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REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

on the implementation of Regulation (EU) No 376/2014 on the reporting, analysis and follow-up of occurrences in civil aviation

EXECUTIVE SUMMARY

This report summarises the Commission's review of Regulation (EU) No 376/2014 on the reporting, analysis and follow-up of occurrences in civil aviation (the Regulation)[1], as foreseen by Article 24(2) of the Regulation. This review provides feedback on the current functioning of the Regulation five years after it entered into force. It puts in perspective the main objectives of the Regulation and it underlines its achievements in improving the completeness and quality of the occurrence reports, increasing the number of reports submitted and stored, and enabling the protection offered to reporters. On the other hand, the report highlights some of the difficulties met during the implementation of the Regulation, especially as regards the implementation of the provisions related to "just culture". Finally, the report discusses the contribution made by the Regulation in terms of reducing the number of aircraft accidents and related fatalities. The findings presented in this report are supported by the data gathered in a study, contracted by the Commission, to evaluate the implementation of Regulation (EU) No 376/2014 on the reporting, analysis and follow-up of occurrences in civil aviation[2].

FOREWORD

Aviation accidents are often the result of a chain of events, meaning that often they cannot be attributed to a single cause. However, this also means there are multiple opportunities to prevent them before they occur and if any link in such a fatal chain is removed, then an accident may be avoided.

A crucial element in preventing aviation accidents is reporting and careful analysis of all events and failures, even the smallest, in daily operations, which may indicate the existence of potentially serious safety hazards that may lead to accidents if not corrected.

Occurrence reporting takes a system-wide and data-driven approach to accident prevention and recognises that moving beyond blame, except in certain defined situations, is essential in enhancing safety in a proactive way – these notions have been confirmed through decades of safety and human factors research.

The current legislation on occurrence is Regulation (EU) No 376/2014. The rules set out how relevant safety information relating to civil aviation is reported, collected, stored, protected, exchanged, disseminated, analysed and acted upon.

1. INTRODUCTION

[1] Regulation (EU) No 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation, amending Regulation (EU) No 996/2010 of the European Parliament and of the Council and repealing Directive 2003/42/EC of the European Parliament and of the Council and Commission Regulations (EC) No 1321/2007 and (EC) No 1330/2007, OJ L 122, 24.4.2014, p. 18, http://data.europa.eu/eli/reg/2014/376/oj.

[2] "Ex-post evaluation of Regulation (EU) No 376/2014 on the reporting, analysis and follow-up of occurrences in civil aviation – Final Report", not yet published.

Article 24 of Regulation (EU) No 376/2014 requires that by 16 November 2020 the Commission publishes and submits to the European Parliament and to the Council an evaluation report on the implementation of the Regulation.

Regulation (EU) No 376/2014 is applicable as from 15 November 2015. It aims to prevent aircraft accidents, incidents, and related fatalities through feedback and lessons learnt from occurrences. An occurrence is a safety-related event which endangers or which, if not corrected or addressed, could endanger an aircraft, its occupants or any other person. The Regulation seeks to ensure that relevant safety information relating to civil aviation is reported, collected, stored, protected, exchanged, disseminated and analysed. This in turn facilitates the elaboration of appropriate mitigating measures by aviation stakeholders and the competent authorities so a safety action can be taken in a timely manner.

This safety management process is reliant on the continued availability of safety information. A key feature in ensuring that front-line aviation professionals report occurrences that may pose a significant risk to aviation, is the assurance of confidentiality of the reporting source and of the appropriate use of information. To this end, the Regulation grants, under certain conditions, the protection to the persons reporting the occurrences and other persons mentioned in occurrence reports and ensures that the information is used for safety improvement purposes only.

This proactive and evidence-based approach is implemented by the relevant aviation safety authorities of Member States, by organisations, as part of their safety management system, and by the European Union Aviation Safety Agency (EASA).

Regulation (EU) No 376/2014 is complemented by an Implementing Regulation[3] establishing a list of occurrences in civil aviation to be mandatorily reported.

The Regulation was preceded by Directive 2003/42/EC[4], which required each Member State to set up a mandatory occurrence reporting system (MORS). Member States had to collect, store, protect and disseminate between themselves information on certain civil aviation incidents. The Directive, however, did not include provisions related to the analysis of the data collected, for the benefit of aviation safety. Considering other reporting requirements existing in parallel, both at the European and international level, led Member States to implement Directive 2003/42/EC in rather diverging approaches. This in turn, resulted, for instance, in the existence of multiple occurrence databases at the European level.

Consequently, the 2012 Impact Assessment for the proposal for the occurrence reporting regulation[5] identified the following specific objectives of the new Regulation:

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3 Commission Implementing Regulation (EU) 2015/1018 of 29 June 2015 laying down a list classifying occurrences in civil aviation to be mandatorily reported according to Regulation (EU) No 376/2014 of the European Parliament and of the Council, OJ L 163, 30.6.2015, p. 1, http://data.europa.eu/eli/reg_impl/2015/1018/oj.

4 Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation, OJ L 167, 4.7.2003, p. 23, http://data.europa.eu/eli/dir/2003/42/oj .

5 COMMISSION STAFF WORKING PAPER: Impact Assessment Accompanying document to the Proposal for a Regulation of the European Parliament and the Council on occurrence reporting in civil aviation, SWD/2012/0441 final, https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52012SC0441.

- To ensure that all occurrences which endanger or would endanger aviation safety are collected and are providing a complete and clear picture of safety risks in the EU and its Member States
- To make sure that occurrence reports stored in the national databases and in the European Central Repository (ECR) are complete and contain high quality data
- To make sure that all safety-critical information stored in the ECR is accessed adequately by competent authorities and that they are used strictly for safety improvement purposes
- To ensure that reported occurrences are effectively analysed, that safety hazards are identified and addressed where relevant and that the safety effectiveness of the actions taken is monitored

The overall objective of the Regulation is to contribute to the reduction of the number of aircraft accidents and fatalities.

2. IMPLEMENTATION

Establishment of mandatory and voluntary reporting systems – Articles 4 and 5

The provisions on the establishment of mandatory (MORS) and voluntary (VORS) reporting systems, set out in Articles 4 and 5 of the Regulation, were implemented by both the Member States and EASA. In practice, this means that each Member State has established both mandatory and voluntary reporting mechanisms at the level of its aviation authority. It should be noted though that the Member States were already obliged to have mandatory reporting systems in place under Directive 2003/42/EC prior to Regulation (EU) No 376/2014.

Similarly, EASA has a functioning mandatory reporting system in line with the requirement set out in Article 4(4) and voluntary reports can be submitted directly to the Agency via the European Aviation Reporting Portal established by the European Commission services[6].

Some gaps have been identified in the implementation of these requirements by the organisations[7]. Prior to Regulation (EU) No 376/2014, the scope of Directive 2003/42/EC did not cover the organisations. Therefore, there is a difference between organisations that already had reporting systems in place (as part of their respective safety management systems) prior to the implementation of the Regulation and those that had to introduce such systems after the Regulation's entry into force. Whilst for the former the implementation of the Regulation merely required alignment of their existing systems with the new requirements, the latter had to develop reporting systems anew. Consequently, it was found that some organisations were lagging behind in the development of reporting systems at their level, thus resulting in less reporting than could otherwise have taken place. Similarly, in the field of voluntary reporting, some organisations indicated that they did not have a voluntary reporting system in place. Finally, it has been noted that some organisations do not distinguish between voluntary and mandatory reporting systems, having only one reporting system in place.

6 https://www.aviationreporting.eu/AviationReporting/.

7 'organisation' means any organisation providing aviation products and/or which employs, contracts or uses the services of persons required to report occurrences in accordance with Article 4(6). Regulation (EU) No 376/2014, Art 2(8).

In a similar vein, the majority of Member States, while having established both reporting systems, also do not distinguish between the reports received via the VORS and the MORS in their respective national databases, as they rather prefer encouraging organisations to submit all reports to them, regardless of their status. Consequently, it has been difficult to determine the respective numbers of mandatory and voluntary reports submitted, as there is no easy way to distinguish from which reporting systems the occurrences stored in the ECR originate. This in turn has made it difficult to get a clear picture as to the extent individuals and organisations subject to MOR have fulfilled the Regulation requirements.

Whereas it appears from the above that there is a need for Member States to ensure effective implementation by concerned parties of the relevant provisions of the Regulation, it can nevertheless be determined that one of the key objectives of the Regulation - to increase the available data on occurrences - has been achieved. This objective has been met as the effective implementation of the Regulation has resulted in an increased number of reports submitted and thus a greater amount of available aviation safety information. The total number of occurrence reports stored in the ECR has increased significantly since the entry into force of the Regulation. As shown in Figure 1 below, in 2015, there were just over 200,000 occurrence reports in the ECR in the given year. In 2019, the total number of reports transferred to the ECR in one year reached 291,458. Cumulatively, the number of occurrence reports contained in the ECR more than doubled during this period: from 1,125,264 reports at the end of 2014 to 2,548,578 reports in 2019.

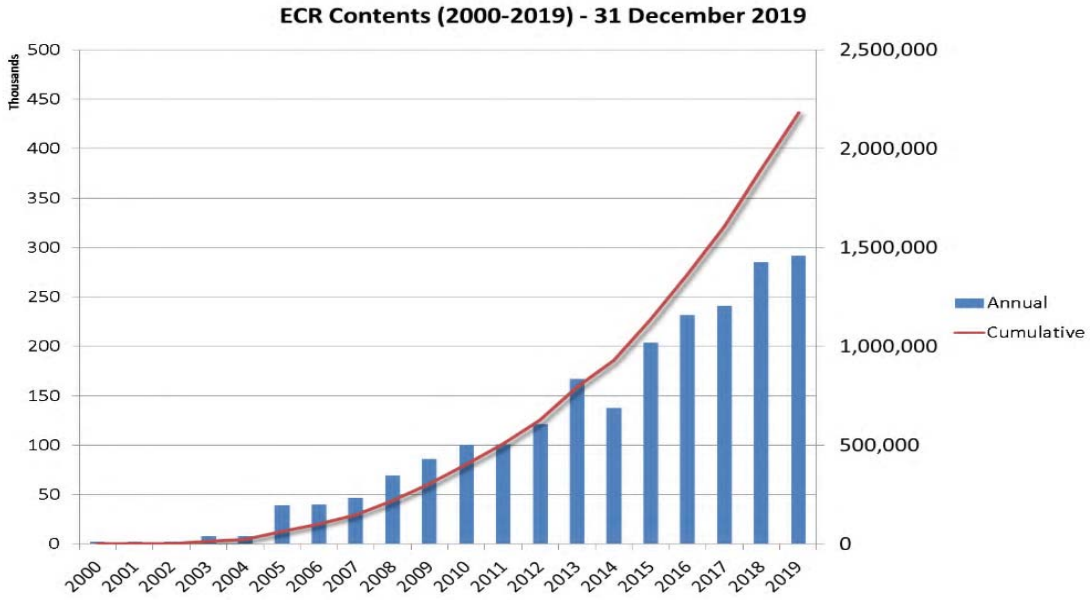

Figure 1: Number of records in the ECR (source: JRC overview of ECR-ECCAIRS content)

Collection, storage and exchange of information – Articles 6 and 9

The Regulation lays down the requirements for the collection, storage and exchange of information in Articles 6 and 9. Article 6 aims to ensure the flow of information through collection, evaluation, processing, analysis and storage. More specifically, Article 6 sets the requirement for the organisations, Member States' authorities and EASA to designate persons and processes to collect, evaluate, process, analyse and store details of occurrences reported pursuant to Articles 4 and 5.

Those requirements were found to be implemented in full by the organisations as well as by the Member States and EASA, with persons and processes being designated at each level.

Article 9 sets out the modalities of exchange of information between the Member States, EASA and the Commission through the ECR. It, *inter alia,* lays down a requirement that the Member States transfer within 30 days the occurrence data uploaded in their national databases. The Member States were found to have established the mechanisms for the exchange of information with other Member States and with EASA, and for the transfer of such information into the ECR within the required timeline.

The reporting flow (i.e. who reports to whom and when) is generally well understood by all stakeholders involved, although some issues have been identified. Sometimes the details of occurrences are uploaded to the ECR by one Member State with no notification to the Member States concerned. However, there is a general expectation that the new ECCAIRS 2[8] software, discussed below in further detail, will help on this aspect.

Quality and content of occurrence reports – Article 7

The Regulation lays down specific requirements for standardised data entry processes and quality checking processes. Majority of those provisions were found to be implemented by the organisations, Member States and EASA. Nonetheless, some organisations do not appear to have a formal quality checking process, as required by Article 7(3), in place. In addition, the development of a common European risk classification scheme, as provided for in Article 7(5), was only implemented partially. While the Commission, in close cooperation with the Member States ad EASA, developed the scheme by the deadline of 15 May 2017, as envisaged in Article 7(5), the task of defining the scheme in accordance with Article 7(6) is to be finalised, together with its implementing arrangements.

Management of the European Central Repository – Article 8

The ECR itself is an important EU contribution. It stores all occurrence reports collected in the EU. Member States and EASA are required to transfer all information relating to safety stored in their respective databases to the ECR in a timely manner. The national data is integrated in the ECR and checked in accordance with quality criteria. Direct access to the ECR is subject to strict rules and limited to the Member States' competent authorities, EASA, and the Commission[9].

From the Regulation's entry into force until the end of 2020, the Commission's Joint Research Centre (JRC) provided the operational services related to the ECR-ECCAIRS interface. As confirmed by the JRC, the ECR-ECCAIRS interface has been fed with data originating from the 31 contributing States[10], as well as from EASA, on a daily basis.

Following a change of strategy and after an impact study[11], and with a view to further enhancing the implementation of this Regulation, it has been decided by the Commission services to replace the

8 European Co-ordination Centre for Accident and Incident Reporting Systems.
9 Regulation (EU) No 376/2014, Arts 8 and 10.
10 EU Member States (including the United Kingdom, until 1 February 2020), Norway, Iceland, and Switzerland.
11 Bearing Point, "Impact Assessment of ECCAIRS transition from JRC to EASA", 12 June 2017.

current ECCAIRS platform by a more modern, fully re-engineered platform called ECCAIRS 2, and to transfer the management of the ECCAIRS suite from the JRC to EASA as of 2020.

The requirement laid down by Article 8(2) for the Member States to regularly update the ECR was found to be fully implemented by all Member States. This is also the case with respect to the EASA requirements, set out in paragraph 3, where the data transfer to the ECR occurs automatically. In addition, EASA has an agreement in place with the Commission for the transfer of data from the Internal Occurrence Reporting System (IORS) to the ECR, to ensure full compliance and coverage.

Access to information stored in the ECR – Articles 10, 11 and 12

Articles 10, 11 and 12 stipulate the arrangements for access to the information stored in the ECR. Those provisions are fully implemented by the Commission, which is responsible for the processing of data stored in the ECR, and by the Member States (so called "points of contact") who assist the Commission in relation to the requests for information stored in the ECR.

Since the Regulation's entry into force until 31 December 2019, there were total of 86 requests for information based on Article 11 of the Regulation out of which six were refused on various grounds.

Occurrence analysis and follow up – Articles 13 and 14

Similar to requirements for reporting, some requirements for the analysis were already in place prior to the entry into force of the Regulation as part of safety management requirements. The provisions of the Regulation, as also stated in the guidance material for the Regulation[12], are not intended to create another analysis requirement alongside the safety management requirements, but serve the purpose of reinforcing the need for the analytical processes to be carried out. The overall situation has therefore not changed much, except for the introduction of strict timelines.

As regards the point on strict timelines, there is no evidence suggesting that the 30-days deadline for the preliminary analysis of occurrences by the organisations, laid down in Article 13(4) and 13(5) is generally not complied with. However, many industry stakeholders noted that the timeline of 30 days for providing the preliminary analysis of the occurrences to the competent authority is too short. Moreover, the Regulation also sets a deadline of three months from the initial report for the organisations to submit their final analysis. Regulation, however, allows for the possible extension of that deadline if duly justified[13].

At Member State level the Regulation requires the monitoring of the analysis by organisations which they oversee, as well as the carrying out their own analysis of occurrences directly reported to them. On the basis of their analysis, they are expected to determine any appropriate corrective or preventive action required to improve aviation safety, and use information obtained from the analysis of occurrence reports to identify remedial action. Similar to organisations, the competent authorities in the Member States all have processes in place to analyse occurrences. However, there are differences in the degree to which analyses are carried out and the depth of these analyses. The

[12] European Commission, "Guidance Material - Regulation (EU) No 376/2014 and its implementing rules" (2015) https://ec.europa.eu/transport/sites/transport/files/modes/air/safety/doc/guidancematerial376.pdf .

[13] Regulation (EU) No 376/2014, Art 13(4).

main reasons for this are concerns about the clarity of the requirements for analysis at national level, as well as a lack of resources. Furthermore, some Member States noted a degree of 'imbalance' between the requirements for analysis laid down by the Regulation and the degree of details included in the requirements for reporting, collecting, processing and storing occurrences. This imbalance leads to a high workload associated with the collecting and processing of occurrence reports and leaves little time for the analysis and follow-up.

At the EU level, there are two streams of analysis: EASA's analysis of occurrences reported directly to the Agency by organisations for which EASA acts as a competent authority (based on occurrences stored in EASA's own database) and a collaborative analysis done together with Member States. Those analyses result in the publication of the EASA Annual Safety Reviews and in the development of Safety Risk Portfolios (SRPs), which are used in the publication of the European Plan for Aviation Safety (EPAS).

The EASA Annual Safety Review is produced by the Safety Intelligence and Performance Department of EASA and is based on the data contained both in EASA's own Occurrence Database as well as data contained in the ECR. As part of its risk management process, the Agency also defines and implements appropriate actions, which are subject to a continuous monitoring.

EASA works with a range of collaborative partners through two main platforms: the Network of Analysts (NoA)[14] and the Collaborative Analysis Groups (CAGs)[15]. The NoA is set up by Regulation (EU) No 376/2014 and pulls together data from different Member States to get a more general picture of safety hazards faced by the EU as a whole. The CAGs are expert groups set up by EASA that are responsible for analysing the safety of European aviation for specific aviation domains. They review available safety information, arrange in depth safety analyses and identify emerging issues. They also monitor the safety performance of their domain and provide feedback on the effectiveness of actions taken. Both systems are complementary because they provide analysis at different levels and they contribute to the Safety Risk Portfolios and to the safety actions which may be adopted in the EPAS.

It can therefore be determined that the implementation of the Regulation has played a significant part in enhancing the analytical capability of occurrences throughout the Union, and consequently also in determining appropriate mitigating measures where needed. Although considerable progress was noted, the analytical process is one likely to benefit from more effort at the Member State level and further technological developments.

Confidentiality and appropriate use of information and protection of the information source – Articles 15 and 16

[14] The NoA comprises EASA, the European Commission, EASA Members States and an observer. It was initially formed as a voluntary network to support the analysis of safety data for the European Aviation Safety Plan, which is the predecessor to the EPAS, in 2011. The implementation of Regulation (EU) No 376/2014 has formalised the role of the NoA and underscored the importance of safety analysis in supporting the EPAS and improvement of aviation safety in Europe. The NoA currently meets twice a year and on ad-hoc basis whenever is needed. Source: https://www.easa.europa.eu/easa-and-you/safety-management/safety-risk-management

[15] The CAGs consist of groups of industry stakeholders of EASA's regulatory partners. Each CAG meets up to three times per year. There are currently six different CAGs: (1) aerodrome and ground handling; (2) air traffic management; (3) balloons; (4) commercial air transport aeroplanes; (5) general aviation; (6) human factors. Source: https://www.easa.europa.eu/easa-and-you/safety-management/safety-risk-management

The implementation of the Regulation's provisions related to "just culture" and the protection and appropriate use of the source of information was closely analysed. While it was found that all Member States and majority of the organisations put in place processes to ensure anonymization of occurrence reports, the issue with traceability – i.e. the possibility to infer the persons concerned in an occurrence report based on the circumstances described in the report – remains, especially in the smaller organisations with less employees.

Article 16(11) lays down an obligation for the organisations to adopt internal "just culture"[16] rules. The available information is not conclusive on whether this requirement has been fully implemented by all organisations.

The most significant shortcoming in the implementation of the Regulation was found in relation to the obligation laid down in Article 16(12) for the Member States to designate a body responsible for the implementation of the "just culture" principles. Based on the reviews of the reports on the functioning of the "just culture bodies" submitted by the Member States in accordance with Article 16(13) and additional information received from citizens, the Commission identified 11 Member States that failed to designate a "just culture body" responsible for the implementation of paragraphs 6, 9 and 11 of Article 16. As a consequence, the Commission opened infringement cases and sent out 10 Letters of Formal Notice and one Reasoned Opinion to the non-compliant Member States[17]. The Commission also sent out a number of EU Pilots to the Member States that stated in their reports to have designated a "just culture body" but where there were still doubts as to whether such body has the competencies to discharge the function envisaged in the Regulation.

On the other hand, at the industry level, the European social partners, members of the sectoral social dialogue committee for civil aviation (CANSO, ETF, ATCEUC), have jointly agreed on the "ATM Just culture tool box"[18]. It targets staff and managers within organisations providing air traffic management / air navigation services and sets guiding principles for implementing just culture and fostering a healthy and open reporting culture.

3. CONTRIBUTION TO REDUCING THE NUMBER OF AIRCRAFT ACCIDENTS AND RELATED FATALITIES

The general objective of the Regulation is to contribute to the reduction in the number of aircraft accidents and fatalities through a proactive approach resulting from the specific objectives detailed in the preceding sections.

The degree to which the Regulation has directly contributed to an actual decrease in the number of accidents and fatalities in civil aviation has proven difficult to measure, both quantitatively and qualitatively.

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16 'just culture' means a culture in which front-line operators or other persons are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but in which gross negligence, wilful violations and destructive acts are not tolerated. Regulation (EU) No 376/2014, Art 2(12).

17 The Reasoned Opinion was closed as the State provided the evidenced that the Just Culture Body was designated with the necessary competences to execute its function under Article 16(12) of the Regulation. The rest of the cases are still pending.

18 https://ec.europa.eu/social/BlobServlet?mode=dsw&docId=11897&langId=en.

The data recorded by EASA show that between 2010 and 2018[19] the number of accidents involving the European operators has decreased in average terms. The decrease is even more evident when put into perspective with the continuous increase in air traffic in the same period. The rate of accidents has continuously decreased since 2014, while the rate of serious incidents stabilised after a peak in 2016.

The analysis of a counterfactual scenario, i.e. the scenario where the Regulation would not have been adopted, suggests that in the absence of the Regulation, the rate of civil aviation accidents in Europe would have followed a constant trend after the third quarter of 2015 (after the Regulation entered into force). After the entry into force of the Regulation, there has been a decrease in the accident rate, from 3.5 accidents per 1 million flights to 1.3 accidents per 1 million flights post-intervention.

It has, however, not proven possible to do a retroactive prediction, with certainty, of the safety situation and the number of accidents and other safety related occurrences that would have occurred in the absence of the Regulation. It also needs to be noted that the various elements of the aviation safety system - aiming at the prevention of accidents and serious incidents - are closely interlinked and therefore it would be extremely difficult to single out the effect of just one of its features – i.e. the occurrence reporting, analysis and follow-up.

Nevertheless, given that the Regulation contributed to the increase of the number of occurrence reports stored in the ECR, which in turn might have had contributed to the improvement of safety awareness and identification of safety risks, it may be ascertained that the Regulation has likely made a certain contribution to the reduction of the total number of accidents.

4. CONCLUSION

Overall, all its subjects – i.e. the Commission, EASA, the EU Member States and the organisations - have implemented Regulation (EU) No 376/2014. Nonetheless, some shortcomings in the implementation of some of the Regulation's provisions were identified. Most notably, a significant portion of the Member States failed to designate a "just culture body" in accordance with the Regulation, which resulted in infringement cases being launched by the Commission.

On the other hand, the successful implementation of the Regulation's requirements on the establishment of mandatory and voluntary occurrence reporting systems resulted in a notable increase in the number of occurrences collected since the Regulation's entry into force. In addition, the implementation of the provisions on the establishment and management of the European Central Repository resulted in a comprehensive database containing occurrence reports from all EU Member States. More occurrence reports to be analysed then in turn allowed identification of potential safety hazards, particularly at the Member State and EASA levels. Consequently, it can be concluded that the Regulation, since its entry into force, has to some extent contributed to the reduction of accidents and related fatalities in the EU.

[19] EASA, 'Annual Safety Review 2020' (2020) https://www.easa.europa.eu/sites/default/files/dfu/easa_asr_2020.pdf; EASA, ' Annual Safety Review 2019' (2019) https://www.easa.europa.eu/sites/default/files/dfu/Annual%20Safety%20Review%202019.pdf; EASA, 'Annual Safety Review 2018' (2018) https://www.easa.europa.eu/sites/default/files/dfu/218639_EASA_ASR_MAIN_REPORT_2018.pdf.