Art. 89 Report 2021

Date: 08/12/2021

Contents

1. Executive Summary

In accordance with Art. 89 of Regulation (EU) 2018/1139, this report reviews the actions and measures undertaken by the Agency in the past three years and beyond, to address interdependencies between socio-economic factors and civil aviation safety.

It examines the safety implications of socio-economic factors in the areas of Employment and Working Conditions, Health and Lifestyle and Education. It identifies a number of specific actions and measures in each area, but also highlights that the "Safety Management System" and "Human Factors" approaches provide generic mitigations to some socio-economic factors.

2. Introduction

2.1 Socio-Economic impacts in Regulation (EC) 2018/1139

Regulation (EU) 2018/1139 of the European Parliament and the Council, also known as the "EASA Basic Regulation", establishes the mandate and governance of EASA. This regulation, repealing its predecessor, Regulation (EC) 216/2008, introduced a new article (Art. 89) on the "*interdependencies between civil aviation safety and socio-economic factors*".

2.1.1 Art. 89

Namely, article 89 requires "*the Commission, the Agency, other Union institutions bodies, offices and agencies and the Member States*" to "*cooperate with a view to ensuring that interdependencies between civil aviation safety and related socio-economic factors are taken into account including in regulatory procedures, oversight and implementation of just culture […] to address socio-economic risks to aviation safety*".

It further requires the Agency to publish every 3 years a review "*which shall give an objective account of the actions and measures undertaken, in particular those addressing the interdependencies between civil aviation safety and socio-economic factors*". This will be the purpose of the current report

In fact, the need for the Agency and other actors of the EU aviation system to address interdependencies with socio-economic factors precedes its formalisation in Art. 89. In particular:

- the European Safety Risk Management process, as described in the European Aviation Safety Programme[1], is a proactive and data driven system aiming at a systematic identification and assessment of safety issues;
- the Safety Management System (SMS) approach explained in paragraph 2.3 requires organisations to consider any factor that may affect safety. The Practical Guide on the "management of hazards related to new business models of commercial air transport operators" published by the Agency in August 2017[2] illustrates how some socio-economic factors should be addressed through an organisation's SMS;
- the Human Factors approach explain in paragraph 2.4 focuses on the impact of Human Performance on safety and captures the impact of some socio-economic factors;

[1] COM(2015) 599 final

[2] Management of hazards related to new business models of commercial air transport operators | EASA (europa.eu)

- a number of actions and measures mentioned in this review precede the publication of Regulation (EC) 2018-1139.

2.1.2 Art. 115

Art. 115 of the NBR is more specifically, dealing with social impacts. It requires that *"[…] when the Agency, pursuant to Article 76(1) and (3), develops opinions, certification and other detailed specifications, acceptable means of compliance and guidance material, it shall establish a procedure for the prior consultation of the Member States. To that effect, it may create a working group in which each Member State is entitled to designate an expert […]. When consultation relating to the possible social impact of those measures of the Agency is required, the Agency shall involve the Union social partners and other relevant stakeholders."*

This article relates to the impact assessments that the Agency conducts, in line with the EU Better Regulation Agenda (see paragraph 2.2 below) and in accordance with its Rulemaking Procedure. The Agency impact assessments consist in an objective review (quantitative or qualitative) of the foreseen impact of its regulatory proposals. The evaluation Social Impacts is one of the dimensions (together with safety, economic, environment and international harmonisation impacts) of EASA Impact Assessments.

This report provides, under paragraph 6, a summary of its impact assessment methodology.

2.2 EU Better Regulation Agenda[3]

On 19 May 2015, the European Commission adopted its Better Regulation Agenda. This comprehensive package of reforms covering the entire policy cycle aims in particular to improve the quality of new laws through two main actions:

- better impact assessments of draft legislation and amendments, and
- constant and consistent review of existing EU laws, so that EU policies achieve their objectives in the most effective and efficient way.

In line with the Better Regulation Agenda, the Agency has revised its Rulemaking Procedure, which was adopted by the Management Board in December 2015. This new procedure strengthens and generalises the use of Impact Assessments and also introduces "Ex-Post Evaluations" of rules, aiming at monitoring the effectiveness and efficiency of existing regulations.

2.3 Safety management considerations

The management of aviation safety needs to integrate society's increasing complexity. The development of new technologies, new business models and more generally speaking economic/social/societal changes, may have an impact on aviation safety. It is therefore important for the Agency to have a holistic vision on those changes that can potentially have an impact on safety. The introduction of Art.89 in the EASA Basic Regulation contributes to the development of this holistic vision, together with 2 other articles addressing other interdependencies:

- Art. 87 requires that "*interdependencies between climate and environmental protection, human health and other, technical, domains of civil aviation are taken into account*";
- Art. 88 addresses the "*Interdependencies between civil aviation safety and security*".

[3] Better Regulation: why and how | European Commission (europa.eu)

Central to the management of safety in the EU aviation system is the implementation by all actors in the system (regulators, competent authorities and safety critical organisation) of Safety Management Systems (SMS). SMS is a formal process to identify safety threats, assess related risks and identify and implement risk controls (more information can be found on SMS on the Agency website[4]).

Compliance with safety regulations being the foundation of safe operations by addressing generic risks, SMS is an additional, but essential, layer that allows safety actors to address specific or emerging risks.

It is therefore important to understand that socio-economic risks may not necessarily be addressed through regulatory actions but also through SMS, as this will be shown later in this report.

2.4 The Human Factors (HF) approach

The impact of human performance on aviation safety has been long established. The Human Factors (also known as "HF") approach consists in identifying the issues affecting Human Performance (e.g. stress, fatigue, complacency, environmental conditions, human-machine interface, etc.) and providing mitigating measures.

EASA has translated the understanding of HF into design requirements (e.g. cockpit design), training requirements (e.g. threat and error management for pilots, HF training for ATCO and Maintenance personnel), and procedures (e.g. Crew Resource Management for aircrew). Human performance can be affected by a vast number of factors, including socio-economic factors like working conditions, health and lifestyle. As this will be shown in Chapter 4 , the Agency uses the HF approach to contribute to the mitigation of some socio-economic factors.

Because the aviation system, changes continuously, it is also imperative for the Agency to ensure that human factors and the impact on human performance continue to be taken into account. EASA continuously collects data and information relating to human factors and human performance from various sources, including through occurrence reports, feedback from stakeholders, Human Factors experts and other regulatory and oversight activities.

2.5 EPAS and the EASA actions in relation to socio-economics

The EASA actions in relation to aviation safety are laid down in the "European Plan for Aviation Safety". It is a 5-year rolling plan revised annually. This plan also includes actions for the EASA Member States. The possible actions that EASA may trigger within its mandate to address aviation safety issues are:

- Rulemaking (enhancement of the current regulatory framework);
- Oversight (identification of priority topics for focussed oversight);
- Research (identification of research priorities);
- Safety promotion (enhancement of the safety culture of aviation personnel and the general public).

It should be noted that those actions aim at addressing safety risks, including those stemming from socio-economic aspects **but not these aspects themselves**. For example, the EASA regulatory framework does not provide any legal instruments to forbid an operator to implement a certain hiring policy (see also paragraph 3.1.1 on atypical forms employment), but the competent authority can assess whether the operator, under its safety management system, has identified this policy as a hazard and if the related safety risks have been mitigated. And if the competent authority observes that safety is indeed affected (through its oversight activities, though voluntary reports, etc.), then it can require corrective actions (see again paragraph 3.1.1.).

[4] SMS - EASA Rules | EASA (europa.eu)

2.6 The EU context

2.6.1 European pillar of Social Rights

The European Pillar of Social Rights adopted by the Commission in April 2017, consists of 20 key principles and rights which aims to ensure that existing social standards are fit for purpose in the 21st century labour market.[5]

For the aviation sector, the measures include, among others, "*ensuring that airlines' safety management systems take into account all forms of employment and working arrangements, including staff employed via intermediaries and those who are self-employed*[6]".

2.7 Scope of the report

Various definitions of Socio-economic Factors can be found in the literature. For the purpose of this review, we choose to consider those factors for which an impact on aviation safety has been either established, assessed or just discussed with EASA stakeholders. This report will therefore consider the following factors for all safety critical personnel:

- **Employment and working conditions** (Chapter 3.1)
- **Health and lifestyle** (Chapter 3.2)
- **Education** (Chapter 3.3)

The consequence of a major health crisis like the **COVID 19 pandemics** (being an abrupt and severe socio-economic disruption) on aviation safety will be discussed under Chapter 4.

Chapter 5 shows how the ongoing regulatory developments on **Ground Handling** considers socio-economic factors like employment, and education.

The conduct of **Impact Assessments** addressing, among other consequences, the social impact of EASA Opinions and Decisions is an important activity with regards to dealing with the interdependency between aviation safety and socio-economic factors. This is addressed under paragraph 6.

Finally, to complete this review on the assessment of socio-economic factors, Chapter 7 reports on the involvement of EASA in the **EU Aviation Social Dialogue**, and Chapter 8.2 on the ongoing work of the **EC expert group on social matters in relation to aircrew**.

2.8 Consultation of interested parties

Social Partners were consulted on various occasion during the development of this report.

- In May-June 2021 a round of informal bilateral discussions took place with a number of Aviation Social Partners [ETF, ECA, A4D, ACP, AIRE, ERA, ACI] to discuss the understanding of Art.89 and their expectations on the report.
- In September 2021 Social Partners were consulted on the preliminary draft of the report
- In October 2021 a formal consultation took place on the final draft. It was sent on 13th October 2021 for a one month written consultation to the EASA Member States (the MAB: Member States Advisory Body) and to the EASA Industry stakeholders (the SAB: Stakeholders Advisory Body).The

[5] European Pillar of Social Rights | European Commission (europa.eu)
[6] Aviation: European Commission continues to push for higher social standards | Mobility and Transport (europa.eu)

draft was also presented and discussed at the plenary meeting of the social dialogue in civil aviation on 15th October 2021.

3. Socio-economic factors and their interdependencies with aviation safety

3.1 Employment and working conditions

In the recent years, with the development of new business models for airlines (e.g. multiple AOC airlines), and the increased competition amongst airlines due to the internal market opening, new conditions of employment for safety critical aviation personnel have developed. This concerns mainly air crew (pilots and cabin crew), but also maintenance engineers. Those conditions of employment include:

- Atypical forms of work contracts
- More flexibility in the place of employment (temporary and seasonal contracts)
- The interoperability of crew between two or more airlines
- The increased mobility of staff
- Pay to fly schemes

3.1.1 Atypical forms of work contracts

This includes mainly work via a contract with a temporary work agency and self-employment.

3.1.1.1 Temporary work agencies

Article 3(b) of Directive 2008/104/EC on Temporary Agency Work Temporary work agency provides the following definition: "'*temporary-work agency' means any natural or legal person who, in compliance with national law, concludes contracts of employment or employment relationships with temporary agency workers in order to assign them to user undertakings to work there temporarily under their supervision and direction*".

3.1.1.1 Self-employment

Self-employment covers situations where the person is not employed directly by the company but provides "services" as an independent worker.

3.1.2 Place of employment (home base)

The definition of the place of employment of aircrew by the employer (the "home base") has tangible consequences for the employees as in particular, it is an important criterion to determine the applicable law for individual employment contracts and for social security purposes. From a safety point of view, the definition of "home base" was discussed during the development of the so-called "Flight Time Limitations (FTL)" regulations (Commission Regulation (EU) 83/2014) – see also paragraph 6.3.1.

Both social and safety impacts of the home base concept were discussed in depth with all concerned stakeholders. This led to define the home base is a single airport location assigned with a high degree of permanence and to mention the need to assign additional rest following a change of home base.

3.1.3 Crew interoperability (among several airlines belonging to the same parent company or holding)

"Interoperability" refers to those cases where a holding or parent company wants to streamline its operations across several different AOCs of several Member States belonging to the same holding or parent company and to exchange aircraft and possibly crews freely. Crew interoperability is already taking place within some Member States, but ICAO Annex 6 and the Air Operations regulations were drafted from a state centric perspective, when multi-AOC set-ups or multi-national airline groups were not prevalent. Therefore, crew interoperability is a grey area, which results in a non-uniform application of the regulation.

Beyond social, legal, labour, and data protection implications, the safety perspective also needs to be clarified. As mentioned in paragraph 3.1.7, the Agency safety 'guide for management of hazards related to new business models of commercial air transport operators' already addresses interoperability in the wider context (e.g. exchange of aircraft, exchange of services…etc.). The Agency is now conducting a review of any potential safety aspect, in particular the impact of the air crew safety culture, under an on-going Best Intervention Strategy (BIS) activity.

3.1.4 Mobility and turnover of staff

Increased mobility of flight crew is a trend acknowledged in the recent years. Moving from one airline to another airline at a faster pace can create an increased demand on the training department within an operator. It might also be more challenging for an operator to establish a safety culture in this context, in particular as regards the recurrent training requirements for flight crew as defined in ORO.FC.230 (Regulation (EU) 965/2012), including the training on all major failures over a 3-year period.

The Covid crisis also led to staffing changes in airlines with early retirement schemes. A potential risk was a loss of the most experienced (older) population and an erosion of competence. This aspect is further developed in Chapter 4.

Turnover of staff is also an issue addressed by the current Rulemaking Task on Ground Handling- see also Chapter 5.

3.1.5 Pay-to-Fly schemes

According to the "Ricardo" study (see paragraph 3.1.6.2), "*most definitions largely refer to a situation of pilots paying to obtain flying experience (line training) to improve their employability during a regular revenue-earning flights*".

3.1.6 Available EU-wide studies on employment and working conditions

In the recent years, a number of EU-wide studies have been conducted on Air Crew employment and working conditions. The following paragraphs provide a summary and quotes from those studies.

3.1.6.1 The "Ghent Study"[7]

The "Ghent Study" was carried out by the Ghent University and financed by the European Social Dialogue Committee. It was published in 2015.

This study focusses on the atypical forms of employment in aviation, "atypical" meaning for that study "*every form of employment other than an open-ended employment contract*". This includes:

[7] Atypical forms of employment in the aviation sector', European social dialogue, European Commission, 2015 (ugent.be)

- self-employment,
- fixed-term work,
- work via temporary work agencies,
- zero-hour contracts and
- pay-to-fly schemes.

The study observes that "*atypical employment becomes increasingly prevalent within the aviation industry*" and is result of "*heightened competition and the prevalence of new business models that emerged in the liberalised competitive aviation market*".

The study was based for a great part on an anonymous internet survey (6633 respondents) aimed at pilots and cabin crew on an EU-wide basis (11 countries) representing the different airline business models (low fare, network, regional, cargo, business and charter airlines).

The study raises a number of concerns on pay to fly schemes, possible abuse the place of employment ("applicable law") and self-employment. It also points out a possible issue with the safety culture in low fare airlines but does not make a correlation with the form of employment itself. Furthermore, this is based on perception, not a factual assessment e.g. relying on an analysis of safety reporting data.

Specifically, on the perceived safety concerns, the report mentions the "*problematic application of FTL*" and the effect of "*multiple home base*" on crew fatigue. However, the correlation with the form of employment is not established. The report notes however that "*the independence of pilots-in-command may be jeopardised as a result of job insecurity inherent to atypical forms of employment*".

3.1.6.2 The "Ricardo" study[8]

The "Study on employment and working conditions of aircrews in the EU internal aviation market", also known as the "Ricardo" study was commissioned by the European Commission and published in January 2019. It is a fact-finding study aiming at developing a "*comprehensive view of the different forms of employment and working conditions of aircrews employed by European Economic Area (EEA*)" and assessing whether the existing EU and national social rules effectively protect "*this category of highly mobile workers*". The study covers a number of topics already addressed by the Ghent study (where it provide updated elements) but its scope also introduces additional elements. Topics addressed by the study are:

- Temporary work agencies/intermediary companies
- Pay-to-fly
- Self-employment
- Posted workers
- Gender equality and reconciliation between private and working life
- Employment by EEA air carriers of aircrews based in third countries and employment of third country aircrews based on EEA territory
- Applicable law to aircrews' employment contracts

The study does not primarily address safety aspects; however, it notes the following:

"*Pay-to-fly schemes raise concerns amongst stakeholders regarding pilot working conditions including pay levels (or lack thereof) but also diminished job quality and potential impacts on the safety culture, job security and employment rights. However, there is no sufficient evidence to reach the conclusions that these schemes would have an impact on aviation safety levels or on working conditions*."

[8] Study on employment and working conditions of aircrews in the EU internal aviation market - Publications Office of the EU (europa.eu)

"*Regarding pilots, it can also be concluded from Table 3-5 that pilots with employment via an intermediary manning agency typically have a more negative view with regards to the statements that are directly or indirectly linked to safety aspects compared to those pilots with direct employment with the air carrier, although the differences are small for some statements. […] The survey responses suggest that differences in the day-to-day working life of cabin crew and pilots who have an employment contract with an intermediary manning agency and those who are directly employed exist although they tend to be relatively small*".

"*The larger differences of opinion concern the environment for reporting risks, with aircrew engaged via an intermediary manning agency indicating they agree less with the presence of easy and clear ways to report any issues to the company, and with the absence of negative consequences to their employment status if they report any issues/problems. This suggests there is a higher risk of underreporting among those aircrew. […] Although underreporting of issues/problems that may be related to safety aspects may raise possible safety concerns, it should be said that, given the high safety record of the European aviation industry (EASA, 2017), this implication is not apparent*".

3.1.6.3 The "LSE" study[9]

The study on "*European pilots' perceptions of safety culture in European Aviation*", also known as the "LSE" study, is based on a survey of more than 7000 European pilots. It was carried out by the London School of Economics and Politics (LSE) and EUROCONTROL and published in December 2016.

The aim of the study was "*to explore perceptions of pilots in Europe on safety culture in their company, and factors that may affect these perceptions*".

The study concludes that "*perceptions of safety culture are generally positive amongst pilots in Europe. However, the survey also reveals significant differences in pilot' assessments of safety culture depending factors such as the type of airlines they work for, or the type of contracts they work to. Pilots working on atypical contracts, and those working for low cost and cargo airlines, have more negative perceptions of safety culture than their colleagues working under more secure forms of employment and for network carrier airlines. Perceptions of management commitment to safety, staffing and equipment, fatigue and perceived organisational support were not especially positive across the whole sample*".

3.1.7 Discussion on potential safety impacts

When addressing the potential safety implications of employment and working conditions, we are facing an apparent contradiction between perception and facts:

- on one hand Air Crew associations have repeatedly raised concerns about the potential safety implication of "atypical" forms of employment, this perception being claimed by the 3 above-mentioned studies;
- on the other hand, safety records and safety reports available to the Agency do not show any correlation between the forms of contracts used by a given airline and the safety records of that airline.

The 3 EU-wide studies mentioned above also note that:

- there is a general perception from the pilot community that some forms of employment (self-employment, pay-to-fly) may have a negative, although limited, impact on their safety culture (in particular on the reporting culture),
- however, no direct correlation has been established between the type of employment and the "safety performance" of the pilots or the airlines that "employ" them.

[9] European pilots' perceptions of safety culture in European Aviation (lse.ac.uk)

However, in the absence of an established correlation, the perception of a degraded safety culture raised by the reports should not be dismissed but considered as a "low signal" of a potential concern.

In fact, from a safety management point of view, the absence of an established correlation does not mean the absence of a threat. A correlation may also be difficult to establish because of the lack of data collection or the way data is collected (taxonomy).

For this reason, and because of those concerns raised by the Air Crew associations at that time, the Agency launched in 2015 a collaborative work with experts from the Members States and safety managers from a number of EU airlines. This resulted in the publication of a Practical Guide on the "management of hazards related to new business models of commercial air transport operators" that the Agency published in August 2017[10].

The purpose of this document was to share practical guidance on how operators' management systems may capture specific hazards that could be introduced by new or recent business models.

Specifically, on **atypical forms of employment** the report recommended the airlines to consider the merits of monitoring the following by type of contract or category of staff:

a) levels of voluntary/mandatory occurrence reporting to the operator,

b) impact on fatigue reporting,

c) impact on sickness reporting,

d) turnover rate of different categories of safety-critical staff,

e) flight data monitoring events,

f) actual Flight Data Monitoring (FDM) data versus occurrence reporting data by category of staff (for instance for unstabilised approaches),

g) levels of cabin crew reporting versus occurrence reporting data.

On **interoperability** the report recommended to:

a) Establish functioning reporting channels between the different AOCs belonging to the same parent company or holding, aiming to combine the different AOCs' management systems and share safety risks assessment results,

b) Establish an overview of applicable FTL (flight and duty time limitation) schemes and assess the impact on the operator's FRM (fatigue risk management),

c) Assess human factors and CRM (crew resource management) issues,

d) Assess impacts on flight crew training,

e) Assess impacts on approvals (e.g. SPA approval, pilot training approvals),

f) Manage notification of changes to the relevant competent authority.

On **turnover of staff,** the report recommends evaluating the safety impact of a higher turnover rate of flight crew by assessing:

a) the possibility of insufficient training of operator operating system,

b) the failure to consolidate training,

c) the diminished or reduced overall operator experience base,

[10] Management of hazards related to new business models of commercial air transport operators | EASA (europa.eu)

d) the lack of qualified candidates for command courses,

e) if training is adequate for new inexperienced flight crew joining the operator.

3.2 Health and lifestyle

This paragraph discusses two topics related to the impact of general health conditions on aviation safety, mental fitness and age for all safety critical personnel.

3.2.1 Mental fitness

The accident of the Germanwings flight 9525 on 24 March 2015 raised acutely the issue of the potential impact of pilot mental health on aviation safety. Following the publication of the French Bureau d'Enquêtes et d'Analyses pour la Sécurité de l'Aviation Civile (BEA) preliminary investigation report on 6 May 2015[11], the EASA-led Germanwings Task Force examined the findings of the BEA report and assessed the adequacy of the European air safety and security rules. As a result of this work, 6 recommendations[12] were addressed to the European Commission on 16 July 2015 related to the aircrew rules (Regulation (EU) No 1178/2011), as well as the air operations (Air OPS) rules (Regulation (EU) No 965/2012).

These recommendations were the basis of intense stakeholders' consultations, which resulted in the publication of two Opinions:

Opinion 14/2016 proposed changes to the Air OPS implementing rules (IRs), which can be summarised as follows:

(a) Ensuring that all pilots have access to a support programme; (later published Guidance Material addresses the access to a support programme for all safety critical personnel)
(b) Mandating airlines to perform a psychological assessment of pilots before the start of employment;
(c) Introducing systematic Drug & Alcohol (D&A) testing of flight and cabin crew upon employment, after a serious incident or accident, with due cause (i.e. following reasonable suspicion);
(d) Unannounced D&A testing after rehabilitation and return to work;
(e) Mandatory random alcohol screening of flight and cabin crew within the EU RAMP inspection programme.

Opinion 09/2016 on Annex IV to the Air Crew regulation, (the so-called Part-MED) which covers aviation safety rules related to the medical aspect and fitness of aircrews.

These proposals introduced the following new requirements, among others:

(a) strengthening the initial and recurrent medical examination of pilots, by including drugs and alcohol screening, comprehensive mental health assessment, as well as improved follow-up in case of medical history of psychiatric conditions;
(b) increasing the quality of aero-medical examinations, by improving the training, oversight and assessment of aero-medical examiners;
(c) preventing fraud attempts, by requiring aero-medical centres and AMEs to report all incomplete medical assessments to the competent authority and exchange information through a European Aero-Medical Repository.

[11] Accident to the Airbus A320-211, registered D-AIPX and operated by Germanwings, flight GWI18G, on 03/24/15 at Prads-Haute-Bléone - BEA - Bureau d'Enquêtes et d'Analyses pour la sécurité de l'aviation civile
[12] Report of the Task Force on the Germanwings flight 9525 to the European Commission | EASA (europa.eu)

After completing the legislative process, **Opinion 14/2016** resulted in the publication of amended Air Ops regulation (Regulation (EU) 2018/1042 of 23 July 2018) which entered into force on 12th of February 2021. Subsequently, a series of webinars were organised to support the implementation of Support Programmes and Alcohol Testing.

Legislative process for Opinion 09/2016 has been finalised and resulted in Commission Implementing Regulation (EU) 2019/27 of 19 December 2018 amending Regulation (EU) No 1178/2011, which entered into force as of 30 January 2019.

Finally, the Agency has put into service the European Aero-Medical Repository (EAMR) on July 1st 2021at the end of a thorough and exhaustive analysis of both causes and preventive measures resulting from the Germanwings accident in 2015.

The EAMR aims to facilitate the sharing of information regarding the medical certification of pilots (class 1 applicants) among Member States (medical assessors of the licensing authority, aeromedical examiners and aeromedical centres), while respecting patient confidentiality and ensuring protection of personal data.

3.2.2 Age

As the EU population is globally aging and people tend to live longer, there is a general trend in the EU countries to increase the legal retirement age. It currently varies between 62 and 67 across EU countries. Nevertheless, some Member States allow, in their national law, early retirement (e.g. 50 years old) for aircrew and ATCOs.

On the other hand, the EU Aircrew regulations set an age limit for pilots in commercial air transport at 60 for single pilot and 65 for dual pilot operations to mitigate the higher risks of incapacitation related with the degenerative effects of ageing.

This age limit creates problems in a few EU countries which suffer from a lack of qualified pilots in particular in the Helicopter Emergency Medical Service (HEMS) domain. A number of national exemptions currently allow pilots in the HEMS domain to fly above the age of 60. In this context, there is an ongoing debate on the opportunity to revise the age limit to take into account the latest scientific data on pilot health after 60.

In 2016, EASA commissioned a study on age limitations for commercial air transport pilots[13], which was published on its website in 2017. This study identified a higher risk of incapacitation with increasing age. However, with appropriate mitigating measures in place the study recommends increasing the pilot age for commercial single pilot operations for aeroplanes and helicopters from 60 to 65 years.

Ongoing Rulemaking Task RMT.0287 (Regular update of Part MED of Aircrew Regulation) includes a new subtask (Subtask 2b) to address the numerous exemptions related to increasing the pilot age limit for a single-pilot commercial air transport operation in HEMS (helicopter emergency medical services) from 60 to 65 years. The task will explore the opportunity for raising the pilot age limit for single-pilot CAT operations in a gradual approach, starting with the HEMS, taking into account the result of the above-mentioned study and aiming to collect further evidence allowing for an evidence-based decision on potential extension of age limits for pilots involved other categories of CAT operations. Research activities on health matters

EPAS 2021-2025 identified 3 new research topics on health matters:

RES.0041 - Mental health for pilots and ATCO: "*The research action shall assess and further detail the specific needs for the assessment of mental health conditions and develop and validate assessment methods to assess the applicability of existing methods applied in aviation".*

13 https://www.easa.europa.eu/sites/default/files/dfu/EASA_REP_RESEA_2017_1.pdf

RES.0042 – Pilot and ATCO fitness: "*The research shall study three aspects of pilot and ATCO fitness:*

- *Cardiology new treatment and diagnostic measures - new technologies have been released on the market providing improved curative or supportive treatments in terms of medication and supportive equipment; in order to have scientific evidence to amend the medical requirements and include the new developments in the current regulatory framework, a study aimed at the aviation environment is needed.*
- *Diabetes mellitus (new solutions for pilots living with diabetes) - New diagnostic measures are being developed that allow reliable continuous blood glucose level monitoring; the research shall assess the possibility of their safe use in the aviation environment in order to alleviate the requirements for fitness in case of pilots with such pathology.*
- *Monitoring pilot health during the active life and after retirement - The objective of the research is to evaluate if the specific risk factors are properly mitigated and what pathologies should be more closely monitored in order to ensure flight safety as well as a safe career for pilots. The research shall also evaluate the possibility of allowing pilots to be involved in CAT operations beyond their 65th birthday while maintaining at least the same level of safety*".

RES.0047 - Fitness to fly in commercial air transport operations of people living with HIV: "*Assess the impact of HIV seropositivity, including the impact of the side effects of combination antiretroviral treatment, on the fitness to fly and general health and wellbeing of pilots holding a Class 1 medical certificate*."

3.3 Education

3.3.1 Education vs Training

When discussing education as a socio-economic factor, it is important to clarify the difference between education and training.

According to most definitions, education refers to a process of acquiring general, judgement-oriented knowledge; it is not job oriented. It is rather theoretical and results in a long-term investment. On the other hand, training is a process of acquiring specific, skill-oriented knowledge (job oriented). It is rather practical and results in a short/medium term investment.

EASA regulates the competence of Pilots, Cabin Crew, Air Traffic Controllers (ATCO), Air Traffic Safety Electronics Personnel (ATSEP) and Aircraft Maintenance Personnel through the definition of experience, training and examination requirements. Given the above definition, these training-related activities will not be discussed in this report. There are, however, two areas that can be considered more relevant to education and which will be discussed: safety culture and just culture.

3.3.2 Safety Culture and Safety Promotion

The key Agency activity that contributes to the improvement of the safety culture of aviation personnel is known as "Safety Promotion". Safety Promotion is a set of means, processes and procedures that are used to develop, sustain and improve aviation safety through awareness raising and changing behaviours.

Safety promotion includes the development of products and actions such as reports and technical publications, bulletins, leaflets and posters, audio-visual material, toolkits, manuals and guides, social media and e-applications, and also conferences, safety events, roadshows and campaigns. Safety Promotion is also about sharing best practices from the authorities and the industry. Safety Promotion can also contribute to the dissemination of regulatory developments.

Safety Promotion actions for aviation personnel conducted in the recent years include.

- Promotion of safety culture, occurrence reporting and other associated with Safety Management across the aviation community,
- Aviation professionals guide to Wellbeing,
- COVID-19 Ramp-up "Be Ready – Stay Safe" Campaign[14],
- Fatigue management,
- Skills and knowledge degradation. Talking about safety in organisations and with operational staff.

The impact of education on aviation safety is not limited to aviation personnel. The **education of the general public** is another factor that the agency has taken into account. Recent examples of safety promotion campaigns aimed at the general public are:

- the carriage of lithium batteries on board aircraft,
- the operation of recreational drones, and
- unruly passengers.

3.3.3 Just Culture

"Just Culture" is a key enabler of Regulation (EU) 376/2014 on the "reporting, analysis and follow-up of occurrences in civil aviation". This regulation defines "just culture" as "*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*".

To support the implementation of a "just culture", the European Commission published on its website supporting material that was co-development by EASA and other stakeholders[15]. More recently in the COVID-19 Ramp-up "Be Ready – Stay Safe", one of the 6 key messages focusses on "*setting a culture of trust that encourages reporting and for people to talk openly about safety and wellbeing*" and as the campaign continues, we promote this continually. The Agency will also have some dedicated promotional material on Just Culture implementation in organisations in early 2022.

3.4 ATM specific issues

3.4.1 ATCO licensing

Current rulemaking task is looking at updating the ATCO licensing regulation. The objectives of this task will be given extra consideration from the socio-economic perspective as it may change the employment market by potentially shifting employment to after initial and rating training. (see also 8.1)

3.4.2 Remote Tower operations

Socio-economic issues associated to the introduction of remote tower operations are being discussed within the dedicated rulemaking group (RMT.0624) and EASA will include the upcoming NPA a chapter on the issue currently being drafted in the dedicated rulemaking group.

[14] Post COVID-19 Ramp-Up – Be Ready, Stay Safe EASA Safety Week | EASA (europa.eu)
[15] Saving lives with safety information: The impact of implementing a Just Culture in aviation | Mobility and Transport (europa.eu)

4. Socio-economic disruptions

Temporary socio-economic disruptions may have a major impact – social, economic, financial, operational and other on the aviation industry and deserves a specific mention in this review

Medium-term disruption risks may include health, environmental, trade-wars, energy crisis, political disruptions, etc. The COVID 19 crisis is a concrete example of a sudden socio-economic disruption where the Agency provided an emergency response.

4.1.1 The impact of the COVID 19 crisis

The COVID-19 pandemic has resulted in a sudden disruption of a number of socio-economic factors. Employment conditions, health and well-being of aviation personnel have been affected. Also, due to the lack of activity, skills and knowledge of some aviation personnel (pilot, cabin crew, maintenance engineers) have deteriorated. In other areas, (ground handling) the turnover of staff has increased.

Considering the new risks to aviation safety induced by this situation, the Agency adapted the priorities the 2021-25 edition of EPAS to focus on **maintaining the high level of aviation safety throughout the entire COVID-19 recovery phase**.

From the onset of the COVID-19 outbreak in Europe, the Agency initiated the project called 'Return to Normal Operations' (RNO). This collaborative project (with the European Member States, the aviation industry and international partners), continues to produce guidance and other deliverables to enable a safe and efficient return to operations. In 2020 a series of immediate measures to support a safe return to operations were taken. The aviation safety risks entailed by the COVID-19 pandemic have been and continue to be assessed within the RNO project which resulted in the compilation of a first COVID-19 Safety Risk Portfolio in the summer of 2020. It was subsequently included with the first edition of EPAS Volume III 'Safety Risk Portfolios' created for the 2021-2025 edition. The in-depth analysis of the various safety issues also resulted in specific short-term mitigation actions not qualifying for inclusion in EPAS 2021-2025.

Through collaborative work with Member States and industry partners, and the review of different sources of information, the Agency was able to provide an updated picture of the safety situation in European aviation. **The top safety issues that are now considered to be the highest risk overall** are as follows:

- Skills and knowledge degradation due to lack of recent practice
- Reduced adherence to procedures in the new working environment
- Flight crew fatigue due to unavailability of rest facilities and/or extended duty period
- Transfer of pilots from one fleet to another resulting in low hours on type
- Extent and duration of Covid-19 exemptions and temporary rules
- Unusual approach profiles in the circumstances of the pandemic
- Increase of cyber security issues related to the pandemic

The various safety issues identified are now being assessed as part of the European Safety Risk Management (SRM) cycle, and some have already resulted in a number of publications and new initiatives, such as the 'Ramp-Up – Be ready, Stay Safe Campaign'[16].

[16] Post COVID-19 Ramp-Up – Be Ready, Stay Safe EASA Safety Week | EASA (europa.eu)

In relation to the Safety Management and Human Factors approaches outlined in paragraphs 2.3 and 2.4 above example, new HF safety issues identified as part of the dedicated COVID-19 risk portfolio[17]. The COVID-19 safety risk portfolio highlights the importance of personal wellbeing on aviation safety including the employment conditions for ground handlers. Related mitigating actions under development are:

Aviation personnel fatigue

> "*With redundancy and furlough reducing the available number of personnel, those left working have often worked additional hours or had a more complex working day due to a greater variety of tasks being performed. Preparing for an increase in or return to more normal operations will require significant additional effort in comparison with actual normal operations. Organisations should pay close attention to fatigue reporting and actively support reporting of fatigue and other occurrences via a strong just culture.*"
>
> See related guidance: Flight Time Limitation - temporary exemptions under Article 71(1) of Regulation (EU) 2018/1139 (the Basic Regulation) | EASA (europa.eu)

Skills and knowledge degradation due to lack of recent practice

> "*The significant reduction in traffic means that most aviation professionals are doing a substantially different job, some might not be working at all and others are working at a substantially reduced frequency. As proficiency decays, accuracy, speed and ultimately effectiveness of task performance will also deteriorate, such that more effort is required to perform tasks and resulting in a loss of spare mental capacity. Proficiency decay in only a few skills may lead to a decline in time management, situation awareness, and the ability to keep ahead of the situation. In non-normal situations or emergencies, appropriate actions may not be taken due to cognitive overload*."
>
> See related guidance: Skills and Knowledge Degradation | EASA Community (europa.eu)

Decreased wellbeing of aviation professionals during shutdown and on return to work

> "*The pandemic is a significant source of anxiety, stress, and uncertainty for almost everyone. During the shutdown, with people working from home or furloughed and therefore isolated from normal support, the personal wellbeing of professionals will suffer. For those working, this may lead to task distraction/interruption, workload/task saturation, instructions or requirements not followed. Regardless of whether personnel are working or not, are employed, furloughed or unemployed, we have a duty of care to provide support to aviation professionals' wellbeing.*
> *As traffic levels increase, personnel will be returning to duty with a higher-than-normal psychological stress. Organisations and regulators need to understand the sources of aviation professionals' fear, increased stress, and distraction, which can potentially reduce staff performance and increase safety risks.*
> *EASA has created a wellbeing resource hub to support aviation professionals throughout the pandemic and beyond."*
>
> See related guidance: People, Wellbeing and Human Factors | EASA Community (europa.eu)

Impact of the pandemic on the ground handling industry –human factors

[17] Review of Aviation Safety Issues Arising from the COVID-19 Pandemic | EASA (europa.eu)

"Ground handling organisations have lost staff and those left have managed a very varied workload with fewer daily aircraft movements. If traffic increases steeply, there will be a combination of staff who are no longer used to a busy airport environment and newly recruited staff. The poor employment conditions experienced by many in this aviation domain may have exacerbated the impact of the pandemic both personally and professionally."

5. Ground handling

Regulation (EU) 2018/1139 establishes for the first time in the EU regulatory framework essential requirements for ground handling (GH) services. The Agency kicked off the work on ground handling in 2018 with the entry into force of this regulation. Since the outset, the work has been done in the spirit of Art. 89, i.e. with the view of taking into account the interdependencies between socio-economic factors and safety. EASA invited a group of Member State and industry experts, including representatives from the European Transport Workers' Federation (ETF) and Airport Services Association (ASA), to develop an ***EASA Ground Handling roadmap*** to address safety issues related to GH. The group identified six action areas. Two of them, namely staff turnover and training, are an illustrative example of how social and safety impact are interdependent.

Ground handling is one of the largest safety-critical domains of aviation in terms of number of staff. Until the recent application of Regulation (EU) 2018/1139 Ground Handling was not covered directly by a European aviation safety regulation. On the one hand, the Ground Handling domain not being under EASA's scope until recently, despite its continuing presence and activity, is a challenge to be faced, in particular because many GHSPs run their activities on international markets that go beyond the EU remits.

There are many reasons for **high staff turnover** including, but not limited to, seasonality, wages, just culture, human factors, business pressure, harsh weather conditions, etc. Due to this fact, ground handling service providers (GHSP) are often unable to attract staff for longer periods, leading to a high staff turnover. This requires them to constant hiring and re-training of new and often unexperienced staff, which is costly, creates an additional strain on the more experienced staff, and ultimately may impact on safety.

It should however be noted that ground handling is fundamentally different to flight operations: although there are safety critical functions, many roles are low skill, manual work which is a completely different context to air crew. For example, turnover might be high relative to pilots but could be comparable to manual labour in other safety critical industries such as pharmaceutical production.

EASA has launched a Rulemaking Task (RMT.0728) on Ground Handling in 2019. Its Terms of Reference (ToR) were published on 22/11/2019 based on the detailed objectives and actions defined in the GH roadmap[18].

Today, it is estimated that between 60 and 65% (and growing) of the GH activities worldwide are done by independent GH service providers (GHSP). Ground handling is a low-margin business with 70-75% of costs related to staff. The wish of many GHSPs to pay higher salaries is confronted with the reality of a highly competitive market, in particular at the attractive all year-round airports. Additionally, due to the reduced flight traffic during 2020-2021 Coronavirus pandemic, the GH industry suffered immense losses, having to furlough or lay-off up to 65% of its employees, whose number in 2019 was estimated to be around 600-700.000.

Although the issues were identified clearly during the GH Roadmap phase and potential areas of improvement were highlighted, it was acknowledged that some solutions were related to social and labour

[18] ToR RMT.0728 | EASA (europa.eu)

related subjects, which are outside of EASAs remit. At the same time, regulatory actions can help establishing common requirements to enable the development of a safety culture through the implementation of a safety management system, and by establishing minimum competencies in the training requirements. These two elements indirectly addressing the social aspect, are expected to improve the situation for the GH personnel.

A standard training framework leading to a higher quality of training is expected to assist the development of a career path. This would consequently put a particular job into perspective, thus ensuring higher job stability. The better the training system is conceived and functional, the higher the chances of acknowledgement of GH jobs as recognised professions and building of a career path. This would consequently improve retention of skilled personnel and provide a better social perspective, so that expectations of a new generation of workforce might be met. Standardisation of training could have a positive impact on staff mobility as well.

6. EASA impact assessments

The Agency has been conducting impact assessments, including on the socio-economic aspects, of its proposed regulations for years. The purpose of those impact assessments is not for EASA to make regulatory proposals in the socio-economic field (this is not in the Agency's mandate) but, whenever the Agency makes a proposal for a new safety regulation to the EU Commission, it provides them with a thorough assessment of the social, economic and ultimately, political implications in order to ensure that the EU Commission will take an informed decision (that is to adopt, modify, or reject the Agency proposal on the basis of a comprehensive assessment). Due to remit of the Agency and the technical nature of most of the regulations it develops, there are very few examples of impact assessments focussing in detail on the social impacts of different regulatory options. However, the Agency acknowledges the need for continuous improvement of the quality of the impact assessment especially in addressing the socio-economic aspects which is why some actions have been triggered.

In this context, the most elaborated case on social impacts is the impact assessment which led to the Commission Regulation (EU) No 83/2014 on flight and duty time limitations (see paragraph 6.3.1).

In the Agency impact assessments, social impacts are generally assessed from the angle of the impact on workload and training triggered by a regulatory change of amendment. This assessment, part for the FTL case, is generally qualitative. Paragraph 6.3 provides a few examples of impact assessments with a focus of social impacts.

In order to develop the systematic and quantitative aspect of its impact assessments, the Agency is in the process of defining a methodology to assess the detailed social impacts when a topic is considered of primordial importance by the social partner (see paragraph 6.2). To support this methodology, the Agency started to collect basic data on the aviation employment (see paragraph 6.1.).

6.1 Socio-economic data

In order to perform credible impact assessment, it is important to have access to accurate socio-economic data. In 2020, EASA launched a study to update basic data on civil aviation employment and to provide the trends over the period 2010-2019. The geographical scope covers the EU Member States (including UK for that period), Iceland, Norway and Switzerland.

The study looked at the employment from the perspective of civil aviation economic cluster (broken down by different aviation economic sectors) as well as from types of occupation[19].

6.2 EASA Socio-economic impact methodology

6.2.1 Introduction

The above study identifies a list of criteria for socio-economic assessment and describes a list of potential indicators. Proposed criteria are shown in the table below:

Category and Criterion
Employment and labour markets
Effect on total employment
Effect on turnover of workers
Working conditions
Effect on wages, wage setting mechanisms or labour costs
Effect on employment protection
Effect on work organisation
Effect on the exercise of labour standards
Effect on access to vocational training and /or advice on career development
Effect on occupational health and safety
Effect on social dialogue
Effect on 'just culture'
Governance, participation and good administration
Effect on the autonomy of social partners in the areas for which they are competent
Effects on information and consultation rights
Access to and effects on social protection, health and educational systems
Effect on the level of education
Effect on the mobility of workers
Public health & safety
Effect on lifestyle-related determinants of health such as diet, physical activity or use of tobacco, alcohol, or drugs
Effect on position of specific groups of works

[19] ECORYS: Social Indicators Data Collection to Support Impact Assessment, Monitoring and Evaluation Activities, Rotterdam 20 July 2020,

6.2.2 Qualitative indicators on social staff dimension

The study also proposes some indicators as part of the social impact methodology. They are:

- The age profile per type of employee;
- The gender balance per type of employee;
- The Educational profile per type of employee;
- The number of vocational training days per employee and how many employee receive training (with differentiation between aviation and non-aviation related trainings);
- The estimated wage per type of employee;
- To what extent there is staff mobility across the EASA Member States aviation market.

A future study will attempt to estimate these data with the support of the social partners and the aviation industry.

6.3 Examples of impact assessments with a focus on social impacts

6.3.1 Flight Time Limitations (FTL)

Although relatively ancient, the NPA 2010-14 on Flight Time Limitations (FTL) is a good example of an extensive impact assessment addressing social impacts. Among others, the impact of the proposed rule on the crew working conditions and lifestyle addressed:

- Working hours (duty time)
- Fatigue (rest and sleep opportunity)
- Night work
- Flexibility (duty extensions, standby)
- Stability of home base

The Opinion (Opinion 04-2012) concluded that "*the Agency proposal was more protective than pre-existing national limits in most cases*". This implied "*positive effects on working conditions and general well-being*". Furthermore, "*removing national differences in FTL will also remove the possibility of benefiting from a less favourable FTL regime in one or another EU Member State. This will improve a level playing field for fair competition with its positive side effect of avoiding social dumping based on FTL regulation*".

6.3.2 Helicopters pilot operations

The NPA 2019-08 "Update of ORO.FC" proposed to facilitate multi-crew operations with the potential to increase helicopter pilot employment. Quoted from the social impact assessment: *"It will also allow **young pilots to be employed as co-pilots** early in their career. Indeed, it is getting harder for a commercial pilot with little helicopter flight experience to find work, because specialised operations with helicopters that used to be accessible without it tend to suffer from the competition of drones and microlights, and a number of other helicopter operations require the commander/pilot-in-command to be already experienced. There will also be **social benefits for pilots close to the age limit for single-pilot CAT operations who want to keep flying. They will be able to share their experience with a co-pilot.** Overall, it is expected to bring low positive social impacts."*

6.3.3 Job creation, qualification improvement, higher accessibility of small aerodromes and development of local region

Quoted from the NPA 2018-06 All-weather operations, section 3.7.3. Social impact:

*"Pilots would be trained to use new technologies and could **improve their qualifications and knowledge**. **High-level jobs could be created** through research and development activities for new technologies undertaken by manufacturers. Should the new systems lead to an increase in efficiency for air operators and, as a consequence, an increase in business and flights, additional jobs could be created by the **need for additional pilots and flight crew**".*

7. EASA Involvement in EU Aviation Social Dialogue activities

In the spirit of Art.89 (but also Art. 115) and more generally in consideration of the Agency holistic approach to safety management, the Agency considers that economic and safety issues should not be assessed/addressed in isolation. In order to implement this holistic approach, the Agency expressed the wish in 2018 to be involved in the EU Aviation Social Dialogue activities. This proposal was discussed on various occasion with Commission (DG-EMPL and DG-MOVE) representatives and EU Aviation Social Partners and received full support.

For the Agency, discussions held within social dialogue activities can feed its strategic thinking by giving more insight on the social and economic environment and developments.

Attending social dialogue can also provide the Agency more insight of the social and economic elements of impact assessments when developing rules in a given domain.

The following paragraph provides an account of a number of Social Dialogue activities in the aviation sector in which the Agency has been involved (but in which it is not in the lead) in the past 3 years.

7.1.1 EASA collaboration with ASPReT

ASPReT is the ATM Social Partners Regulatory Task Force that discusses and expresses its opinions on strategic and social issues related to new EU regulations being developed. It is composed of representatives from the European Social Partners (ATCEUC, CANSO and ETF) for the ATM sector. ASPReT is holding 3 meetings per year.
One important aspect of the collaboration between ASPReT and the Agency was the development of the Agency Social impact Assessment methodology described in paragraph 6.2, to which ASPReT provided significant input.

7.1.2 ETF EASA Capacity Building

EASA Capacity Building was a social dialogue project awarded by DG EMPL to ETF: it consisted of several meetings to increase ETF members knowledge and understanding of the EU regulatory process with a focus on EASA regulatory material impacting on EU aviation personnel.
EASA staff attended 2 meetings (Zagreb, 26 September 2018 and Dublin 19-20 November 2019) and presented the following topics:

- Performance Based Regulations
- Safety management Systems
- Social Impact Assessment methodology
- Just Culture
- Occurrence Reporting
- Stakeholders Advisory Bodies and Collaborative Groups
- Ground Handling regulatory developments

7.1.3 ATM Social Dialogue

The Agency was invited to participate and give the keynote speech at a Conference in the field of social dialogue jointly organised by CANSO, ETF and ATCEUC on 2 and 3 October 2018 in Vienna.
This was the conclusive Conference of an EC funded social dialogue project entitled "Reinforcement of Social Dialogue in the field of Air Traffic Management", jointly conducted by the ATM Social Partners (CANSO, ETF and ATCEUC). This project focused in particular on three main topics: change management, just culture and the social dimension of EASA rulemaking.

8. EASA involvement in EC initiatives

EASA has also been involved in some EC initiatives on social dialogue. So far the role of the Agency in those initiatives is more the one of an observer than a contributor. Still, this involvement is useful in terms of improving the Agency's knowledge on aviation socio-economic issues.

8.1 ATCO Training and licensing – Human Dimension Roadmap

The Human Dimension Roadmap is promoted by DG-MOVE (E3) with the support of ATM social partners. Its goal is to provide recommendations to maximise the benefits of digitalisation for ATM staff. In line with the ATM Master plan its time horizon is 2035.

The involvement of EASA will include 3 aspects:

- To make an inventory the national training practices and assess possible options for simplification.
- Set up an EASA expert group, to recommend the initiation of the necessary Rulemaking Task (RMT) in due time, concerning the evolutions of Reg. (EU) 2015/340.
- Provide ad-hoc expert support to the development of the Human Dimension Roadmap. This was notably materialised by the participation of 2 EASA experts in the First Workshop on the Roadmap of the Human Dimension of the SES on 5-6 February 2020 in Brussels

The objectives of this task will be given extra consideration from the socio-economic perspective as it may change the employment market by potentially shifting employment to after initial and rating training.

8.2 EC expert group on social matters in relation to aircrews

This expert group a subgroup under the existing Expert Group on Aviation Internal Market. It is one of the key deliverables of the Social report on aviation COM(2019) 120 final which had been published in March 2019. Its aim is to bring together experts both from the aviation side and the employment/labour side of the national administrations to ensure cooperation and coordination on the implementation of EU legislation in relation to aircrews, to share information, and to exchange views on good practices and on how labour law rules may be better enforced in relation to aircrews in order to ensure fair working conditions and a level playing field.

The first ad hoc meeting of the expert group took place on 4 April 2019.

Three informative papers have been written so far on the following priority topics raised by the Member States:

- self-employment,
- enforcement of applicable law, and
- oversight.

EASA have been associated with the work since the beginning. The role of EASA in this activity is mainly to provide the EU aviation safety regulatory context where necessary. The Stakeholders had also been

associated with the work as observers: they are asked to provide comments on the topics and to participate to some meetings.

There is an interface with activities in the remit of the Agency:

- "**Applicable law**" is linked to the concept of "Home Base" from Reg. 965/2012 (the "Air OPS" regulation, which includes also requirements addressing crew fatigue and FTL) which, in the FTL context was built mainly on safety considerations (see also paragraph 3.1.2).
- On "**oversight**", in particular on the good practices in terms of cross-border oversight and cooperation between competent authorities in the EU there is a clear link with the aviation safety regulatory framework:
    - Article 62 of the Basic Regulation - Certification, oversight and enforcement- deals with the cooperation on enforcement between the Commission, the Agency and the Member States
    - Article 72 of the Basic Regulation - Information gathering, exchange and analysis – deals with the requirement for the Commission, the Agency and the national competent authorities to exchange any information available to them in the context of the application of this Regulation and of the delegated and implementing acts adopted on the basis thereof, which is relevant to the other parties for the performance of their tasks under this Regulation. […]
    - The Air Operations Regulation (Regulation (EU) 965/2012) stipulates that each National Competent Authority shall establish procedures for participation in a mutual exchange of all necessary information and assistance with other competent authorities concerned, including on all findings raised and follow-up actions taken as a result of oversight of persons and organisations exercising activities in the territory of a Member State, but certified or authorised by or making declarations to the competent authority of another Member State.

9. Conclusions and next steps

Art. 89 of regulation (EC) 2018/1139 formally requires the Agency to take into account interdependencies between socio-economic factors and civil aviation safety. However, socio-economic factors have been captured for years by the EU aviation safety system, including through systemic approaches such as Safety Management Systems (SMS) and Human Factors (HF). SMS are designed to capture low signals and emerging risks of any kind while HF address the impact of human performance and human behaviour, which can be affected by socio-economic factors, among others.

In recent years, the Agency actions and measures in the field of socio-economic factors have mainly focused on Work Conditions and Employment, Health and Lifestyle, and Education.

The review shows a strong focus on issues relating to pilots and (to a lesser extent) cabin crew, although it should be noted that significant work has been carried out in the area of Human Factors to address human performance related risks faced by Air Traffic Controllers and Aircraft Maintenance Engineers.

One of the main discussions on socio-economic factors is currently focused on employment and working conditions. Several EU-wide studies suggest that there may be concerns about the possible impact of these conditions on safety, in particular on safety culture and safety reporting (data for other safety critical workers is limited). However, these reports, and data used by the Agency, fail to establish a correlation between employment and working conditions, and safety levels. The absence of an established correlation could also be due to a lack of adequate data collection and lack of reporting from safety critical personnel but also to the fact that the current measures in place in the EU Aviation Safety System (SMS, HF, Safety Promotion, Just Culture, oversight by the competent Authority, etc.) already provide adequate mitigations.

Having reviewed the actions and measures taken by the Agency to address socio-economic factors in the past three years and beyond, the next step will consist in establishing priorities for the next three years and beyond. This will be done in the context of the EPAS programming cycle, where the full range of safety risks and possible mitigating measures are reviewed and assessed together.

It is indeed very important to assess socio-economic risks to aviation safety in a broader context in order to make sure that issues are given the right priority.

In this context, further actions to be discussed with Member States, Industry Stakeholders and Aviation Social Partners in the next EPAS cycle could include:

- Focussed oversight on the compliance with Regulation (EU) 376/2014 on the reporting, analysis and follow-up of occurrences in civil aviation, including the implementation of Just Culture.
- Open a research task to map the impact of socio-economic factors on safety in aviation for all safety critical personnel, including an assessment of the adequacy of the current data collection process to identify socio-economic risks.

Annex: Acronyms

A4D	Airlines for Dialogue
ACI	Airport Council International
ACP	Airlines Coordination Platform
AIRE	Airlines International Representation in Europe
AOC	Air Operator Certificate
ASPReT	ATM Social Partners Regulatory Task Force
ATCEUC	Air Traffic Controllers European Unions Coordination
ATCO	Air Traffic COntroler
ATSEP	Air Traffic Safety Electronic Personnel
BEA	Bureau d'Enquête et d'Analyse pour la sécurité de l'aviation civile
BIS	Best Intervention Strategy
CANSO	Civil Air Navigation Services Organisation
CAT	Commercial Air Transport
CRM	Crew resource management
EASA	European Union Aviation Safety Agency
ECA	Euro Cockpit Association
EEA	European Economic Area
EPAS	European Plan for Aviation Safety
ERA	European Regions Airline Association
ETF	European Transport Federation
FRM	Fatigue Risk management
FTL	Flight Time Limitations
GH	Ground Handling

HEMS	Helicopter Emergency Medical Services
HF	Human factors
ICAO	International Civil Aviation Organisation
IR	Implementing Rule
LSE	London School of Economics and Politics
MAB	Member States Advisory Body
RMT	Rule Making Task
RNO	Return to Normal Operation
SAB	Stakeholders Advisory Body
SMS	Safety Management Systems
SPA	Operations requiring Specific Approvals