup> International Civil Aviation Organisation (ICAO) Annex 13 to the Convention on International Civil Aviation. Aircraft Accident and Incident Investigation.

## Establishment of Working Group 5

While Peer Reviews have been successfully carried out in other industries, Peer Reviews had never been carried out in the field of aviation accident investigation. In order to develop the concept of a Peer Review, ENCASIA established Working Group 5 (WG5), Peer Reviews, in 2011.

As part of their initial work, WG5 reviewed the process that the EC had developed with Eurocontrol to conduct Peer Reviews of the Air Traffic Management System and identified elements that could be adopted. The working group also reviewed the process and questionnaire used by ICAO during their audits of Accident Investigation Authorities (AIA).

## Defining the ENCASIA Peer Reviews

The initial challenge in developing this programme was to differentiate a peer review from an audit (see Appendix 1), which was achieved by developing the following definition:

*"A Peer Review is the assessment of a European SIA undertaken by persons of equal status and similar competence who are currently employed in a European Safety Investigation Authority. It can be considered as a form of self-regulation by qualified members of a profession and is based on the concept that such individuals will be more readily able to identify 'good' and 'best' practice and highlight areas for potential improvement within the organisation's structure and operating practices. In essence, the Peer Review takes a holistic view in ensuring that States can meet their obligations rather than ensuring that they strictly follow detailed process and procedures."*

It was decided that the first round of Peer Reviews, later defined as Phase 1, would take a high-level view of a SIA's ability to conduct an independent and effective aviation safety investigation. The first Peer Reviews were undertaken in 2014 and all 30 ENCASIA Members had been reviewed by the end of 2018. In addition, Switzerland was peer reviewed by ENCASIA in 2019 as part of the process to become an ENCASIA observer State.

The ENCASIA Peer Review Phase 1 process and questionnaire were also used during Peer Reviews carried out in Israel, Singapore and Nigeria. Since 2015, ENCASIA has advised the European Rail National Investigation Body Network (NIB Network) on setting-up a Peer Review process and has shared relevant documentation and the Peer Review questionnaire with them. Representatives of the ATSB (Australia) were also briefed on the process and provided with copies of the ENCASIA Peer Review documentation. Members of WG5 have also briefed other non-European SIAs on the ENCASIA Peer Review processes at the European Civil Aviation Conference Accident Investigation (ECAC-ACC) meeting and international seminars.





The following chapters will explain the ENCASIA Peer Review Concept in more detail and elaborate on the main outcomes.

## Chapter 1: THE ENCASIA PEER REVIEW CONCEPT

### 1.1) Objectives of the Peer Review

The objectives of the Peer Review process, within a European SIA, are to improve aviation safety by:

- Assisting individual SIAs in establishing a capability for the investigation of civil aviation accidents and serious incidents;
- Verifying that investigations are conducted by a permanent national SIA in an effective and independent manner;
- Spreading best practice across SIAs and the harmonization of practices where multiple SIAs are involved;
- Helping States to meet the requirements of Regulation (EU) No 996/2010.

### 1.2) Scope of the Peer Review

The Peer Review covered the following areas:

- **Organisation.** To understand the structure of the SIA and how it contributes to the State Safety Programme. To help the SIA determine if it is capable of meeting its obligations to investigate air accidents and serious incidents by considering the legislation and regulations under which it operates, its independence from legal, regulatory and other stakeholders, and any standing arrangements.
- **Activity.** To establish the number and type of accidents, incidents and field deployments, including ACCREP<sup>4</sup> activities and assistance to other countries. This information will help to identify if the SIA's resources are adequate to meet its obligations.
- **Training.** To determine if individuals involved in safety investigation have and maintain the required competences and that sufficient financial provision is available to provide the necessary training.
- **Resources.** To identify, after taking into account any standing arrangements, if equipment, infrastructures and manpower are sufficient for the SIA to meet their obligations.
- **Investigation process.** To determine if processes are in place to enable the SIA to conduct an efficient and timely investigation.

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<sup>4</sup> Accredited representative.



- **Report preparation and publication.** To determine if there are adequate processes and procedures for event notification, event classification (accident, serious incident, incident), investigation, report drafting and publication for the SIA to meet their obligations.
- **Handling Safety Recommendations.** To determine if there are processes and procedures in place to ensure the consistent drafting and issuing of Safety Recommendations, and the assessment and recording of responses.
- **Health and Safety.** To provide guidance to SIA's to assist them in establishing adequate Health & Safety measures to protect investigators working at aircraft accident sites.
- **Good and best practice.** To highlight Good/Best practice in the SIA.

The present report does not exhaustively analyse the above-mentioned items of the questionnaires.

### 1.3) Peer Review Process

The Peer Review process is explained in Appendix 2.

### 1.4) Peer Review Training Activities

#### 1.4.1. Year 2014 (Farnborough, UK)

The first 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 996/2010. The first training was a three-day training course that was successfully carried out at Farnborough, UK, on 15-17 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.

#### 1.4.2. Year 2015 (Lisbon, Portugal)

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

The training session represented a key step for the preparation of the Peer Reviews. The courses covered all aspects of an investigation, the structure of safety investigation authorities as well as a number of provisions of Regulation (EU) No 996/2010. They had taken on board the feedback from the previous session and placed more focus on the SRIS database and the collection of best/good practices. From the experience of the first Peer Review training session, it had been decided to

extend the training to a wider audience than just the Peer Review Panel members (one representative per Member State). As for the previous year, increased focus was placed on the differences between peer reviews and audits.

Twenty-six investigators, including the Head of the Israeli SIA, were trained. At that time, a total of 39 investigators from 27 States had been trained in the Peer Review process and had been awarded an ENCASIA certificate. After the courses, the Panel members stayed an extra day in Lisbon to prepare the on-site visits. In order to maximize the benefits, the working group had instructed the panels to review the questionnaires and to concentrate on the areas where they considered the SIA would receive the maximum benefit.

#### **1.4.3. Year 2016 (Vienna, Austria)**

In 2016, the Peer Review training took place in Vienna, Austria, on 5-7 September 2016 when a total of 26 investigators including two representatives from the European Rail NIBs and a safety investigator from North Macedonia attended. At that date, a total of 58 representatives from 25 Member States, the EC, Israel, and North Macedonia had 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 was also used by smaller SIAs to provide their new investigators with an overview of the investigation process. This use of the Peer Review training has helped to ensure a common approach to safety investigation across Europe and improve the capability to handle a major investigation anywhere in Europe. Like the previous year, the Panel members stayed an extra day to prepare the on-site visits.

#### **1.4.4. Year 2017 (Prague, Czech Republic)**

In 2017, the Peer Review training took place in Prague, Czech Republic, from 25 to 26 September 2017. It was hosted by the Air Accidents Investigation Institute (Czech Republic) and held in conjunction with a workshop to develop the ENCASIA Mutual Support System (EMSS). Twenty experienced investigators from 18 different ENCASIA SIAs, as well as two observers from Switzerland and the USA, took part in the training, which was delivered by members of WG 2, WG 5, WG 7 and the EC. Again, the panels stayed an extra day to review the questionnaires and prepare their respective on-site visits.

Following 2017, the ENCASIA Peer Review training programme was developed to include wider aspects of investigation management. Over the first four years, ENCASIA trained 72 investigators from 28 ENCASIA States, the EC, Israel, North Macedonia, Switzerland and USA. The training was considered to have been a success and fundamental in harmonising a number of best practices, improving the standard of investigations and helping to lay the foundations for mutual support across Europe.



## **1.5) Other Activities Related to Peer Reviews**

### **1.5.1. Year 2018 (La Valette, Malta)**

The 2018 ENCASIA Peer Review training session took place in Malta on 25-27 September 2018 at the kind invitation of the Maltese safety investigation authority (BAAI). The training covered the EMSS and a refresher on the Peer Review process to prepare the four panels that would conduct the eight remaining Peer Reviews. In total, 37 members from 23 ENCASIA SIA's took part in these training activities.

### **1.5.2. Year 2019 (Warsaw, Poland)**

On 23-24 September 2019, a one-and-a-half-day workshop was carried out in Warsaw at the kind invitation of the Polish safety investigation authority. This workshop, which was organised in conjunction with the ENCASIA plenary meeting, discussed the outcome of the 30 Peer Reviews and reviewed the progress of EMSS.

## Chapter 2: OUTCOMES OF THE PEER REVIEWS

### 2.1) Main Results

The 28 Member States' and two Observer States' (Iceland and Norway) SIAs were reviewed between 2014 and 2018. Switzerland was reviewed in 2019 as part of the process to join ENCASIA as an Observer State. During this period, elements of the ENCASIA Peer Review process were used in Israel, Nigeria and Singapore, and representatives of the ATSB (Australia) were briefed on the process and provided with copies of the ENCASIA Peer Review documentation. In addition, 72 investigators across ENCASIA SIAs were trained in the Peer Review process. A breakdown of the year in which SIAs were reviewed and the composition of reviewers can be found in Figure 1.

Thirty Peer Review reports were produced and analysed by WG5 on the following occasions:

- 1) When each completed report was submitted by the Panel.
- 2) As part of an annual review with the findings reported at the first ENCASIA plenary meeting of the year.
- 3) On completion of all the peer reviews.

This approach allowed the Peer Review process to constantly improve and for ENCASIA to take advantage of some of the early results. An example is the development of a template for a National Investigation Management Plan (NIMP).

The SIA Peer Review reports were not intended to rank the SIAs, but rather to help individual SIAs to develop and for the findings to help guide ENCASIA develop its strategy and work programme. This Phase 1 Peer Review report has taken on board this approach to avoid benchmarking SIAs.

Important outcomes of the Peer Review Programme were:

- The development of the ENCASIA Mutual Support System (EMSS), which is described in Appendix 4.
- The support to Working Group 2 in identifying good/best practices for SIAs, and
- The categorization of SIAs for offering and/or receiving assistance.

The content of Appendix 3 illustrates the composition of the Panel (in terms of countries) for each SIA reviewed between 2014 and 2018. The depiction of flags presented in the foreword underlines the mix of safety investigators and shows that the Network has become a reality. During the whole peer review programme,

reciprocal trust has prevailed and strong bonds between EU safety investigators have been established.

## 2.2) Good/Best Practices

### 2.2.1. Dissemination of good/best practices

Peer Reviews have greatly fostered the dissemination/cross-fertilization of good/best practices amongst the safety investigation authorities so that each authority can ultimately harmonize them. Peer Reviews have also been beneficial for both sides: the reviewers and the reviewed.

ENCASIA initially set out to identify Best Practices as defined in Regulation (EU) No 996/2010. However, some SIAs were uncomfortable in declaring Best Practice; it was also recognised that Best Practice in one SIA might not be transferable to another SIA operating in a different environment. Therefore, ENCASIA provided a definition of Good Practice<sup>5</sup> for use during the Peer Reviews with Good Practice considered as a generic term equivalent to Best Practice. It was also considered that Good Practice was most likely to be identified during the onsite visits.

### 2.2.2. Examples of good practices

The following list summarizes common topics that were identified in several Peer Review reports as good practice:

- Multimodal synergies
- Medical & Psychological prevention
- Manuals
- Training syllabus
- Use of ECCAIRS
- Drafting reports in English
- Safety recommendations
- SIA websites
- Annual Safety Conferences-Seminars
- Safety Promotion
- Drones (Remotely Piloted Aircraft Systems)

Appendix 3 contains examples of good practices that were identified during the Peer Reviews. The list is not exhaustive and only provides those considered as worth being shared among SIAs.

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<sup>5</sup> A "Practice" is considered as a "Good Practice" when it is used regularly, considered to be useful and efficient in a given context, and the safety investigation authority concerned have adopted it as their preferred method of operation (source: ENCASIA 2013 Annual Report - Appendix 2).

It is also important to note that the ENCASIA Working Group tasked to develop an "Inventory of best/good practices of investigation in Europe" (WG2) has also conducted a systematic review of each Peer Review Report.

### 2.3) Categorisation of SIAs

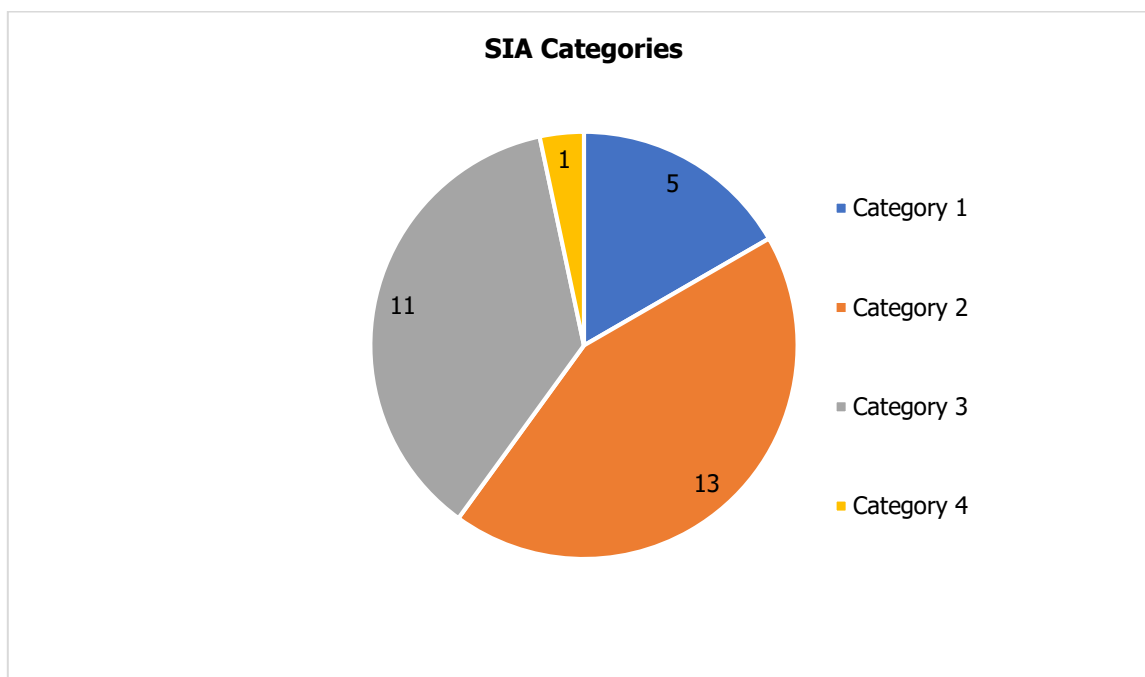
During the 18th plenary meeting held in Brussels on 6-7 February 2019, WG5 was tasked with assessing the Final Reports of the reviewed SIAs, including the completed questionnaires, in order to classify each SIA in one of four categories. The categories were solely intended to identify whether SIAs might need assistance or have the capability to assist a State in managing and organising a major accident safety investigation. The Chair of WG5 then presented the preliminary assessment to the Head of each SIA and a final categorisation was agreed.

Based on the analysis of the 30 Peer Review reports, ENCASIA WG5 developed four categories of SIAs related to the management of a major, or complex, aircraft accident investigation:

- **Category 1** is an SIA which has the experience and resources to conduct and manage a major accident investigation in a timely manner without mutual assistance.
- **Category 2** is an SIA which has the experience, resources and a National Investigation Management Plan (NIMP) or similar to conduct and manage a major safety investigation in a timely manner, but may require some assistance from other SIAs.
- **Category 3** is an SIA which does not have the experience and/or the resources to conduct and manage a major safety investigation on its own, but is developing a NIMP based on the concept of the ENCASIA Mutual Support System (EMSS).
- **Category 4** is an SIA which does not have the experience and resources to conduct and manage a major safety investigation on its own and is not currently developing a NIMP or similar.

The number of SIA in each category is shown in Figure 2.





**Figure 2.** Breakdown of SIA by categorisation

The breakdown shows that over half of the SIA have been categorised as either 1 or 2, which means they have the experience and resources to manage a major aviation safety investigation. It is noticeable that most of the remaining SIAs are continuing to develop and improve their plans to ensure that they can also investigate a major accident with the support of other SIA members. While the focus of the categorisation is on investigating major accidents, smaller complex accidents can also be challenging, which SIAs have addressed through Memorandums of Understanding (MOU) with other SIAs or as signatory to the ECAC Code of Conduct.

The Northern Accident Investigation Group (NAIG) is an example of a successful mutual support arrangement between the Nordic SIAs, and Canada, which is a sub-regional group fostering cooperation between neighbouring states. Following the outcomes from the Peer Reviews, ENCASIA is currently developing its own system of mutual support called EMSS. EMSS will provide a structure and framework for SIAs to develop a NIMP and to share resources and experience on both a sub-regional and European level where Cat 1, 2 and 3 SIAs will be able to support, where requested, each other's investigations.

Even if a Category 1 SIA has the capability of conducting a major safety investigation without assistance, all SIAs, whatever their categories, have the opportunity to ask for second opinions in the course of their safety investigations.

## **2.4) Overview of the SIA Resources in Europe**

### **2.4.1. Foreword on data and statistics**

Each Peer Review report contained a section on statistics that was filled in by the Panel members after their on-site visits. Despite a common training module on indicators/statistics, the analysis of such data showed a degree of variability. Therefore, in viewing this data, consideration should be given to the structure of the SIAs, single and multimodal, the varying scope of their activities and the relatively small data set used. It should also be remembered that the data was collected over a five-year period during which a number of the SIAs have reorganised, changed in size and developed further.

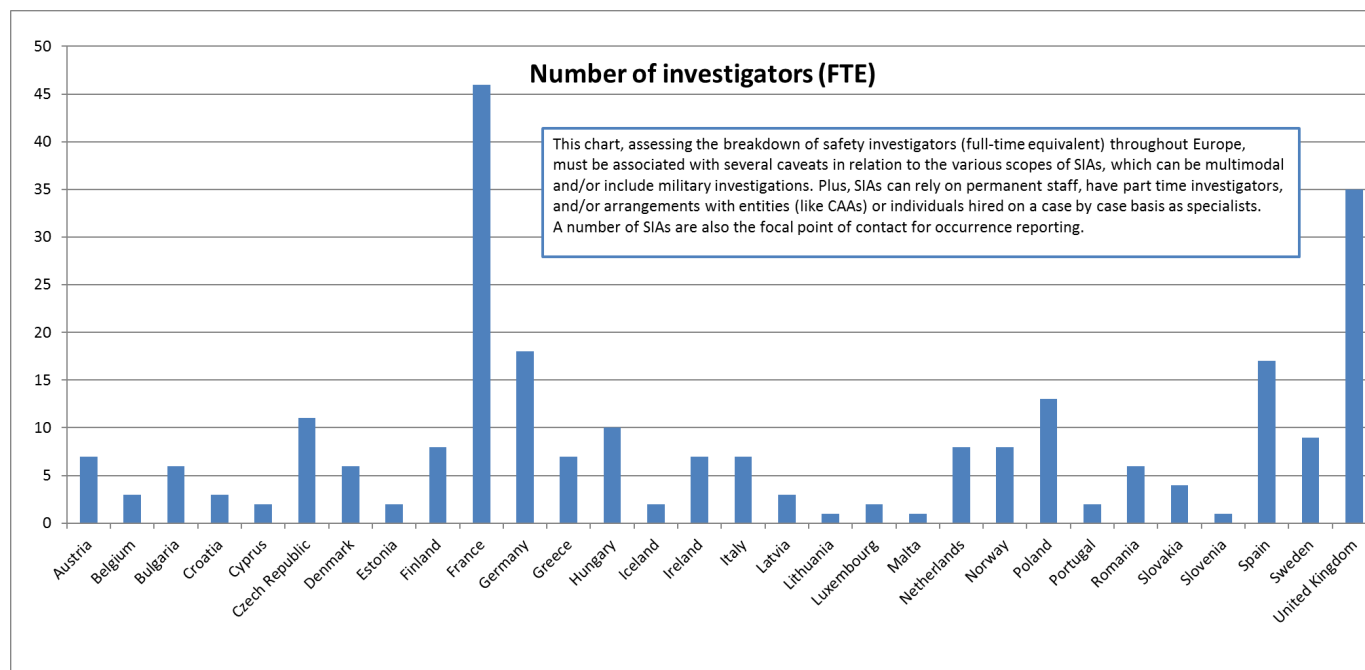
While the following statistics might not be fully representative of the current situation across Europe, the overall average could be useful for SIAs to position themselves amongst their peers. Within the larger EU context, these statistics still provide a good regional perspective on resources and activities across Europe.

The first part of the analysis relates to the volume of civil aviation activity and shows a substantial variability between Member States. Whereas the second part will focus on analysing data which is less dependent on these volumes.

### **2.4.2. Number of safety investigators in Europe**

Figure 3 represents an assessment of the number of full-time equivalent (FTE) air safety investigators in each Member State. This data must be interpreted with care as the structure, role and scope of each SIA may be different. There might have been manpower changes over the five years since the data was collected, and the permanent staff could be supported by part time investigators hired on a case by case basis. For example, some SIAs can have broader scopes of investigation at national level, such as investigating military accidents and incidents or microlight occurrences. SIAs can also have different National requirements in addressing Regulation (EU) No 376/2014 on the reporting, analysis and follow-up of occurrences in civil aviation.

Indeed, a number of ENCASIA Members are the national point of contact in accordance with Article 6(3) of Regulation (EU) No 376/2014 or manage the voluntary reporting system referred to in Article 5 of that same Regulation.



**Figure 3.** Numbers of Full Time Investigators in Europe (2014 to 2018)

There are approximately 245 permanent FTE air safety investigators employed in the 28 European Member States with an additional ten investigators from the observer states (Norway 8 and Iceland 2).

The overall average of 8.75 safety investigators/member state may represent a useful and interesting number at EU global level. However, it is difficult given the variation in activity and structure of the SIAs to determine the optimum number of investigators required by each State. Moreover, the survey only evaluated the number of full-time investigators and did not record other experts that are available to support investigations.

In future surveys it might be more effective to collect data with more granularity, for example by looking at the number of investigator man-hours rather than the number of investigators, in order to better quantify the meaning of Full-Time-Equivalent (FTE). This approach would be dependent on the ability of SIAs to collect this data.

Member States are de-identified in the rest of this report.

### 2.4.3. Breakdown of SIAs (aviation only or multimodal)

Of the 30 SIAs at the time of the review, 50% identified themselves as multimodal with the remainder identifying themselves as single mode; however, at least two SIAs have since become multimodal.

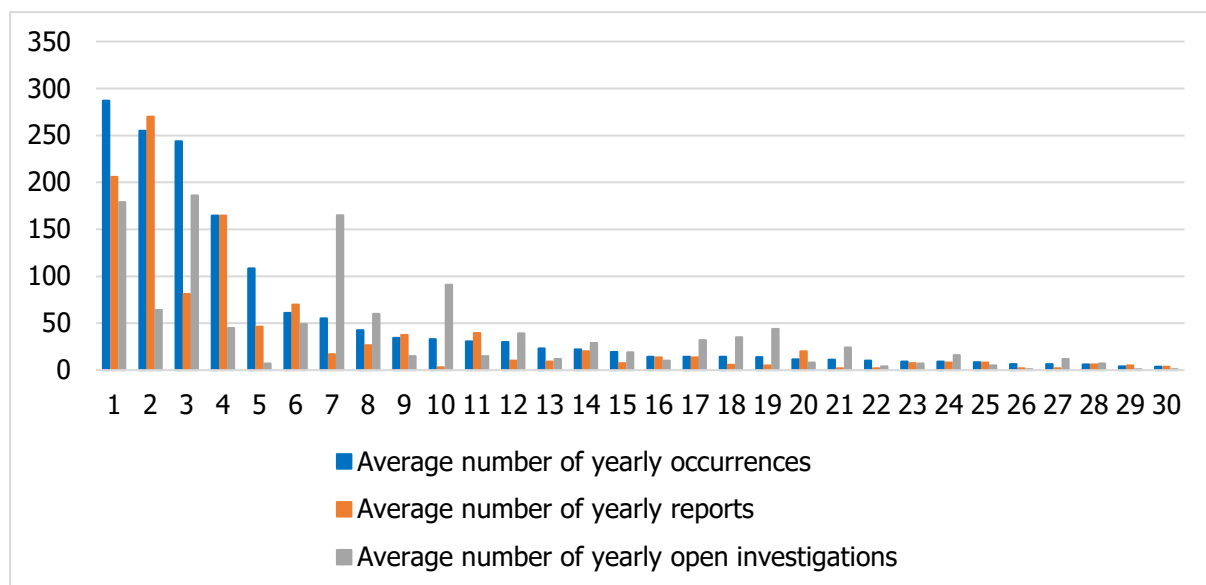
The Peer Reviews also highlighted that 23 SIAs investigate beyond the requirements of Regulation (EU) No 996/2010, mainly “former Annex II”<sup>6</sup> and/or military/state aircraft. The other seven SIAs strictly limit the scope of their investigations to the requirements of Regulation (EU) No 996/2010.

## 2.5) Overview of the Activities

### 2.5.1. Average number of investigated occurrences/reports/open investigations per year

When considering the number of investigations carried out by each SIA, it is important to understand that each investigation is different in terms of circumstances and complexity. The numbers used in the following charts were collated from the data provided by the SIAs during the Peer Reviews, which was based on an average over the three years prior to the Peer Review being carried out. Given the variability in how the SIAs collected and processed the data, it was decided to de-identify the SIAs and instead focus on the situation across the EU as a whole. Nevertheless, these numbers still need to be interpreted with care.

Figure 4 shows that on average, across ENCASIA SIAs, there were 51.8 (dotted line) occurrences (accidents, serious incidents) each year.

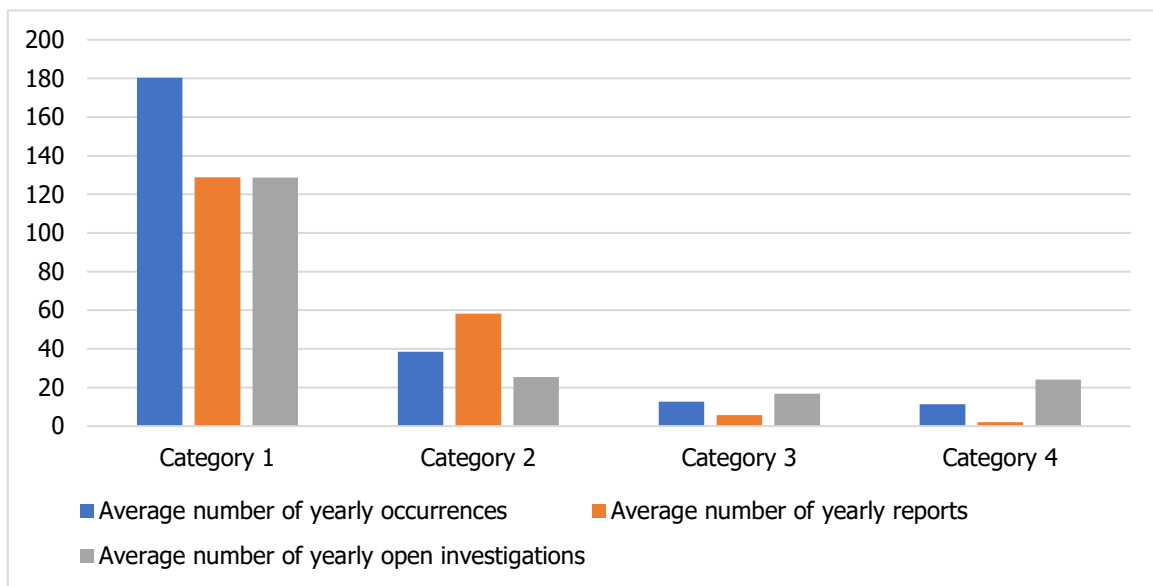


**Figure 4.** Average number of yearly occurrences/reports/open investigations

<sup>6</sup> Annex II notably refers to historic aircraft meeting a number of criteria; aircraft specifically designed or modified for research, experimental or scientific purposes; amateur-built aircraft; aircraft that have been in the service of military forces; ultralights.

Figure 4 shows that on average each SIA produces 48.9 reports and has 39.4 open investigations. These numbers underline a common situation in a number of SIAs, which have a growing backlog of open investigations. To an extent, the workload is unpredictable and the obligation on States to comply with the requirements of Annex 13 can often result in delays in producing other accident reports.

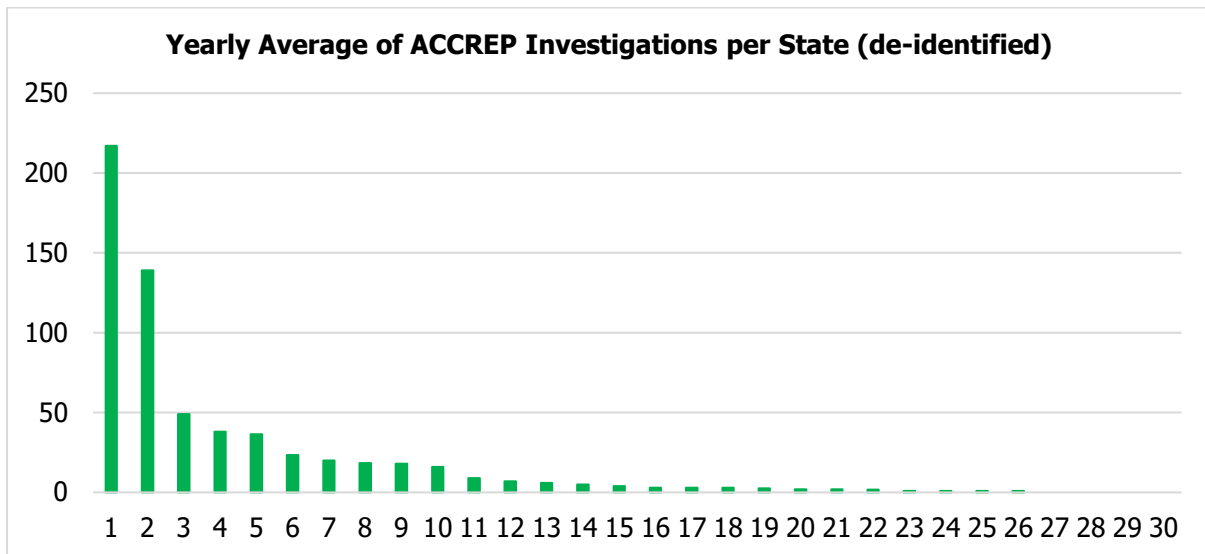
To be slightly more meaningful, the data in Figure 4 has been broken down by SIA categories (Figure 5):



**Figure 5.** Average number of yearly occurrences/reports/open investigations by SIA categories

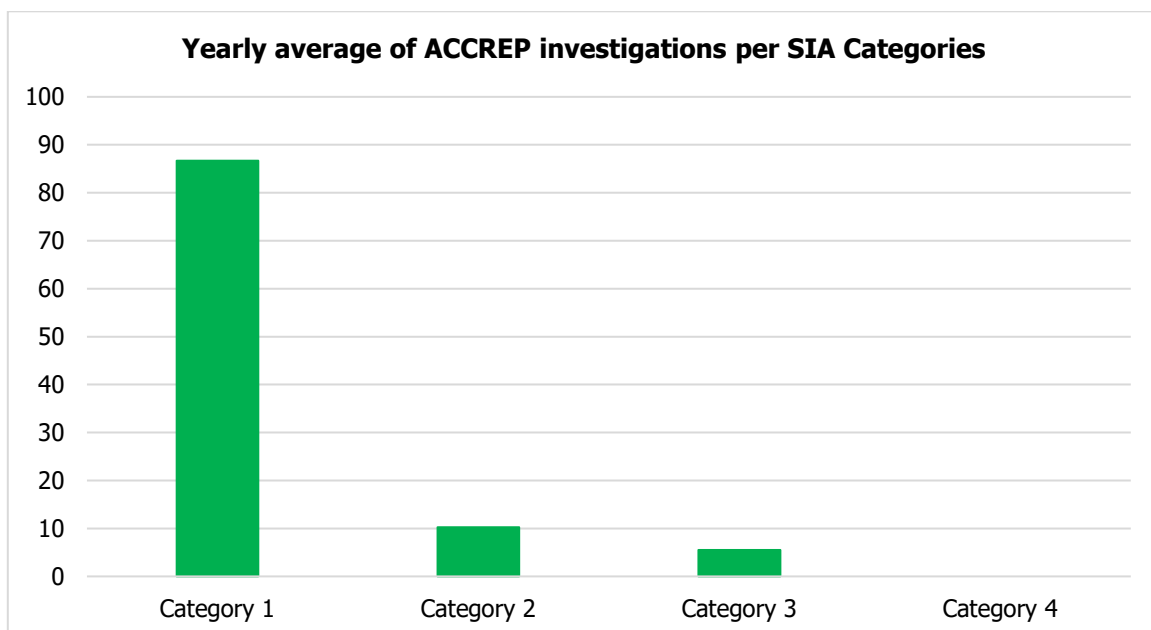
### 2.5.2. Number of Accredited Representative activities

Figure 6 shows that each year there are on average 20.9 ACCREP investigations per state, but with substantial differences between states.



**Figure 6.** Yearly average of ACCREP investigations per State

Figure 7 presents the average number of ACCREP by category, which shows that it is the Category 1 SIAs who undertake the majority of the ACCREP investigations.



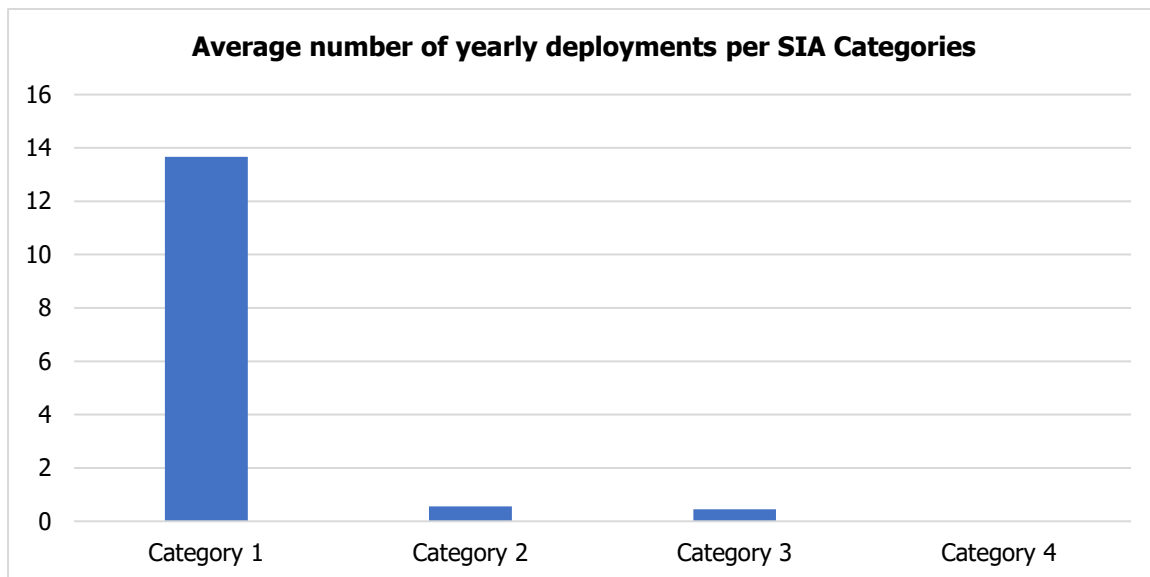
**Figure 7.** Yearly average of ACCREP investigations per SIA categories

### 2.5.3. Average deployments

There are several types of ACCREP activities representing different levels of workload. A possible indicator to quantify such activity is by counting the investigations that need one or several investigators to be deployed (i.e. travelling

versus non-travelling). The deployment of a go-team to a crash site also represents a good on-the-job training opportunity for training purposes.

Figure 8 shows the overall yearly average of deployments for ACCREP investigations is 2.69 deployments/State. Figure 8 also compares this overall average to the yearly average deployment of investigators per SIA categories.



**Figure 8.** Average number of yearly deployments per SIA categories

Although these numbers confirm the previous results, they need to be taken with caution, as they were not always collected with a consistent baseline. The data verification and analysis showed different levels of understanding regarding the term “deployment”. In some SIAs, they included both go-team deployments and examination missions for ACCREP purposes while in other SIAs it meant only go-teams. The next Peer Review phase will improve the collection process in order to obtain results that are more meaningful.

#### **2.5.4. SIAs with FDR capabilities**

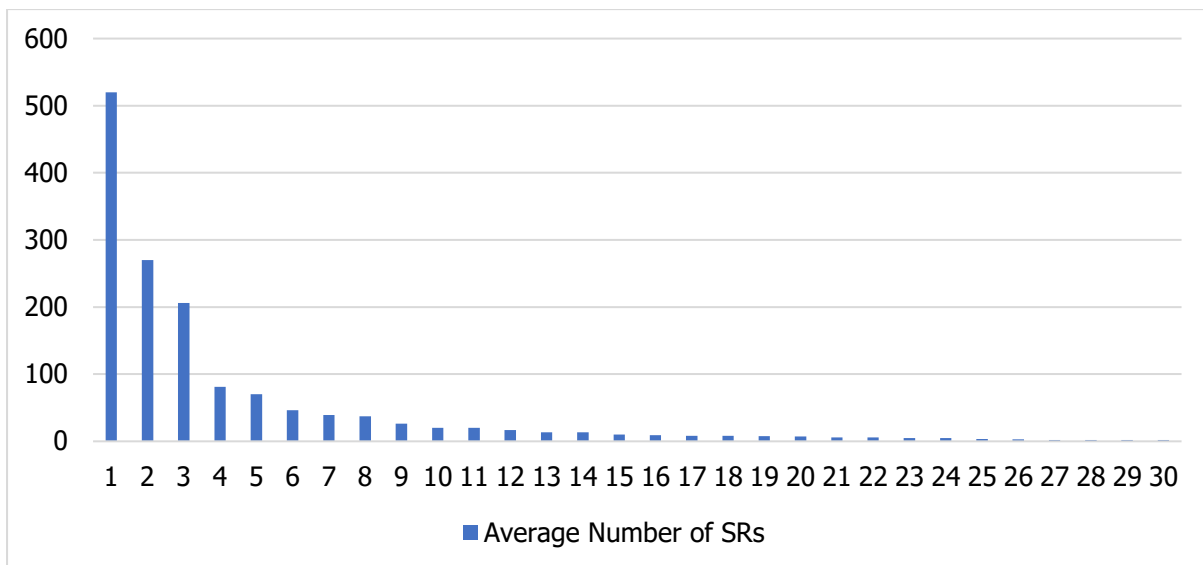
The majority of ENCASIA SIAs have in-house capabilities to readout undamaged flight data recorders. A number of other SIAs have agreements with companies or laboratories to have these readout tasks performed under their control by a third party. For damaged recorders, only a handful of European SIA, normally Category 1, have the equipment and staff to deal with these situations. However, these SIAs do not individually have the capability to download all damaged flight recorders, but instead work together to ensure that there is a capability within Europe.

#### **2.5.5. Average number of safety recommendations issued each year**

It should be noted that the Peer Review questionnaire was established before the gradual implementation of the European database on safety recommendation

(SRIS). Moreover, the following numbers are national averages based on outdated assessments, as they do not reflect the downward trend seen over the last five years. An up to date analysis of safety recommendations is available in the ENCASIA Annual Reports.

Figure 9 shows a total of 1,476 safety recommendations issued per year, which gives an average of 48.9 per State. These numbers, based on the data collected in the questionnaires, are outdated and not consistent with the content of the SRIS database, which is now mature and reliable.



**Figure 9.** Average number of Safety Recommendations issued per SIA

## 2.6) Performance Indicators

### 2.6.1. Duration of an investigation and types of final reports

One of the main performance indicators is the timely production of the final report. Of the 30 SIAs, 20 reported that they published a report within a year.

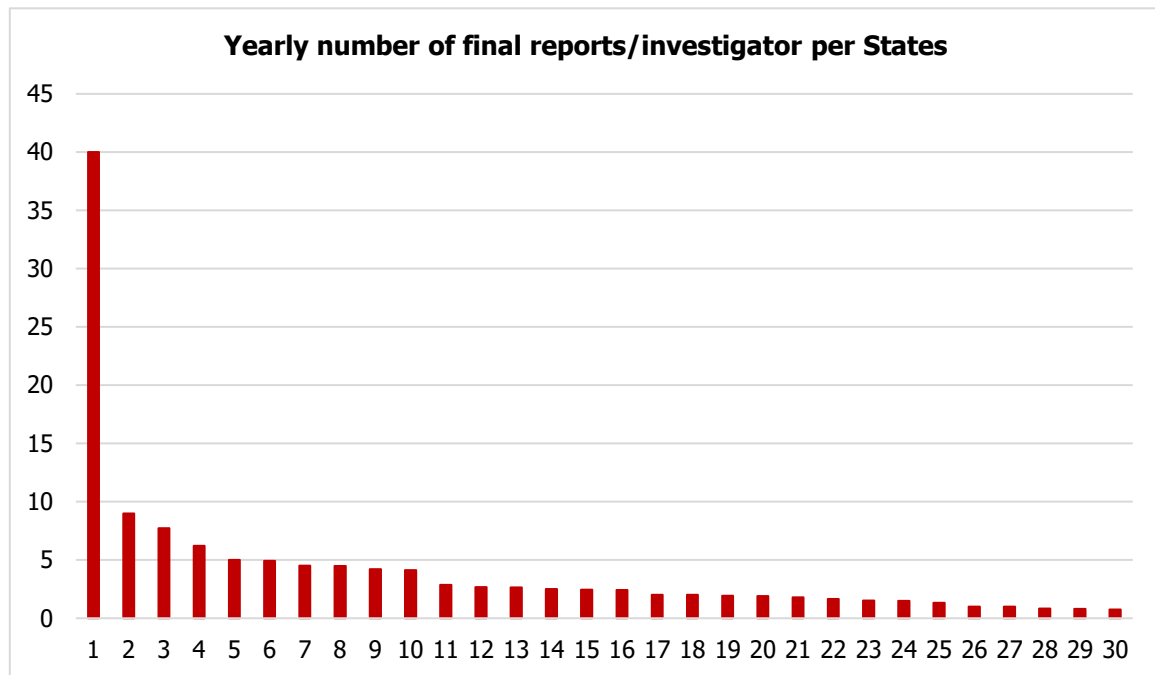
However, it is also important to note that there are no indicators which capture the complexity of an investigation and the quality of reports. These topics need additional research on the advantages and limitations of having indicators. Indeed, they could be misleading regarding the work performed by SIAs. Measuring or assessing the complexity and the depth of investigations has always been challenging.

In the shorter term, there is a need to further harmonize across European SIAs the different types of reports that could be used to conclude an investigation, in addition to the ubiquitous ICAO Annex 13 format.



## 2.6.2. Report/Investigator/Year (de-identified)

Figure 10 shows the yearly average number of reports per investigator in each member state in a de-identified manner. Because of the heterogeneity of the data collected, it was deemed preferable to only consider a global average.



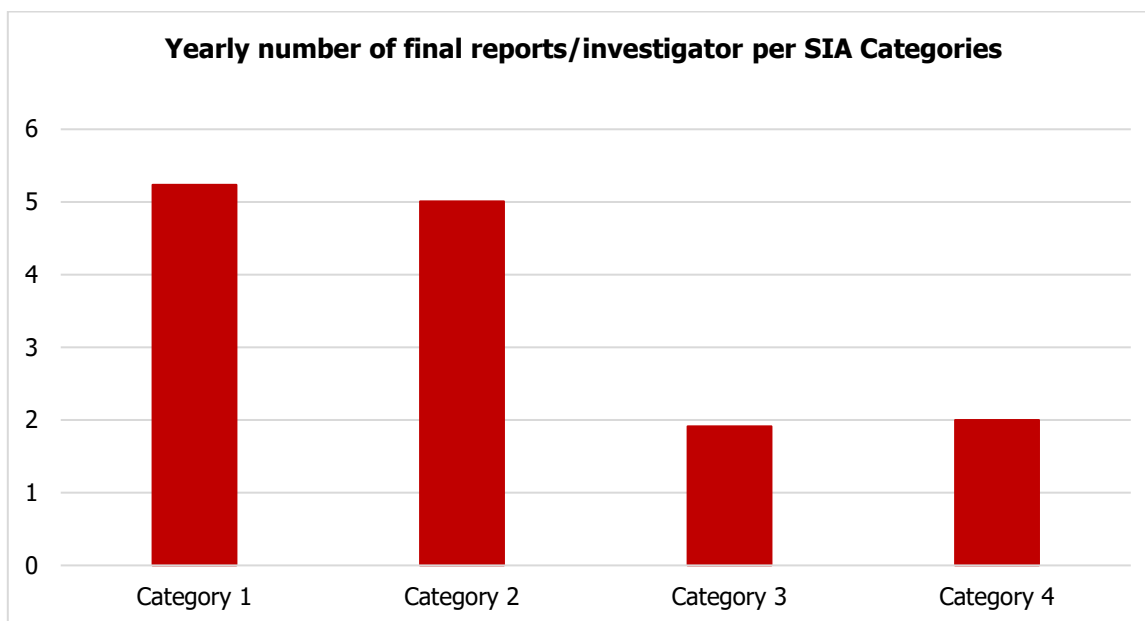
**Figure 10.** Yearly number of final reports/investigator per States

Despite a couple of discrepancies during the data collection, it can be seen that on average, at EU level, there are about 4.2 final reports/investigator/year.

If we discard the highest and lowest values, then this global average becomes 3,04 final reports/investigator/year.

This ballpark number does not reflect other activities, such as ACCREP activities, technical assistance to third countries, safety promotion, safety studies etc. Nevertheless, this number of 3 yearly final reports per investigator may represent an initial basis to compare resources with national aviation activities.

Figure 11 shows the yearly average number of final reports per investigator by Category of SIA (the highest and lowest values were discarded).



**Figure 11.** Yearly average number of final reports/investigator per SIA categories

### 2.6.3. Other possible indicators

It is difficult to identify indicators to cover other safety related activities such as safety promotion, safety studies, answers to queries on safety data, etc.

Nevertheless, several SIA publish activity reports. It was felt useful to explore this area further in order to improve the consistency of the data collected during future Peer Reviews.

The workshop on Peer Reviews identified possible indicators for the next phase of data collection:

- Number of investigations per year, preliminary reports to be issued in 2 months, ratio of open/closed investigations, number of training days (according to the educational plan), assessment on safety recommendations (on a yearly basis);
- Number of events reported to the SIA, and then log how many are investigated;
- Number of times there is a need to appoint an ACCREP to a foreign investigation;
- Types of ACCREP could be categorized, e.g. travelling vs non-travelling. However, the level of work for a non-travelling ACCREP can vary, from just monitoring emails on the investigation, to actively taking part in the investigation (interviewing flight crew, attending technical investigations e.g. engine teardown etc.);

- Number of SRs produced, and the number of these where the addressee has responded adequately;
- Average number of accidents/serious incidents per year, number of assistance missions.

## 2.7) Focus on Key Questions from the Questionnaire

### 2.7.1 Assessment of the questionnaires (self-assessment)

At the end of the Peer Review process, 25 SIAs provided the WG with their completed questionnaires to enable an analysis of key questions to be carried out. The key questions were:

*(6.05) Do you manage to publish the report within 12 months?*

*(2.02) Does your performance assessment show that your SIA has sufficient resources to meet its obligations?*

*(4.03) Does the SIA have access to sufficient trained investigators to undertake an investigation into a major aircraft accident that occurs within their national boundaries?*

*(5.09) Are advanced arrangements in place regarding the effective coordination of safety and judicial investigations?*

*(5.10) Who is the competent authority to decide on the disclosure of records?*

*(4.02) Does the SIA have sufficient resources to conduct investigations or accidents other than major accidents and serious incidents?*

*(2.01) Do you monitor or assess the performance of your SIA?*

*(3.03) Is there a training budget and is it sufficient to fund the required training plans?*

*(4.16) Does the SIA have access to secure hangars and workshops where the physical evidence can be secured and worked on by the investigators?*

### 2.7.2 Confidentiality of sensitive information

The response to "*(5.10) Who is the competent authority to decide on disclosure of records?*" was:

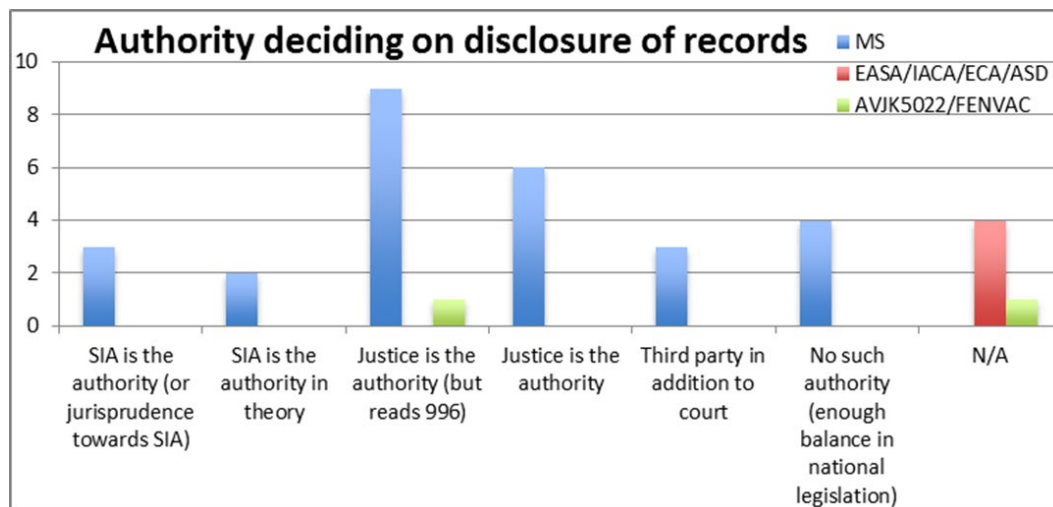
- Judicial authority 11
- Other authority 6
- Not sure 8

These results could be compared with the output of the examination of Regulation (EU) No 996/2010 that the EC carried out in accordance with Article 24 of this Regulation. The results of this review are available in the 2016 Commission Staff

Working Document on the implementation of Regulation (EU) No 996/2010 on the investigation and prevention of accidents and incidents in civil aviation (ref: SWD(2016) 151 final)<sup>7</sup>. They were based on the results of a survey that were presented during the ENCASIA Plenary Meeting of 18-19 September 2014.

### 2.7.3 Who decides on the disclosure of records?

Figure 11 provides the response to the question "Who is the authority in your Member State competent to decide on the disclosure of records?" The full results of this survey are appended to the Commission Staff Working Document (see part 2)<sup>8</sup>.



**Figure 11.** Authorities deciding on disclosure of records per sources answering the survey

### 2.7.4 Categorisation of SIAs

The following questions were reviewed to support the categorization process:

*(1.01) Permanent SIA capable of conducting a full safety investigation?*

*(4.01) Deploy investigators to an event 24/7?*

*(4.03) Have sufficient trained investigators to undertake an investigation into a major aircraft accident that occurs within their national boundaries.*

*(4.04) Have trained personnel who can perform the function of Investigator in Charge at a major aircraft accident.*

*(4.05) Have documented procedures stipulating how they will conduct an investigation into a major aircraft accident.*

<sup>7</sup>[https://ec.europa.eu/transport/sites/transport/files/modes/air/safety/accident\\_investigation/doc/swd%282016%29151-part-1-of-2.pdf](https://ec.europa.eu/transport/sites/transport/files/modes/air/safety/accident_investigation/doc/swd%282016%29151-part-1-of-2.pdf)

<sup>8</sup>[https://ec.europa.eu/transport/sites/transport/files/modes/air/safety/accident\\_investigation/doc/swd%282016%29151-part-2-of-2.pdf](https://ec.europa.eu/transport/sites/transport/files/modes/air/safety/accident_investigation/doc/swd%282016%29151-part-2-of-2.pdf)



*(4.13) Capability to analysis and interpret information from flight data recorders.*

*(4.14) Capability to analysis and interpret cockpit voice recorders.*

*(5.01) Effective process in place for the notification of events and timely investigation of serious incidents and accidents.*

## **2.8) Suggestions from Peer Review Reports**

The review of the suggestions written in the Peer Review reports by the various panels can be summarised as follow:

- Enhanced system of mutual support;
- Sub regional groups to support each other;
- Investigation management plan for major investigations;
- Insurance policy to cover major investigation expenditure;
- Common policy for translating parts of reports into a common language;
- Common training policy for major investigations;
- Advanced investigator training;
- Experience by attending other SIAs investigations.

These suggestions were discussed by the ENCASIA plenary meetings and have been addressed by the ENCASIA working groups.

## **Chapter 3: OTHER RESULTS AND BENEFITS FOR THE PEER REVIEWS**

Peer Reviews, and in particular the on-site visits, were very useful from a political standpoint as it gave visibility to the SIAs in a number of Member States. Keeping the on-site Peer Reviews to one day was also appreciated by not taking too much time from the SIA.

The Peer Reviews were useful in highlighting areas for further improvements and in offering advice on good practice. For some smaller, less experienced SIAs, the opportunity to share experience with other investigators gave them confidence that they were doing the right things. It also helped them establish the minimum equipment required and to enhance their processes and procedures.

More importantly, the Peer Reviews helped to support the case for certain requirements, or to back up requests for additional resources. It also became a strong incentive to have MoUs signed with third parties, in particular with judicial authorities.

The concept of Peer Reviews represented a positive way to ensure a proper application of the legislation, in particular, to ensure that “the means” referred to in Article 4 of Regulation (EU) No 996/2010 would be provided to SIAs.

It has also helped a number of SIAs to realise the importance of being prepared for a major accident safety investigation, which reinforced the mandate of the ENCASIA working group on mutual assistance (WG3). In some cases, it triggered the development of a NIMP.

In general, Peer Reviews were seen as a great way to prepare for an ICAO USOAP audit. ENCASIA training certificates proved to be useful during ICAO audits to provide evidence in answering questions related to investigator training.

It was a good opportunity to have a look at the organisation from the outside and, if needed, it could be used for making corrections/reorganisation. In a number of SIAs, this was seen as an opportunity to go through documentation and update procedures, which is normally buried in a normal working day. It was not an audit but a good learning process.

The networking opportunities from the Peer Review activities helped form a team of European safety investigators with a common understanding of processes and procedures. The training, preparation and conduct of the Peer Reviews represented a good way to share national procedures and indirectly, to harmonize practices



between Member States. It also enabled SIAs to share the different challenges they face with the realisation that their difficulties might not be unusual.

The questionnaire was a very good way to get an idea of the SIAs best/good practices. It represented a good benchmarking tool for the internal preparation process in order to find good/best practices.

The Role of the Commission during the whole process was to provide support to enable all the activities carried out by WG5. A representative of the European Commission was part of the working group.

## Chapter 4: TOWARDS PHASE 2

### State of play regarding SIA data (Phase 2A)

The situation of the SIAs has changed over the 5 years (2014-2018). The data will have to be updated with the development of new forms that should be more precise. Plus, the guidance to help collect data will have to be enhanced so as to facilitate the task of the reviewed SIA as to what exactly to fill in in the questionnaires in order to avoid data inconsistencies.

In that vein, this Phase 1 Peer Review report also highlights a need to further study performance indicators. This could mean conducting some research into data published by SIAs in their annual reports. That approach would help to qualify the complexity of an investigation.

In summary, it was recommended to focus more on quantitative information through Phase 2 improved forms (called phase 2A). A second Peer Review Questionnaire with data forms should be sent out to SIAs and then a comparison be done with the first PR Questionnaire.

### Towards more focused/in-depth questionnaire including regulatory compliance questions (Phase 2B)

The Warsaw workshop noted that from the SIA's point of view, the Peer Reviews met their objectives but the questionnaire had to evolve to also consider one 'customer', the EC. It was recommended to select key questions in the questionnaire and focus on shortcomings.

The second phase of Peer Reviews should be more focused on qualitative aspects. EMSS should be part of that focus as it is the main outcome of the Peer Review programme as well as questions on compliance with Regulation (EU) No 996/2010. The workshop outputs were to focus on notifications & early actions in order to be better prepared to face a major civil aviation accident. The new PR phase could review the SIA's role in the national emergency plan to address (article 21), or the SIAs' NIMP or any other SIA's national plan.

The main objective of Phase 2B should be: *"How do you handle a major accident investigation in a timely manner in compliance with Regulation (EU) No 996/2010?"*

It was then recommended to have qualitative questions covering the following challenges associated with a major investigation (highlighted in bold):

- Logistics and funding;





- **Getting access and managing technical competencies and investigation means;**
- Managing investigation teams;
- **Relation with EASA in a major investigation;**
- **Communication to public (timely release of information);**
- **Communication to families;**
- Access to information;
- **Relations with Justice/sharing information with judicial authorities;**
- Writing and consultation of reports.

Then some exercises could be put in place in order to prove solidity of some aspects of the SIA plan (NIMP or other).

Finally, the next round of Peer Reviews would also provide an opportunity to follow up on the actions, achievements and progress made since the last on-site visit.

## CONCLUSION

Within five years, 30 SIAs were Peer Reviewed. At the beginning of the process there were questions about the objectives of the Peer Reviews, which were all addressed by the ENCASIA plenary meetings as well as by the E C, which had a key role in facilitating the process. The mutual trust established between all parties convinced the 28 Member States' SIAs to volunteer as well as other SIAs (notably those from Iceland and Norway) who requested to be reviewed to further enhance their capabilities.

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 SIAs, which will help with the development and harmonisation of practices across Europe;
- The need to assist some SIAs in developing practices that ensure their independence and to help them prepare contingency plans, such as a NIMP, in the event of a commercial air transport accident or serious incident.

The Warsaw workshop's main conclusion was that the Peer Reviews covered the whole scope of Regulation (EU) No 996/2010 but needed to be carried out more in-depth with further harmonization of the data collection. Phase 2 of Peer Reviews will continue to deal with the implementation of Regulation (EU) No 996/2010. National Investigation Management Plans (NIMPs) should remain the main focus of Phase 2. That next phase will combine the quantitative and qualitative approaches to support the reinforcement of individual and collective capabilities.

## APPENDICES

### Appendix 1: Peer Reviews vs. Audits

A Peer Review differs from an audit, which is an independent inspection normally carried out by, or on behalf of, regulatory or higher authorities to ensure that organizations comply with the required regulations, policies and procedures.

Despite this, there is a common mistake in assimilating Peer Reviews to audits, or, because of their inherent “teach and learn” approach, to “soft audits”.

The following table helps to understand the main differences between both mechanisms:

A Peer Review is	A Peer review is not
A cooperative process that is undertaken by mutual consent.	An opportunity for individual SIAs to demonstrate their greater capability.
Carried out by personnel from organizations of equal status.	A means of finding fault or being judgmental.
An opportunity to help the SIA identify areas where further development might be required.	A method to force your own practices on other organizations.
An opportunity to share knowledge and identify good and best practice.	
A process that recognises that individual SIAs operate in different environments and is therefore respectful of cultural, judicial, numerical and financial differences.	
A mechanism by which Member States provide the EC with evidence that they comply with EC Regulation No. 996/210.	

## **Appendix 2: Peer Review Process**

### **Working Group**

The Peer Review process was managed, on behalf of ENCASIA, by WG5. SIAs provided individuals to the working group, one of whom was appointed by the Chairman of ENCASIA as the Chair. All the members of WG5 were required to be currently employed in an ENCASIA Member or Observer State SIA. The EC also appointed a representative to attend the WG meetings; however, this individual did not participate in the Peer Reviews.

The working group prepared an annual programme for the Peer Review process, which was validated at the ENCASIA plenary meetings held in January and February of each year.

### **Peer Review Panel**

The Peer Reviews were carried out by a Panel consisting of three individuals (reviewers) from different SIAs. The Panel nominated one member as the Coordinator who assumed responsibility for managing the Peer Review activity and ensuring that the report had been completed within the agreed timescales. Each Panel reviewed a maximum of two SIAs during the same week.

In recognition of the cultural, language, judicial and financial differences across Europe, the SIA being reviewed had the option to request, through the Chairman of ENCASIA, that a specific State be invited to provide a Panel member or an Observer.

### **Observers**

It was recognized that not all the SIAs had the resources to provide an experienced investigator for the period required to undertake the review. Therefore, an SIA could make a request to the Chairman of ENCASIA to provide an Observer during the on-site visit. The EC and Chairmen of ENCASIA WGs could also make such a request.

The appointment of an Observer during the on-site visit was subject to the agreement of the State being reviewed and all Panel members undertaking the Review.

### **Trainers and Mentors**

WG5 initially developed a one-and-a-half-day course to inform SIAs on what to expect from a Peer Review and to train the reviewers on how to carry out a Peer Review. However, over the course of the programme the training extended to two days and incorporated good practice and training with



respect to managing safety recommendations. The training was delivered by members of the ENCASIA WGs who were then available to mentor the panels as they conducted their reviews.

During the period 2014 to 2018, ENCASIA trained over 85 safety investigators on the Peer Review process of which 69 were from ENCASIA SIAs. This represented approximately 30% of the ENCASIA investigators, the majority of whom came from the smaller SIAs.

## Questionnaire

A fundamental part of the Peer Review process was the completion of a questionnaire, which had three aims: to form the basis on which the Peer Review would be carried out; to aid the SIA in carrying out a self-assessment ahead of the Peer Review; and to inform the Peer Review Panel on the capability and current status of the SIA under review. The questionnaire was prepared by WG5 and approved by ENCASIA at a plenary meeting. It contained guidance material to ensure a common understanding of each question.

The completed questionnaire was provided to the Panels ahead of the on-site visit and used to determine the areas that might need to be explored further during the visit and to support any comments made in the report (Final Report) for each SIA. It should be emphasised that the questions were only intended to be used as a guide to assist the reviewers in achieving the objectives of the Peer Review.

The SIA being reviewed owned the completed questionnaire, which did not form part of their Final Report. Once the Final Report for each SIA had been submitted to the Chairman of ENCASIA, through WG5, all working copies of the completed questionnaire retained by individuals not employed by the SIA were destroyed. Copies of the Final Reports were circulated to ENCASIA Members and Observers to ensure that the findings and examples of good practice were shared across the SIAs.

## On-site visit

The on-site visit would normally last one day and was an opportunity for the Panel to clarify any responses in the questionnaire and to gain a greater understanding of the operation of the SIA. The Panel Coordinator was responsible for coordinating the visit and providing the SIA with advanced notice of areas that the Panel wished to explore further during the visit. The on-site visit also enabled examples of good/best practice to be identified, collated and shared with other SIAs and ENCASIA working groups.

## Six stages of a Peer Review

The Peer Review process consisted of six stages: initiation, completion of a questionnaire, training, initial assessment, on-site visit and reporting. The process was as follows:

- **Initiation.** The process was initiated when the Chairman of ENCASIA wrote to the head of the SIA and formally requested that ENCASIA carry out a Peer Review of their civil aircraft safety investigation processes and capabilities.
- **Questionnaires.** Once the SIA formally agreed to participate in a Peer Review, the WG5 Chairman arranged for a questionnaire and Peer Review Handbook to be sent to the SIA and the nominated reviewers.
- **Training.** The training took place in September and representatives from all Member and Observer states of ENCASIA were given the opportunity to attend the two-day training session. The primary aim of this event was to train the reviewers on how to carry out Peer Reviews. However, the secondary aim was to spread information on good practices across the European SIAs and to provide an opportunity for individuals across Europe to meet and share experiences.
- **Initial assessment.** Immediately following the training, the Panels carried out an initial assessment of the completed questionnaires during which the Trainers were available to act as their Mentors. This initial assessment lasted one day for each SIA and determined the areas that Panels might wish to address during the on-site visit.
- **On-site visit.** The on-site visits were intended to last at least one day and normally took place during the same week in October or November with each Panel carrying out a maximum of two visits. The on-site visit was an opportunity for the Peer Review Panel, and observers, to consolidate the information in the questionnaire and to exchange ideas on good practices.
- **Reporting.** The Panels were required to submit the Final Report to WG5 within 25 working days of the on-site visit. After the consultation phase of the reviewed SIA, the Final Report was distributed by WG5 to the EC and ENCASIA prior to the January plenary meeting.

## Documentation on ENCASIA Peer Reviews

The questionnaire contained guidance material to ensure a common understanding of each question. In addition, ENCASIA developed guidance on the following topics to provide a sound framework for the Peer Reviews:

- Competencies of Reviewers;
- Peer Review Training (Logistics & Programme);



- Non-disclosure agreement;
- Retention and disclosure of documents;
- Finance;
- Coordination;
- Final Report (Content of the Final Report /Guidelines for completing the Final Report);
- Terms of references (Mentor, Training, Logistical coordinator).

### Appendix 3: List of Peer Reviews and Examples of Good Practices

State Reviewed	Dates of on-site visits	Panel Composition	Samples of good/best practices extracted from the summary reports of each country
Austria	11 October 2018	Romania, United Kingdom	Arrangements were in place for a six-monthly visit by a medical doctor from whom employees can seek advice, on a voluntary basis, on medical matters. There is also a vaccination programme and procedures for a psychologist to provide, on request, individual support to investigators.
Belgium	16 October 2018	Germany, Iceland, United Kingdom	One of the responsibilities of the AAIU is to promote aviation safety within Belgium. Safety initiatives include giving presentations to flying clubs and training organisations, and the publication of "safety feedback" leaflets, available on their website, that give safety tips based on reported incidents, where a full investigation would not generate any new safety lessons and use the investigator's time that could be spent on something more productive. Office 365 file sharing with controls on who has access to specific files / folders for a major investigation, for example.
Bulgaria	9 October 2018	Romania, United Kingdom	They provide training to all new prosecutors as to the role of the SIA, its task and objectives.
Croatia	7 October 2014	Iceland, United Kingdom	During the consultation process of an investigation, the AIA records which comments from consultees were incorporated or rejected and informs the relevant body of its reasoning.
Cyprus	10-11 October 2018	France, United Kingdom	The AAIIB are involved in the continual development of the Cyprus State Safety Plan and one current initiative is championing published radar approaches to improve safety, which may also provide the opportunity for higher traffic flow rates. An additional initiative has been recommending the installation of an ILS on Runway 04 to cater for low visibility approaches at LCA airport.
Czech Republic	10-12 October 2016	Cyprus, Ireland, Netherlands	An annual exercise is organized in cooperation with the emergency services (fire brigade, police and medical services; Integrated Rescue System). This exercise takes place every year in one of the fourteen regions of the Czech Republic. This exercise also includes hazard awareness.
Denmark	22-23 October 2015	Germany, Greece, Poland (+ Hungary as observer)	The AIB is equipped with radios which are part of the digital radio system of the emergency response organizations. Therefore, they are able to reach the officer in charge at any accident site directly without any delay.
Estonia	9-10 October 2018	France, Latvia, Netherlands	As resources and funding are limited for Estonia compared to larger countries, ESIB has arranged MOU's and other agreements with States or private





			parties to better handle occurrences which require a greater investigation capacity than ESIB can deliver. For example, Media is handled by the Ministry of Economic affairs and Communication and Contact with families of casualties is taken care of by the Ministry of Social affairs.
Finland	11-12 October 2018	France, Latvia, Netherlands	The State legislative provisions do not allow any other authority, including the judiciary, to have access to the data held by the SIA. ACCREP and technical advisors have to sign a written agreement stating that they have to comply with the Finnish Law, in duty and obligation.
France	9 October 2014	Iceland, United Kingdom	The BEA undertakes safety studies when appropriate and believes that recommendations contained within them are valuable because they will be based on more than one event. When changes to safety recommendations are made following a consultation process, the amended recommendations must be presented to the Safety Recommendation Panel for approval.
Germany	9-11 November 2015	Latvia, Romania, United Kingdom	The BFU has developed a Handbook for Major Investigations. The BFU has developed a good quality system (including checklists) for the investigation process, including the preparation and production of investigation reports. The BFU's intranet is accessible from the field/accident site.
Greece	10-12 October 2016	Denmark, Romania, United Kingdom	Administrative personnel receive basic accident investigation training. Benefit: Better knowledge of investigation process and improved intercommunication with investigators and with the external aviation community. The AAIASB organizes training courses for their investigators in collaboration with for instance AAIB UK, ISASI, Hellenic CAA, Airlines, etc., often on a sponsor/free of charge basis. Benefit: Minimizes training costs and enhances information sharing. Using investigation community resources, they are able to organize quality training at a very low cost.
Hungary	10 October 2017	France, Romania, Slovenia	TSB provides training to the firefighters and the police to help them identify hazards on site and to explain TSB's role and activity on the field. Checklists are also provided to the police to inform them about typical equipment on board general aviation aircraft. TSB facilities comprise a sound-proof room used for meetings with families or crew interviews.
Iceland	11-13 November 2015	Latvia, Romania, United Kingdom	The ITSB participates in annual scheduled exercises of an Airport emergency response plan run by the Icelandic aviation authorities. By participating in these exercises, the ITSB have the opportunity to frequently train investigators as well as to familiarize the local authorities with the investigation process. This includes two major



			accident exercises each year, involving 50-200 participants. The ITSB has a team of SAR personnel fully equipped and trained for air accident on-site assistance.
Ireland	9-13 October 2017	Cyprus, Greece, United Kingdom	The AAIU has an insurance policy for costs associated with search, recovery and investigation of large-scale public transport accidents to the amount of €75m. The AAIU has a contract with a major transport operator for the safe transportation and recovery of the wreckage.
Italy	12-13 October 2016	Denmark, Romania, United Kingdom	The ANSV has documented guidelines for communications during a major accident. Procedures and confidentiality Forms are in place to prevent disclosure of CVR and Air Traffic Control communication data. The ANSV has started to host an annual meeting with journalists and universities in order to inform about the work and capabilities of the ANSV.
Latvia	12-13 October 2017	Austria, Germany, Luxemburg	The TAIIB has MoUs with all relevant organizations within their country to ensure an unhindered implementation of the safety investigation. Investigation of occurrences other than accidents or serious incidents, if resources are available, in order to gain experience.
Lithuania	3-5 October 2016	France, Greece, Portugal	TAIID has taken key steps to be prepared to face a major accident. At the invitation of the Iceland SIA, the head of TAIID attended a large scale simulation of an accident on an airport. This new approach in becoming prepared and in networking with other ENCASIA members represents a good practice, which should be encouraged.
Luxemburg	18 October 2018	Germany, Iceland, United Kingdom	Close relationships at an individual level between other national resources, such as fire and rescue, police, justice and the CAA-LU, have been cultivated so that the AET is able to tap into these resources on a case-by-case basis. Through the AlarmTilt crisis management tool, the duty investigator is notified of an event both by telephone and e-mail, which is automatically sent when a call is made.
Malta	12 October 2017	France, Romania, Slovenia	BAAI has published on its website a leaflet explaining the investigation process to the general public and other stakeholders in relation to aircraft accidents. It provides information on the actions to be taken should a person witness or be requested to attend or assist in an aircraft accident. BAAI is using a Facebook account to spread safety messages to the aeronautical community and to increase people's awareness about BAAI's role and activities.
Netherlands	5-7 October 2016	France, Greece, Portugal	In addition to the final investigation report, DSB publishes animations and presentations on its website in Dutch and English. This helps spread



			safety messages in a broader manner. The DSB has a 'Crisis Management' team that analyzes the state response after a major event. This provides feedback about the conduct of the investigation itself. DSB has a mobile office in a transportable container that can be used as an on-scene command office. It is equipped with some spare personal protective equipment.
Norway	11-13 November 2015	Belgium, France, Romania	SHT put up a so-called "Framework and analysis process for systematic safety investigations" applicable to investigations in all transport modes which seems to be a good and efficient tool to assist investigators in making a thorough analysis. On site user-friendly risk list and specific procedure in order to contact authorities and/or specific state services able to deactivate pyrotechnic devices (such as BRS) and mitigate on-site risks.
Poland	9-13 October 2017	Cyprus, Greece, United Kingdom	SCAAI has a list of 64 experts who are trained in procedures and regulations of safety investigations all of whom have signed an impartiality and confidentiality agreement that it can call upon to increase its numbers should the need arise. SCAAI has agreement with a provider of personal protective equipment, who can supply additional sets of protective clothing and other personal equipment at short notice for use by ACCREPS and technical advisors.
Portugal	16-18 November 2015	Belgium, France, Romania	GPIAA final reports are formatted so that the Portuguese and English translations appear on the same page. GPIAA has set up training data registration, with annual evaluation process. As part of this process the SIA has established a comprehensive "Individual Training Evaluation Form" for assessing all training, workshops, conferences, etc.
Romania	19-20 October 2015	Germany, Greece, Poland	The CIAS has three equipment sets available for field investigation. One of these is fully charged and functioning; the second functions as back up and the third is a spare which investigators can use during their time off for personal purposes and this is viewed as a good way of keeping the staff well trained in the use of the available equipment. The CIAS has three off-road vehicles. One of the cars is loaded with all the equipment required and is ready for departure to the accident site. The other two cars are used as staff cars. The three cars and their subsequent use are rotated on a weekly basis.
Slovakia	12-14 October 2016	Cyprus, Ireland, Netherlands	Given the limitations under which the AIIB currently operates, the Panel identified the practice of engaging ad-hoc, trained, part-time investigators as a 'Good Practice'.
Slovenia	6-8 October 2014	Denmark, Estonia, France	In Slovenia, it is stated and defined by law what logistic support other public administrations and/or



			organisations have to ensure for the benefit of SIA general accident safety investigations. During an investigation process, the SIA thereby avoids time-consuming negotiations and has access to immediate support.
Spain	8-9 October 2018	France, United Kingdom	The CIAIAC carries out safety studies directed to the general public, such as the recent "General Aviation accident prevention". These studies can be found on CIAIAC's website. The CIAIAC is part of the State Safety Programme (SSP) and has contributed to the drafting of a Plan de Acción de Seguridad Operacional (Action Plan for Operational Safety).
Sweden	9-10 October 2017	Austria, Germany, Luxemburg	The IICs calculate the resources required (tasks, responsibilities, deadlines) and the financial budget at the beginning of each investigation. This plan is adapted, whenever necessary. Every month the IICs provide a progress report to the SHK management group.
United Kingdom	8-10 October 2014	Denmark, Estonia, France	Delegation of Annex II aircraft non-fatal accident investigations to pilots associations. Investigation by correspondence (desk investigation) for minor General Aviation accidents via a form to be filled out by pilots. Written guidance material on SIA working methodologies for the police, emergency services, and airlines. The SIA issues a safety recommendation annual report including responses to the safety recommendations.



## **Appendix 4: ENCASIA Mutual Support System**

During the course of the Peer Review programme, it appeared that not all European States have sufficient internal resources, or competencies, to investigate on their own a major, or complex, accident or serious incident. In these cases, the State of Occurrence could either delegate part or all of the investigation to another State, or retain responsibility and seek assistance from another SIA.

The ENCASIA Mutual Support System (EMSS) is intended to help these European States who on their own are not able to conduct a safety investigation into a major, or complex, civil aircraft accident or serious incident. It is a voluntary process that helps States identify their capability gaps in order to develop contingency plans and establish prior arrangements with other States. These preparations aim to enhance the competence and confidence of the SIA in leading a major safety investigation and maintain public confidence in aviation.

The philosophy of the EMSS is that on request, and subject to availability of resources, one or more Assisting States will provide a combination of an Assistant IIC (A-IIC), group leaders and investigators to the Investigation. The role of the A-IIC could range from acting as a mentor to the Host IIC to undertaking all the responsibilities of an IIC. The A-IIC is expected to be available for all stages of the investigation.

The term Assisting State refers to a State that has some experience of a major investigation. The Assisting SIA does not necessarily have to be a large SIA, and does not need to have an extensive laboratory and the capability to perform, internally, testing and specialist examinations. Assistance for these activities could be provided by other SIA's, such as the SIA of the State of Design.

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