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PROPOSAL

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date of receipt:	30 June 2008
to:	Mr Javier SOLANA, Secretary-General/High Representative
Subject:	Commission staff working document accompanying the proposal for a amending Regulation (EC) No 216/2008 in the field of aerodromes, air traffic management and air navigation services and repealing Council Directive 06/23/EEC Impact Assessment

Delegations will find attached Commission document SEC(2008) 2086.

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COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 25.6.2008
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COMMISSION STAFF WORKING DOCUMENT

accompanying the

Proposal for a

amending Regulation (EC) No 216/2008 in the field of aerodromes, air traffic management and air navigation services and repealing Council Directive 06/23/EEC

Impact Assessment

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EXECUTIVE SUMMARY

This report assesses the impact of the intended extension of the competence of the European Aviation Safety Agency (EASA) to the regulation of aerodromes, Air Traffic Management (ATM) and Air Navigation Services (ANS).

Based on extensive and public consultation of stakeholders as well as per advice by expert partners, safety of the rapidly growing European aviation is found to be increasingly challenged by a still fragmented regulatory framework as well as by a persisting lack of harmonized and binding safety rules covering all areas of aviation. The intention to overcome this situation by implementation of a structured and sole competence for regulation of key aviation safety areas such as aerodromes and ATM/ANS is based on a very broad and clearly indicated consensus.

Building on the results of the Preliminary Impact Assessment launched by the Commission in 2005, elaborated by an independent consultant, and on the Regulatory Impact Assessment (RIA) by EASA, the present report assesses several options to meet the above mentioned intention. As the concerned stakeholders are already subject to Community legislation in the field of ATM/ANS, as are other parts of the aviation chain, i.e. airworthiness, flight crew licensing and air operations, the centre of gravity of this assessment is put on the aerodrome share of the project which will represent a new area of Community competence.

Five available policy options are identified to either:

- "Do nothing";
- Extend the EASA competences;
- Extend the scope of the existing arrangement to issue mandates to Eurocontrol;
- Establish a new Agency; or
- Extend the EASA competences to include some other functions.

All those options are balanced against the "do nothing" option as a benchmark by analysing their impact in the fields of safety, economy, environment, social and others. These impacts pertain to the envisaged shift of regulatory competence in question, whereas potential impacts triggered by the implementation of future rules following the actual measure will be subject to assessment at the corresponding later stage.

A comparison of those impacts leads to the very clear indication that the preferred option is to extend the EASA competences to include regulatory responsibility for aerodromes and ATM/ANS matters. For this option, no adverse effect could be identified in the fields mentioned above.

This conclusion is in line with the "total system approach" to be taken to encounter future aviation safety challenges, to support internal market principles and to reduce burden of regulated organisations. By integrating the safety element into the Single European Sky initiative, it ensures that the de-fragmentation of the sky will be implemented without impacting negatively on the level of accident rates. For this reason,

the safety module will form the complementary, inseparable part of the "aviation legislation package" 2008, as rightly requested by all stakeholders.

Furthermore, a complete set of monitoring and evaluation tools is made available to ensure proper implementation, execution and continued quality of the application of the consequences of the intended measure.

1 PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

1.1 Organisation and timing

This Impact Assessment has been prepared by DG TREN, based on an Inter-Service Steering Group (IS-SG) which met nine times and included, besides the Secretariat General and the Legal Service, contributions of the following Directorates General: ENTR, ENV, MARKT and BUDG. Furthermore, the European Aviation Safety Agency (EASA) participated in the process.

The following major milestones and achievements formed the basis for the development of the final findings of this Impact Assessment:

- A Preliminary Impact Assessment launched by the Commission and performed by the independent consultant ECORYS in 2005[1]. This assessment included an extensive stakeholder consultation.

- The Commission Communication "Extending the tasks of the European Aviation Safety Agency: An agenda for 2010"[2].

- A Regulatory Impact Assessment (RIA) performed by EASA[3] which established the basis for the EASA Opinion to extend its scope to the regulation of safety and interoperability of aerodromes[4]. Following the formalised EASA rulemaking procedure, this work also was based on an extensive consultation, resulting in very broad feedback of the affected stakeholders. Furthermore, it reveals many elements and details pertaining to the execution of the regulatory function, hence it even addresses matters beyond the scope of the actual extension of competence of the Agency.

- A "High Level Group", appointed by Vice President Barrot for the Future European Aviation Regulatory Framework in November 2006 as a response to a strong demand from industry, EU member states and other stakeholders to simplify and increase the effectiveness of the regulatory framework for aviation in Europe. Vice President Barrot requested the High Level Group to present a vision for the development of the aviation regulatory framework - with a particular focus on Air Traffic Management - and to provide a roadmap to achieve this vision with practical next steps.

- Other expert insights as indicated in this document.

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1 ref. [2]
2 ref. [1]
3 ref. [7]
4 ref. [5]

The advice and momentum created by the above achievements fully supported the decision to include the project in the Commission Legislative and Work Programme 2008, item 8b. This item of extension of the Agency system to the regulation of aerodromes, ATM and ANS forms one pillar of the "aviation package", which also comprises the amendment of the Single European Sky regulations (item 8a) and the SESAR Master Plan (item 8c).[5] Legislative proposals containing this package will be submitted by the Commission in June 2008.

1.2 Consultation and expertise

As indicated above, a very high amount of consultation effort was put into the development of those cardinal documents.

While the preliminary ECORYS assessment was based on the mechanism of questionnaires distributed to and answered by key stakeholders as well as related interviews, the aforementioned EASA opinion and attached RIA followed the formal rulemaking procedure of the Agency. Therefore, the project was fully available and transparent to the public and produced some 3000 contributions, mainly from stakeholders across the board of aviation. The reaction of stakeholders reflected the fact that the intention to extend the safety regulatory competence to aerodromes will create a new area of Community competence in this field. All the comments were taken into account to form the Agency Opinion, again based on the publication of a Comment Response Document (CRD) and stakeholders' observations hereto.[6]

In addition to the above, EASA performed another consultation focusing on the ATM/ANS part of the extension project. A related Notice of Proposed Amendment (NPA) was published in November 2007[7] and lead to a further CRD issued by the Agency on 18 March 2008. This CRD formed a basis for the Agency's opinion published on 15 April 2008.

However, in contrast to the aerodrome part, for the regulation of ATM/ANS matters European competence has already been established, first on a case-by-case basis through specific legal Community instruments and then comprehensively through the Single European Sky regulations, adopted in 2004.[8]

Therefore, the direct overall impact of safety related regulatory activities in the ATM/ANS field to be performed by EASA will mainly affect such regulated persons, whose activities are already regulated through Community rules, and issues of regulatory governance in the Community system.

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5 Commission Legislative and Work Programme 2008, Annex 1, item 8: Communication "Developing the single European Sky" including the SESAR Master Plan and accompanied by legislative proposals modifying the Single European Sky regulations and extending EASA tasks to airports and air traffic management

6 ref. [7], page 19ff; also: EASA CRD 06-2006, ref. www.easa.eu.int/home/r_crd.html

7 ref. [8]

8 ref. Regulation (EC) 549/2004 laying down the framework for the creation of the single European Sky, Regulation (EC) 550/2004 on the provision of air navigation services in the single European Sky, Regulation (EC) 551/2004 on the organisation and use of airspace in the single European Sky, Regulation (EC) on the interoperability of the European Air Traffic Management network and Regulation 2096/2005 laying down common requirements for the provision of air navigation services. In particular, EUROCONTROL Safety Regulatory requirements (ESARRS) 3, 4 and 5 were adopted by Regulation 2096/2005, while the remaining ESARR 2 is covered by Council Directives 56/1994 and 42/2003 and the adoption of ESARR 1 and 6 will be subject to future legislation.

In addition, a manifold informal consultation has been carried out by the Commission Services and EASA to include advice from the stakeholders of the broad aviation community, as for example from aerodromes, ATM/ANS service providers, air carriers, labour unions, military aviation organisations and manufacturing industry.

A draft of this present report was issued to the Commission Impact Assessment Board on 19 March 2008, a related hearing took place on 16 April 2008. The positive opinion of the Board was given on 23 April 2008. The Board's recommendations to improve the draft report were implemented in the present final report.

Overall, by the elements listed above, the level of coordination and expertise involved in this Impact Assessment and the included analysis of the most proper way ahead were performed in accordance with all applicable standards and form a very sound and clear picture of the optimal way to proceed. The broad consensus appearing from the consultation lead to the strong political commitment to establish European Aviation Safety Agency (EASA) as strong and sole body for European aviation safety regulation aspects and to have related measures integrated into the Single European Sky development.

2 PROBLEM DEFINITION

2.1 Background and Scope of the Impact Assessment

The EASA system[9] was established by the Regulation (EC) No. 1592/2002 of the European Parliament and of the Council of 15 July 2002 on common rules in the field of civil aviation and establishing EASA, having regard to Art. 80(2) of the Treaty.[10] EASA is a Community Agency and so its foundation is based on the legal framework of the European Communities. This framework establishes that the Community acts as a legislator, while Member States apply Community law under Community control. Community legislator consists of the Council of the EU Member States and of the European Parliament acting in cooperation through the legislative co-decision procedure. Community law is directly applicable in Member States and hence supersedes respective national laws. Where Community competence has been established, Member States may no longer act individually, but may be given powers to deviate or grant exemptions, subject to Commission authorisation. The Community framework allows conferring legislative powers to the Commission (hard law) and to an Agency (soft law) or industry, subject to clearly specifying the nature of the delegated powers so as to allow political and judicial control of their exercise.

The main objective of EASA is to establish and maintain a high uniform level of aviation safety in Europe. In addition to this the Basic Regulation lays down additional objectives to facilitate the free movement of goods, persons and services, to ensure a high level of environmental protection, to promote cost-efficiency in the regulatory and certification processes, to assist Member States in fulfilling their ICAO obligations, to promote Community views with third countries and international organisations and to provide a level playing field for all actors in the internal aviation market.

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9 I.e. centralization of the rulemaking and standardisation processes in the Agency, as well as exploitation of the competent authorities designated by Member States for the vast majority of the tasks concerning certification and oversight

10 Treaty, Art. 80(2): "The Council may, acting by a qualified majority, decide whether, to what extent and by what procedure appropriate provisions may be laid down for sea and air transport."

The mandate to EASA is to prepare the safety regulatory implementing rules to be adopted by the Commission and to issue explanatory material to facilitate their understanding and support their uniform implementation. This is the basis for the rulemaking activity of the Agency. Therefore, it is to develop its know-how in all fields of aviation safety following the principle of a "total system approach" in order to assist the Community legislator in the development and application of common and binding rules for the aviation system. The Basic Regulation also requires the Agency to assist the Commission in monitoring that the Member States implement safety rules effectively and uniformly. It is thus empowered to conduct standardisation inspection of national competent authorities and to report cases of incorrect implementation to the Commission, which can then trigger infringement procedures under the Treaty or direct sanctions as appropriate. Moreover, the Basic Regulation creates a necessary framework in those areas, where a centralised action would be the most appropriate means to provide for uniformity, when it comes to the approval of certain products (e.g. type certificates for aircraft) or organisations (e.g. Design Organisations).

Initially, the aforementioned Regulation established the basis of Community action in applicable domains to ensure the airworthiness and environmental compatibility of aircraft, including personnel and organisations involved in their design, production and maintenance.

Further work was then undertaken to address all other fields of aviation safety as the aviation system behaves as a network with all parts interacting with each other, as fragmentation at any level would be a significant impediment to the efficient functioning of the overall network. The scope of the EASA system was therefore to be extended progressively to cover these other aspects of safety, building on a total system approach.[11] A first step of enlargement of the Agency's competences by the European legislators to cover air operations, licensing of flight crew and safety of third country aircraft operating in Europe entered into force by Regulation (EC) No. 216/2008 of the European Parliament and the Council on 09 April 2008.

Corresponding to the univocal political commitment to remove the existing fragmentation from European aviation safety regulation, the endeavour now is to further extend and complete the competences of EASA in the field of safety and interoperability regulation of aerodromes and ATM/ANS. The legislative proposal by the Commission should be issued in June 2008, in view of its formal adoption in 2010. On the basis of the Essential Requirements which form an integral part of the proposal the Agency will be mandated to issue Implementing Rules to be adopted by the Commission through comitology procedure in the following years.

Given this background of the EASA system, the present Report aims at:

- analysing the challenges faced by Europe to maintain or further improve the safety level of aviation activities;

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[11] Ref. Regulation (EC) No. 1592/2002, recital 2: "As a consequence, aeronautical products should be subject to certification to verify that they meet essential airworthiness and environmental protection requirements relating to civil aviation. Appropriate essential requirements should be developed within one year after the entry into force of this Regulation to cover operations of aircraft and flight crew licensing and application of the Regulation to third-country aircraft and, **thereafter, other areas in the field of civil aviation safety.**

- identifying the regulatory competences necessary to mitigate the risks of accidents and exploring various policy options to do so;

- carrying out an impact assessment of the various options;

- selecting the most suitable option for the enhancement of the safety of aerodromes and ATM/ANS.

By doing so, the report shall deal with impacts emerging from the question of "if and by whom to regulate", while actual rules following a shift of regulatory competence and their related possible impact are not visible yet but will need to be assessed at the corresponding implementation level later.

Therefore, the aim of this report is not to provide an impact analysis of individual future rules, esp. regards the economic side – as this is not feasible – but to focus on the rather qualitative impact created by the competence shift providing a mere platform for the later rules.

2.2 Three safety challenges calling for action

2.2.1 Growth of air traffic requires new harmonised approaches to retain safety level

The current European air transport system is a very safe system; European aviation safety is on the leading edge. However, the prominent European safety factor is not meant to comfort but must be kept. It faces the tremendous challenge of the air transport volume in Europe growing at the commonly predicted rate of 2-5% per year[12]. If nothing was done to further improve safety, i.e. if the accident rate would remain at the current level, the consequence would be a significant and continuous rise in European aviation accidents:

2.2.1.1 Accidents and occurrences

Aviation accident statistics is an exercise of low numbers, comparatively; however, each of those mishaps involves the potential of huge and catastrophic consequences. In order to allow for a maximum of lessons learned from those tragic events, intense efforts are put in place to ensure mandatory and in-depth accident investigations.[13] This endeavour is flanked by the effort to collect all possible data by mandatory reporting of occurrences[14], which are understood to show the potential for an accident which did not occur due to fortunate circumstances.

Based on the prevailing and still unsatisfactory level of reporting culture[15], it has to be pointed out that a total of about 400 accidents in European commercial European aviation over the last

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12 Scientific forecasts indeed differ on the actual numbers of the continued growth. The figure given, though, is conservative also in the light of the average growth experienced in Europe in the years 2003 to 2008, which arrived at 5,4% annually.

13 Ref. Directive (EC) 56/1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents

14 Definition as of Directive (EC) 42/2003: 'occurrence' means an operational interruption, defect, fault or other irregular circumstance that has or may have influenced flight safety and that has not resulted in an accident or serious incident, hereinafter referred to as 'accident or serious incident', as defined in Article 3(a) and (k) of Directive 94/56/EC;

15 Ref. EUROCONTROL, Performance Review Report 2006: 10 States show insufficient legislation / culture with regard to occurrence reporting, only 11 rated "good" (ECTL PRC 2006)

decade[16] is only the top of the iceberg of some 1000 occurrences per year involving aerodrome and ATM/ANS contributions, of which 25% show "high severity" criteria.[17]

It is this potential for mishap which, in combination with the disastrous effects of only a single major aviation accident – regards not only loss of lives but also to social and economical effects – calls for upgrade of safety systems throughout the globe, to include Europe. As even single, discrete mishaps have shown to be potentially fatal to whole airline or aerodrome operations, all involved players should put in place tremendous efforts to defend the high value asset of the existing safety level.

In doing so, the importance of harmonisation, as opposed to the current fragmentation is well understood: As safety matters rarely affect one segment only, the integration of all aspects into a single approach promotes safety in the best way. This solution also reduces the number of interfaces to other bodies, centralises knowledge management and provides for the shortest possible coordination. Overall, this solution ensures the best efficiency and effectivity of the process.

2.2.1.2 Aerodromes and ATM/ANS: Top threat areas

Recent findings from risk analyses as well as incident and accident data clearly indicate the shortcoming in certain regulatory aspects playing an important role[18], in particular with regard to the fact that about 60-70% of air accidents occur in the very initial or final phases of flight.[19]

The evaluation of data performed by the International Air Transport Association (IATA)[20] confirms for 2006 the most prominent phases of flight leading to a total of 77 accidents involving substantial damage or hull loss of western-built jet aircraft being the take off (9), the approach (5) and the landing phase (41), of which 8 occurrences were fatal. The total costs incurred by the accidents over the last decade are detailed in Annex 1, figure 2.2.1, indicating an annual average above 1200 Mio. US$ (about 920 Mio. €, based on an exchange rate of 1.3)

In particular, for the above mentioned accidents in 2006 the airport facilities and the ATC score high among the identified "Top Threats" by figures of 24% and 21%, respectively.[21] Annex 1, figures 2.2.2 to 2.2.4 reveal airport facilities and related ground operation being a top threat to runway excursions, ground incidents and approach and landing accidents by even up to 33%.

This picture is demonstrated even more visibly by recent – though non-European – well known accidents in Toronto, Quito and Sao Paulo, all being major and catastrophic misfortunes involving factors as aerodrome infrastructure, aerodrome operations and ATM/ANS service provision.

The Sao Paulo accident in 2006, claiming 200 lives due to an overshoot of a runway which did not benefit of an appropriate overshoot area, could happen in an identical way on all those

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16 Ref. EASA, Annual Safety Review 2006; about 50 % of those involve aerodrome and or ATM/ANS contribution

17 Ref. EUROCONTROL, Performance Review Report 2006

18 ref. [2], page 33 and [7], page 25ff

19 ref. "Annual Safety Review 2006", EASA, page 13ff

20 ref. 11

21 ref. 11, page 23

EU aerodromes which do not feature this core aerodrome infrastructure safety criterion. A recent major accident in Heathrow was non fatal only due to the very comfortable undershoot area provided in Heathrow, being the longest available in UK.

The most recent element in this chain of serious events was provided by an accident in Germany, which incurred no fatalities, except the writing off of the aircraft which overshot the runway and crashed into a wall.

Consequently, the EUROCONTROL "Annual Safety Report 2007"[22] identifies the following operational key risk areas for the future of European aviation: **Runway incursions**[23], unauthorised penetration of airspace, level busts, controlled flight into terrain (CFIT) and level of ATS at aerodromes, which all involve ATM/ANS and aerodrome regulatory factors.

The reliable prediction of a significant increase of air traffic demand will obviously constitute a formidable challenge for European aviation that requires additional measures even to maintain the risk of accidents at today's level.

In total, the rapidly growing traffic development, inducing new technologies as well as capacity bottlenecks to both aerodromes and ATM suggests to encounter those challenges in an orchestrated way and not to allow discrete, isolated and peculiar "island" solutions developing which aggravate existing interface and harmonisation problems. As those sectors are "top threats", exponential rise in risk could be foreseen in these areas.

Responding to such challenges, the aforementioned first extension of EASA competences was performed as well as the SAFA programme was enhanced[24]. Another, strong mitigation tool was put in place by the "Black List"[25]. However, this set of current safety improvement measures is a partial approach only, since it leaves aside the regulatory safety aspects of aerodromes and ATM/ANS despite their prominent safety relevance.

If no further mitigation measures were implemented, it would not be possible to maintain an adequate level of safety in particular at aerodromes and in airspace with a high traffic density but also and increasingly in those regions which experience air traffic growing at a rate even above the mentioned average.

Furthermore, the need to enlarge the ATM/ANS and aerodrome capacity and performance and to counteract foreseeable congestion will result in more dependency of flight safety on newly introduced technology, procedures and automated functions with their individual risk of failure and new vulnerable interfaces. Thus, the increasing complexity, integration, and necessary new technology, as composed by pan-European services (data link, EGNOS,

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22 ref. [9], page 20 ff

23 Runway incursions, that is events leading to aircraft hitting other moving objects when landing or taking off, is one of the worst scenarios and understood to be "an accident waiting to happen". They involve mostly aerodrome and ATM factors, which are attached to the traffic congestion and related pilot / ATM workload development.

24 Safety Assessment of Foreign Aircraft; ref. Commission Regulation (EC) No 768/2006 of 19 May 2006 implementing Directive 2004/36/EC of the European Parliament and of the Council as regards the collection and exchange of information on the safety of aircraft using Community airports and the management of the information system

25 ref. Commission Regulation (EC) No 1400/2007 of 28 November 2007 amending Regulation (EC) No 474/2006 establishing the Community list of air carriers which are subject to an operating ban within the Community

Galileo, digitalised aeronautical information) and as emerging for example from the SESAR development all call for a more streamlined and integrated approach to safety.

The optimum efficiency of a safety system supporting a total approach has therefore to be established to cover the safety of ATM/ANS and aerodromes as key aviation safety players and as vital elements in the air transport chain. Based on this notion it has become evident that further action is required to ensure that the current safe system will evolve to match the above mentioned challenges.

2.2.2 The current regulatory framework

To be able to grasp the comparative analysis of the various options considered in this report it is necessary to have a clear picture of the current framework of the European safety system, its rules and its rulemaking actors.

A complete regulating function has to be composed of three pillars forming the overall area of competence of a regulating body. Should any of these three pillars be absent, the regulatory action would be ineffective:

(1) Rulemaking

(2) Certification / Licensing / Oversight

(3) Standardisation / Enforcement of compliance

This rationale involves merely the basic principle of the need of constant and complete feedback (i.e. oversight tools) by constant monitoring and evaluation tools following the actual rule. Adjustments found necessary through this procedure may pertain to the rulemaking side (adjustment of legislation) or to the market players. Therefore, ensuring proper application of rules requires enforcement tools if and where needed.

This management principle of the closed loop of regulation is applied in many areas, for instance road traffic, where it becomes apparent that if the loop was incomplete or disconnected, no quality of rule application can be assured. Where subsidiarity and level of criticality permit individual issues or parts of this loop could be delegated to different players.

The two sections below describe which organisations deal with the three above mentioned aspects in Europe. This will demonstrate the fact that all such organisations detailed in sections 2.2.2.1 and 2.2.2.2 are lacking the competence of the second and third pillar, and none of them provides rules which are directly applicable and mandatory.

2.2.2.1 The Global Player: ICAO

A global and highly recognised instrumental legal framework with respect to aviation safety has been established by the International Civil Aviation Organisation (ICAO). In the convention of Chicago in 1944 the ground-rules have been established that are meant to ensure the safe and orderly growth of civil aviation throughout the world. All European Union countries have ratified this treaty.

The set of rules, standards and recommended practices (ICAO SARPs) form the so called "Annexes", signed and transposed, in part and partially with reservations, by the different ICAO Contracting States.[26]

While this can be regarded as constituting a basic foundation for a potential global "level playing field" the ICAO system suffers of crucial limitations:

The remit of ICAO is limited to rulemaking. The two other pillars of the safety system are left to the ICAO Contracting States. Even in the field of rulemaking it can be argued that this is still for a large part a national affair, as SARPS rules are of a non mandatory nature and have to be transposed into national law. The often generic language used to define the standards permits a large diversity of interpretation in the transposition phase. Furthermore, Compliance with the standards can be circumvented by filing formal differences. Other ICAO regulatory material is of non binding character per se.[27]

Despite the very valuable achievements by ICAO, those weaknesses of the international system led to significant differences in rules, their application and enforcement, thus in differing levels of aviation safety across the world as well as in the EU.

2.2.2.2 Intergovernmental Bodies in Europe

There is not one Europe if the membership of different organisations involved in aviation safety in Europe is compared. Besides being contracting States to ICAO, Member States are individual members of the organisations ECAC, JAA and EUROCONTROL. These organisation themselves have memoranda of co-operation between them, but are not directly represented in the decision making bodies of each other. A visual overview of the Membership situation of those organisations is given by Annex 1, figure 2.2.2.2.

Before the establishment of EASA, the role of individual States has been exclusive. Each state assumed responsibility on national level for all domains, from airworthiness to ANS, ATM and aerodrome legislation, standardisation, respective standard adoption, certification, licensing and inspection.

- European Civil Aviation Conference (ECAC):

  The ECAC currently consists of 42 Member States comprising almost all European States. Its objective is to promote the continued development of a safe, efficient and sustainable European air transport system. ECAC issues resolutions, recommendations and policy statements which should be brought into effect by its Member States. The uneven implementation and lack of enforcement role reflect the same weakness of the ICAO system.

  Without negating its contribution to safety in Europe, ECAC by its funding nature misses all three pillars of the safety system mentioned above.

- Joint Aviation Authorities (JAA):

[26] ref. esp. to Annexes 2 (Rules of the Air), 3 (Met Services), 4 (Aeronautical Charts), 10 (Aeronautical Communications), 11 (ATS), 14 (Aerodromes), 15 (AIS)

[27] ref. [1], page 5 f.

The JAA is an associated body of ECAC, representing the civil aviation regulatory authorities of all the 42 ECAC States. For some areas in civil aviation (airworthiness and aircraft certification, flight crew licensing and air operations) JAA members agreed to coordinate through the JAA the development of common safety rules which were supposed to be transposed in national law. The domains ATM/ANS and aerodromes, though, are not covered by the JAA.

By establishing EASA, the JAA areas of rulemaking detailed above were gradually transferred to the Agency. This led to the decision to terminate the JAA activity, before the end of 2010.[28]

- EUROCONTROL:

The EUROCONTROL agency, comprising 38 States, is mainly committed to service provision tasks, provision of certain centralized functions, training, research as well as planning and management of joint development programmes.

However, before 2004 it also played a rulemaking role (namely it has adopted and published the EUROCONTROL Safety Regulatory Requirements, ESARRs[29]), with the same drawback characteristics of ICAO and JAA. Accordingly, developed rules should be enacted by transposition into national law by the Member States which lead to substantial differences in the progress of implementation of ESARRs among the EUROCONTROL Members. Furthermore, and again as above, no actual legal enforcement mechanisms do exist in that regard.[30]After the adoption of the legislative package on the Single European Sky (SES) by the EU legislator, EUROCONTROL assumed the responsibility of supporting the European Commission in the development of Common Requirements for the domains of ANS and ATM, based on individual "mandates" issued by the Commission itself. Hence, different from the bodies mentioned above, EUROCONTROL serves as "draft" rule maker directly within the European context. However, also the EUROCONTROL system has important limitations in the safety area. Since it operates under specific mandates within the SES legislation[31], it does not deal with aerodrome safety matters. Furthermore, it has neither certification nor enforcement rules, hence two pillars of the safety system are not within its remit. In conclusion, any rule, standard or requirement adopted and published by any of the intergovernmental organisations mentioned above, is not immediately applicable unless legally transposed at national level and application is hardly uniform in the EU. In addition, none of them ever had the competence of the second nor the third regulatory pillar, i. e. issuing certificates or licenses and any sort of enforcement powers following oversight.

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28 ref. "FUJA Report", Roadmap for JAA, August 2005. Pending Board approval, the JAA system will be closed by end of June 2009.

29 ref. ESARR 1: Safety Oversight in ATM, ESARR 2: Reporting and assessment of safety occurrences in ATM, ESARR 3: Use of Safety Management Systems by ATM service providers, ESARR 4: Risk Assessment and mitigation in ATM, ESARR 5: Requirements for ATM services' personnel

30 As SES II and SESAR do not focus on aviation safety; the only safety aspect of SES has been the automatic transposition of ESARRs into Community law. However this has been very problematic, not only because it forces the Community to adopt texts of an external body, but most importantly because the ESARRs are standalone documents, that fit poorly in the general Community legal framework and legislative policy. They are not aligned with the requirements of other aviation safety fields (such as operations or airworthiness) and seek to develop only high level administrative frameworks.

31 ref. Art. 8 of "Framework Regulation for the creation of the single European sky", Regulation (EC) 549/2004

2.2.2.3 Regulatory actions by the European Community

As already explained above, a fundamental principle of the aviation policy of the European Union has been to aim at a high and uniform level of safety through common action at Community level and high and uniform protection of the citizens by providing common safety rules and by ensuring that all regulated persons (legal or natural) comply with such rules.

Contrary to the frameworks of the international organisations mentioned above, the EASA system, established in 2002 as per Regulation (EC) 1592/2002, is designed to execute the complete set of regulatory work, i. e. all three pillars as described before:

1. Rulemaking, including development of "Opinions" proposed to and adopted by the Commission through comitology, leading to legally binding common Implementing Rules immediately applicable throughout the territory of the EU Member States to which the Treaty applies (i.e. without the need of transposition at national level);

2. Issuing certificates and approvals, directly (for the cases specified in the Basic Regulation and where a centralised action has been regarded most efficient) or through the competent Aviation Authorities usually nominated at national level;

3. Oversight and standardisation, through inspections of the competent Authorities and reporting to the Commission, as well as enforcement powers.

As of 2003, the Agency assumed responsibility for airworthiness and environmental compatibility of aeronautical products. On 19 March 2008, the scope of competence was extended by "the first step" to include air operations, licensing and safety of third country aircraft.

Taking this into account, it becomes transparent that some crucial safety factors are subject to the EASA competence already, following the "total system approach" with aerodromes and (ground) ATM/ANS not yet being included in the scope of the Agency.

For ATM/ANS, however, it needs to be clearly pointed out that especially by the legislation package of Single European Sky (see section 1.2 above), certain ATM/ ANS safety matters were already made subject to EU competence. While this legislation package, which will be further developed in 2008 as part of a more comprehensive aviation package in order to respond to challenges in that sector, is meant to foster the development of European aviation, it does not explicitly address the regulation of safety matters. Therefore, a total system approach towards the key safety factors as aerodromes and ATM/ANS would constitute complementary, indispensable element of the Single European Sky initiative, as it would serve as its safety module.

2.2.3 Lack of harmonized and enforceable rules

As detailed above, the actual rulemaking and application of harmonized standards developed by ICAO, JAA, Eurocontrol is, apart from the areas already covered by EASA's competence, up to the Member States to implement. The same applies for the functions of the second and third pillars of regulation, i. e. for certification / licensing and oversight / enforcement action.

Due to this fact and the incurred severe level of regulatory fragmentation, a cacophony of differences with regard to application and execution of rules has arisen among Member States. This situation can neither be regarded as meeting the requirements of interoperability

within the international aviation market, nor can it respond to the described upcoming safety challenges, nor to the development of a true internal market.[32]

Recent, both aerodromes and ATM examples indicate the safety problem emerging from this situation:

- One of the core runway safety criteria is composed by the "Runway End Safety Area (RESA)", meant to allow for error in case of an aircraft under- or overshooting the runway. The ICAO standard for RESA is 90 m, with recommendations from different parties to up to 600 m. Implementation in Europe varies widely, starting from 0m. Very unsafe conditions persist, which could lead to accidents provoked by this cardinal matter as listed in section 2.2.1.2.

- One Member State alone filed 640 ATM related differences to ICAO standards, differences in other Member States are assumed to amount to an equal level. Among others, this leads to peculiar, highly individual airspace setups in every Member Sate (i.e. different airspace entry and clearance procedures; while a certain class of airspace may be entered without clearance requirement, the same airspace requires an Air Traffic Control clearance in the neighbouring State. This provides for transparency and compliance challenges to the operators, finally resulting in frequent violations and unclear situations to the crew involving hazard of mid air collisions.

- Lack of common specifications for new technology lead to observed major implementation problems for urgently required hardware: While the airworthiness of state of the art Collision-avoidance equipment following the tragic Überlingen and Linate accidents could be ensured by EASA, it was found that the interoperability level of such equipment hence their actual use was very limited. The interoperability specifications are given at national level only, as no European level competence exists in this area.

Beside the actual immediate lack of safety emerging from these, in general any lack of harmonised ATM and aerodrome procedures turns into a lack of transparency to the aircraft operator, creating another area of safety deficiencies. Therefore, identical signs, signals, markings, communication procedures etc are required.

All in all, the different endeavours to harmonise procedures and to improve this situation could create some achievements, but the systemic and inherent weakness of lack of regulatory functions within the current fragmented system lead to aviation safety rules in Europe still falling short of adequate harmonisation and enforcement considerations in two fundamental components of the global aviation safety system, and precisely in aerodromes and ATM/ANS.

2.3 Conclusion and justification of intervention

The current high European safety performance is achieved by the collective efforts of a professional, highly skilled and safety conscious workforce and safety framework.

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[32] A prominent and illustrative example of frequent non uniform compliance comes with the surfaces adjacent to aerodrome runways and related obstacle criteria. As those criteria tend to imply severe safety but also certain economical impacts to aerodromes, a huge variety can be observed. Consequently, with regard to competition among aerodromes, this can lead to a distorting effect.

However, the challenges described above call for more than the preservation of the safety level achieved, they call for an improved safety performance. This improvement is urgently required using related orchestrated and harmonized mechanisms as well as common resources in order to also achieve necessary quick wins. Refer to Annex 1, figure 2.3 which illustrates related factors of threat to European aviation safety as mentioned in the sections above.

Hence, it is increasingly recognized that air transport safety strongly requires a holistic, total system "gate-to-gate" approach which also integrates ATM/ANS and aerodromes. Such a total system approach shall cover all involved in the safety process - people, procedures, equipment and organisational structures. It can eliminate risks of safety gaps, conflicting requirements and confused responsibilities and may reduce burden on the regulated persons by streamlining approval processes. Specifically in the area of ATM/ANS this is well adapted to the regulation of future systems, where equipment on the ground, on board aircraft or in the space link together and constitute a single system providing or supporting the provision for services essential to ensure the safety of air traffic.

As above, this identifies the strong demand for a common intervention above national level, whilst making use of the framework and competences at national level in compliance with the principles of "better regulation", especially as regards proportionality and subsidiarity. Therefore, and in accordance with the Treaty, the Commission shall lay down measures to improve transport safety.[33] In this context the Commission shall submit a related legislative proposal to the European Parliament and the Council.[34]

The High Level Group referred to under section 1.1, sees the continuation of improvement as one of the key challenges for European aviation and requests safety to be aligned with the market growth[35]. Particularly, the "patchwork of responsibilities and regulatory structures" is addressed[36], leading to one of its recommendations to "develop EASA into the single instrument for aviation safety regulation"[37]. Also, the HLG saw the total system approach as the cornerstone of that framework and recommended that safety regulation should be conducted independently from other forms of regulation and that all safety regulatory activities should be dealt with under the to be established holistic safety system. Very importantly, the HLG gave strong recommendations on the application of the Better Regulation agenda in the future aviation regulatory framework, containing such vital principles as proportionality, subsidiarity, best allocation of roles and consultation. The Agency is already today fully governed by these principles, as demonstrated e.g. by its formal rulemaking procedure.

Moreover, this approach is supported by the findings of the "Agenda for 2010"[38]. From here it becomes apparent that the regulation of key safety factors is an integral element of the future of European aviation framework, to be inseparably linked to the Single European Sky and SESAR initiatives.

Furthermore, the imminent demand for change also is illustrated by Regulation (EC) No. 1592/2002 on the establishment of EASA, which already mentions the foreseen extension of

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33 ref. Treaty establishing the European Community, part three, Title V, Art. 70f
34 ref. Treaty establishing the European Community, part four, Title I, Art. 251
35 ref [3], page 3
36 ref. [3], page4
37 ref. [3], page 31ff
38 ref. [1], page 4ff

competences of the Agency to other areas in the field of civil aviation safety, under the supervision of the Commission and in line with the Treaty.[39]

Appropriately, the stakeholders strongly confirmed the need for change, as indicated by consultations performed in the course of the Preliminary Impact Assessment and the subsequent EASA consultation processes.[40]

Based on this broad consensus and the related political commitment, any other line than integrating the aerodrome and ATM/ANS regulatory competence into the remit of EASA would have to be seen as deviation from the commonly future approach to a systemically improved safety system.

For clarification purposes, it should be pointed out that the findings above pertain to those aerodromes which serve as platform for commercial traffic and show ATM relevance, while very small aerodromes used in the recreational sector are much less affected by the given rationale. This will be explained in more detail in section 4.2.1 below.

3 OBJECTIVES

The overarching objective of the proposal is to extend the system conceived to ensure the safety of transport by air in the EU to aerodromes and ATM/ANS, i.e. to those two sectors of the total system which are not regulated to the level required by the challenges of rapidly growing air traffic.

Identified objectives of this intended measure can be classified according to the three levels normally used by the Commission services for impact assessment, such as:

- The general objectives, which represent the overall wide policy goals;
- The specific objectives, which are the more immediate objectives of the planned legislative initiative contributing to achieve the overall objectives;
- The operational objectives, which are related to the precise outputs of the proposal and which can then be assessed or even measured by appropriate indicators.

3.1 General Objectives

General societal objectives of the European Commission as described in the Commission's work programme and the Annual Policy Strategy[41], in turn broadly based on the Lisbon strategy, which is, with regard to the project in question, to put Europe on the track of prosperity, which, in addition to building an internal market (comprehensive of facilitation of labour mobility) based on fair competition, also comprises greater efficiency and effectiveness of the transport system, and to offer citizens, including aviation passengers the same high level of protection.

Overall, safety is regarded the dominant aspect as the measure in subject focuses on fostering aviation safety. However, it should be stressed that safety matters are not followed for their own safety sake, but for the implications of increased safety which touch on the scope of the

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39 ref. Regulation (EC) 1592/2002, recital 2

40 ref. [2], page 15ff and 35ff, ref. [5], 27 f, ref. [13]

41 ref. http.//europa.eu.int/comm/atwork/programmes/index_en.htm

Lisbon strategy: Social and economical elements, sustainable development, internal market development and, though to a limited effect only given the nature of the project, environment.

It is in this light that the safety of air transport is stressed as being a crucial element of these objectives.

3.2 Specific Objectives

The specific objectives are related to specific air transport objectives, which are also followed by other initiatives such as the creation of a Single European Sky. More in detail these specific objectives can be identified in the White Paper on the European transport policy published in 2001 and its mid term review published in 2006[42]. The proposed measure is closely related to some of these specific objectives, of which those applicable are summarized below:

- Establish and maintain a high uniform level of civil aviation safety in Europe;
- Perform "Better Regulation"; Reduce the costs connected to safety regulation;
- Complement and support SES and SESAR by enhancing safety elements;
- Ensure most efficient use of aerodromes and airspace for all stakeholders by introducing common rules;
- Facilitate evolution of technology by timely application of appropriate regulatory functions.

3.3 Operational Objectives

The operational objectives are strictly related to the concrete actions triggered by the proposal. As such their output is observable or even measurable and can be directly attributed to the action carried out. These observable/measurable operational objectives are:

- Enhanced aviation safety by the establishment of harmonized, binding safety rules based on improvement of the existing rules and provisions (SARPS, GASR works, SES). This uniform set of rules will be proportionate and will establish an optimum balance between binding rules and best industrial standards as appropriate means of compliance;
- Enhanced aviation safety by completing the regulatory loop and by establishment and implementation of appropriate certification, standardisation and oversight activities; furthermore by establishment of measures providing for the Enforcement of compliance with the rules;
- Enhanced aviation safety by establishment of a highly skilled and efficient working organisation;

Hereby it should be underlined that the proposed measures will be closely based on existing legislation as mentioned, while providing improvement compared to this where and if necessary.

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[42] ref. "Keep Europe moving: Sustainable mobility for our continent", COM 314/2006, 22 June 2006

4 POLICY OPTIONS

4.1 General

This chapter describes policy options that are available in theory in order to single out the most appropriate vehicle to develop common rules and ensure their uniform application as well as appropriate standardisation, oversight and enforcement of compliance with rules in the fields of aerodromes and ATM/ANS. A comparative analysis of the options will take into account the findings indicated in section 2 which have clearly shown that the non-regulatory approach used so far is not adequate to face the safety challenges stemming from the aviation trends. The impacts created by those alternative policy options will be assessed in detail in the subsequent chapter 5.

Following this rationale, the policy options that have been discerned are:

- Option A: 'Do nothing': Continue with present organisation of responsibilities. This options serves as the reference situation;
- Option B: Extend the EASA safety system of rulemaking, certification, licensing, standardisation and oversight to the domains of aerodromes and ATM/ANS
- Option C: Extend the process of EUROCONTROL mandates issued by the Commission to the domains of aerodromes and ATM/ANS (including certification and inspection responsibilities);
- Option D: Establish a new Agency responsible for aerodromes and ATM/ANS;
- Option E: Extend the EASA system as far as option B, but to include also other regulatory or service provision functions.

Each of these policy options is outlined from section 4.3 onwards. First, by section 4.2 the affected scope of competence will be detailed.

At this point it should be explicitly stressed that the intended measure does not concentrate on the development and enactment of entirely new safety rules, but rather intends to promote the harmonisation and enforcement of uniform rules throughout the Community. Hence, it is not intended to "reinvent the wheel" but to make use of existing voluntary standards or rules, namely the ICAO SARPS and GASR[43] works and the existing SES and other ATM/ANS related rules mentioned above. Also, the existing regulatory bodies at national level will remain largely unaffected by the measure, as their scope of competence for oversight and certification will not be interfered with by the measure. Thus, it is expected that the remit of Member States' bodies such as aerodrome authorities and National Supervisory Authorities (NSAs) will remain substantially unchanged.

The options are based on the Preliminary Impact Assessment and take into account the conclusions achieved by the consultation processes performed by EASA. This focuses more on the aerodrome safety part of the project as the Community has not yet legislated in this area.

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[43] "Group of Aerodrome Safety Regulators"; informal working group encompassing 28 States putting effort into improving aerodrome related rules; ref. to figure 2.2.2.2

The EASA RIA, to a certain degree, deals with technical impact matters which rather relate to and will be further developed by future Implementing Rules. Therefore, the RIA will not be fully reflected at this stage, which shall merely deal with the overall competence extension, i. e. the focus is mainly on the question "if to do" rather on "how to do" it, as per above However, related potential developments are referred to if and where needed.

As regards the ATM/ANS safety regulation, a shorter analysis is required, since this domain is already the subject of Community rules and very closely linked to the existing SES legislation and the SESAR initiative. Following the same rationale as applied for the aerodrome part above, potential variations of the execution of the regulatory competence with regard to ATM/ANS will not be in the focus of the assessment, but the question of the regulatory competence itself.

4.2 Affected areas of competence and responsibility

Before elaborating on the individual policy options, the areas affected by regulation of aerodromes and ATM/ANS are detailed below. They correspond to the three pillars of regulation forming the circle of proper regulatory action and of its quality assurance within a safety system.

For clarification purposes, it should be pointed out that the list of aspects covered under the areas of air navigation services, air traffic management and aerodromes, does not imply that in one of the policy options EASA (or a different organisation as proposed by the option) will carry out or provide such service itself. The responsibilities of the intended measure will purely be limited to the safety regulatory circle and will include preparation of safety related rules, certification (where appropriate) as well as standardisation inspection, so clearly maintaining the principle of “separation” between regulation and operational activities, already well established in the EU aviation legislation.

4.2.1 Aerodromes

For the aerodrome part, the aerodrome related definitions shown below will be taken into account, again leading to a related affected scope of responsibilities with regard to infrastructure and operation. This definition is in line with the definition used in other parts of EU legislation and based on the ICAO definition[44]:

- Aerodrome means any especially adapted area on land, water or man made structure or vessel, for the landing, taking-off and manoeuvring of aircraft including the aerodrome equipment, installations and services, which these operations may involve for the requirements of aircraft traffic.

- Open to public use means aerodromes which are included in the official Aeronautical Information Service (AIS) publication and offer services not to a defined group of users only but to any user without discriminatory access provision.

Based on those definitions, the variety and scope of aerodromes affected by the intended measure needs to be illuminated:

[44] ref. to [5], page 6 and [7], page 49 for details on the evolution of this definition

Within Europe, currently about 700 aerodromes exist serving commercial traffic and operating under Instrument Flight Rules (IFR), which are typically referred to as "airports".[45]

2145 aerodromes are included currently in the EUROCONTROL data base used for Aeronautical Information Service.[46] Therefore, all these aerodromes are open to public use.

The consultation and impact assessment performed by EASA clearly indicates that aerodromes not open to public use should not be included in the scope of European regulation due to the transparent lack of both justification and added value for safety.[47] Therefore, this subset of aerodromes is ruled out at this stage.[48]

The fundamental question that needs to be addressed is whether all these 2145 aerodromes should be affected by the proposed measures of whether this should be limited to those aerodromes mostly or even exclusively serving commercial air traffic to include passenger operation. In short, should 2145 or rather only 700 "big" aerodromes be subject to European rules. Annex 1, figure 4.2.1 indicates the different aerodrome criteria and their typical frame characteristics as well as their total numbers in Europe.

In fact there is no doubt about the fact that those aerodromes with infrastructure capable of serving commercial passenger service should be regulated. These aerodromes must be capable of adverse weather operation and therefore are dependable on Instrument Flight Rules (IFR). As indicated above, the number of such aerodromes in Europe is 700, while thousands of smaller, non-IFR aerodromes exist which are not used by large aircraft but nearly exclusively by recreational flying and other elements of general, non commercial aviation with very small aircraft.

Those 700 IFR aerodromes are affected by significant traffic growth, and have substantial interfaces with ATM/ANS services. Furthermore, the accident and incident data provided in section 2.2.1 imperatively calling for mitigating action strictly pertain to the operation of such aerodromes only, while the safety of recreational and general aviation seemingly is much less affected by related small aerodromes. Taking is as well as principles of "better regulation" like proportionality and esp. subsidiarity into account, no safety driven need can be seen to include non-IFR aerodromes in the scope of the proposed measure.[49]

Therefore, it is proposed that for the time being, only those (today about 700) aerodromes open to public use and serving IFR procedures should be made subject to the suggested scope,

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45 ref. [7], page 52

46 ref. [7], page 53

47 ref. [7], page 54ff

48 Beyond the figure of 2145 aerodromes open to public use it is estimated that a total of up to another 3000 aerodromes exist throughout Europe. However, those to a vast majority pertain to the "recreational" sector mentioned above which will not be subject to European regulation. Others of such 3000 aerodromes do not operate in a way which is regularly accessible to public use.

49 It should be noted that in the fields of airworthiness, operations and licensing Community regulatory competence is established also for general aviation. Whereas this could suggest to include related aerodromes in this scope, it must be found that other than the sectors above small aerodromes, owing their stationary character, do not interfere with "bigger" commercial operation and show, besides, a positive safety record. Hence, an air safety contribution by those smaller aerodromes to the operation of typical air carrier operation as well as to ATM/ANS issues can not be identified. Furthermore, it should be stressed that the largest number of those aerodromes largely or even exclusively serves aircraft operation even outside the existing scope of European Community competence (i.e. microlight operation etc.)

leaving the smaller and non-IFR aerodromes in the remit of national aviation regulation. This regulation may be based on related guidance material which may be developed by EASA.

4.2.2 ATM/ANS

In this Impact Assessment the definitions of Air Navigation services, Air Traffic Management and Air Traffic services as laid down in Regulation 549/2004 on the SES framework will be applied, which clearly triggers the scope of responsibilities affected by the intended measure, in terms of both infrastructure and operation. These definitions stipulate[50]:

- ANS being composed of:
  - Air Traffic services,
  - Communication (COM), Navigation (NAV) and Surveillance (SUR) services,
  - Meteorological services (MET),
  - Aeronautical Information services (AIS).
- ATM means the aggregation of Air Traffic services (ATS), Airspace Management (ASM) and Air Traffic Flow Management (ATFM) (to include related airborne and ground systems).
- Air Traffic services (ATS) contains flight information services, alerting services, air traffic advisory services and air traffic control services (area, approach and aerodromes control services).

[50] ref. Art. 2 of "Framework Regulation for the creation of the single European sky", Regulation (EC) 549/2004, 10 March 2004

4.3 Option A: "Do nothing"

This option considers a continuation of the present situation. This situation has been described in chapter 2 in detail and has lead to the conclusion that "business as usual" can not be retained since there is a compelling need for improvement. Therefore, the 'Do nothing' option serves as reference and benchmark for the other policy options.

4.4 Option B: Extend EASA competences

The adoption of the initial "Basic Regulation" (EC) No. 1592/2002 paved the way for a new Community system of air safety and environmental regulation.

This second option considers the extension of EASA's tasks to the areas of aerodromes and ATM/ANS, by an amendment to the Basic Regulation.

The Regulatory Impact Assessment (RIA) performed by EASA dealt with potential variations, which also could be looked at as sub-options of this option indicating potential impacts in different fields triggered by possible provisions of future Implementing Rules. Some of those variations include the scope of aerodromes which was addressed in section 4.2.1 above. Variations of the scope and procedures for certification of affected aerodromes as well as details of certification criteria will form the content of the Implementing Rules which will be prepared by the Agency and adopted by the Commission through comitology procedure, following another extensive consultation and fully fledged impact assessment process.

4.5 Option C: Extend EUROCONTROL mandates issued by the COM

This policy option is to extend the current fields of mandates to EUROCONTROL, which are limited to the drafting of SES related rules, to cover the complete set of safety related rulemaking in the aerodrome, ATM and ANS field. EUROCONTROL was chosen for this option as it is prominent among the European bodies listed in section 2.2.2.2 having a kind of rulemaking preparatory function through SES mandates. Hence, it already has, to a limited degree, a formal function within the European framework. Furthermore, the development of rules proposed by EUROCONTROL follows processes very similar to the ones used for the preparation of Implementing Rules proposed by EASA.

Many of the affected responsibilities, especially in the aerodrome sector, would represent a new domain for the organisation, while some others are touched already in the light of ESARR and SES related work.

For the purpose of assessing this option, it will be assumed that the administrative procedure within EUROCONTROL to prepare and support rules in this option would be the same as for the current mandate to develop the SES Implementing Rules. This is different from the procedure used to adopt the ESARRs, which needed to be approved by the specific decision mechanisms of this international organisation.

4.6 Option D: Establish a new Agency

Rather than extending the mandates to EUROCONTROL or extending the EASA competences beyond its current scope, another theoretical policy option to address the

competence in question would be to create a fully new Community Agency with specific regulatory responsibilities in the areas of aerodromes and ATM/ANS.

Following the path of other Community Agencies as EASA, this would be a Community body governed by the applicable legal framework of EU and having its own legal personality. It would be set up by an act of secondary legislation defining clearly its scope and advisory and/or regulatory role.

This option was developed starting from the preliminary impact assessment in 2005, and is regarded a logical, necessary element to perform the complete assessment required. However, it should be noted that such option may not be viable with regard to most recent Commission policy development towards Agencies. Nevertheless, this option shall be fully examined in order to prevent a potentially meaningful option from being ruled out solely on policy grounds.

4.7 Option E: Extend EASA competences and include some other functions

This option is referred to for the sake of consistency and completeness, as it was developed by the preliminary Impact Assessment, following the idea of performing as specified under option B, but also including the provision of other additional functions by EASA. Those functions were understood to possibly reflect areas of paramount public interest, necessity of separation of regulator and provider and areas potentially deserving improved efficiency, hence this option could incur a set of economical and safety related incentives.

These functions could contain, but are not limited to:

- Performing Research and Development (R&D)
- Technical training
- Rulemaking for accident and incident data collection and investigation
- Development of contingency plans
- ATM/CNS development planning and coordination
- R&D coordination;
- Airspace design;
- Flow management
- Charge collection

However, the preliminary Impact Assessment clearly indicated that this option was less favourable for a variety of reasons.[51] Moreover, many established fundamental Community regulatory policies would also have to be changed if such approach would be chosen.

Therefore, and as this option goes beyond the actual scope of the intended measure to be assessed, this option will not be handled with in more detail but will be ruled out at this stage.

[51] ref. [2], page 57ff: Concerns such as reduced efficiency, negative cost impact and duplication lead to the understanding that this option was not suitable; furthermore it did not receive the support of stakeholders.

5 ANALYSIS OF IMPACT OF ALTERNATIVE OPTIONS

Below, the impacts of the extension of EASA competences and the other policy options are determined towards the "do nothing" option A that serves as a reference line and benchmark. The assessed impacts are grouped into safety, economical, environmental, social and others.

These fields of impacts, which are derived from the Commission impact assessment guidelines, should be given different appraisal factors, as certainly the safety factor shall be in the focus of the aviation safety measure in question and shall be regarded the driving issue.

Regards the economic factor, it should be pointed out that, as detailed in section 2.1 above, actual economic burden or benefit to stakeholders emerging from potential later rules are beyond possible assessment now. Therefore, the present report focuses on the economical effects of the actual measure, i.e. the shift of regulatory competence and its related, rather qualitative economic effect to the market.

Furthermore, with regard to the administrative cost, by centralising the effort in terms of rulemaking an overall saving will be reached. This rationale applies to both personnel and related administrative cost. Note that certification and oversight related administrative cost remain unaffected by the measure, as this leaves the on-site execution to the Member States. Therefore, in this Impact Assessment Report the administrative costs will not be scrutinized by a standardized Excel sheet typically referred to by Commission services, as the necessary detail required by such exercise will emerge from the enactment of individual Implementing Rules which will follow the adoption of this proposal. Those Implementing Rules, whose results must not be made subject to the current analysis as they are still open, will undergo a full scale Impact Assessment and consultation at appropriate place and time. At this stage, the cost figures pertaining to the EASA system as established will be used as validated grounds for the related cost effort to be expected by the measure

Looking at the environmental impact, it should be understood that environmental standards of aerodromes are not subject of the measure in question but will form part of a related independent proposal, the content of which is the subject of a separate assessment presently carried out by EASA. Hence, the overall environmental contribution of the measure is limited to the results of the regulatory competence, leaving aside actual consecutive technical rules which render the environmental aspect a side aspect only.

5.1 Option A: "Do nothing"

5.1.1 Safety impact

Without any mitigating measures in the field of aerodromes and ATM/ANS, the air safety in these high risk areas will be significantly affected by the combination of traffic growth, congestion and inevitable progressive penetration of new technologies in the aviation sector. The existing safety level, which would produce unacceptable numbers of incidents and accidents even if unchanged, would inevitably deteriorate. Facing this development over the years, a significant adverse safety impact would have to be expected.

5.1.2 Economic impact

The negative development in the paramount criterion of safety will have a direct and major negative economic impact due to the forecasted higher accident rate (refer to Annex 1, figure

2.2.1 indicating the significant cost incurred by aviation accidents). Furthermore, European air transport would suffer competitiveness drawbacks as it would be prone to loose its leading position regards safety aspects. Taking the significant role of air transport for the aggregated economical progression into account, and looking at the objectives as per section 3, the overall economical impact is assessed to be significantly adverse.

5.1.3 Environmental impact

No environmental impact by this option is visible, apart from the remote consideration of very limited ecological damage following accidents.

5.1.4 Social impact:

By doing nothing to defeat the European air safety challenges, a negative social impact would emerge from the lack of achievement of the prime goal to prevent the loss of lives and related major damage by air traffic accidents. Beyond that important matter, the adverse effects to competitiveness and attractiveness to the globally working aviation market is expected to provoke negative job growth impacts on the European aviation market, though certainly not quantifiable at this stage.

5.1.5 Other impacts:

Other impacts are not foreseeable, which includes those impacts listed for the options below which are not applicable in the "do nothing" option regarded here.

5.2 Option B: EASA extension

5.2.1 Safety impact

In general, extending the EASA mandate from the current areas - airworthiness, environmental compatibility, air operations, crew licensing and safety of third country aircraft operating in Europe - to the regulation of aerodromes and ATM/ ANS would lead to a significant improvement from a safety perspective, as it would constitute an **integrated, total aviation safety approach** that ensures interoperability, harmonised rules and most efficient transition of voluntary, non uniform safety standards into Community rules via a complete and controlled regulatory system. It would also be fully in line with the established aviation regulatory policies of the Community to separate regulation from service provision and to ensure the independent role of safety regulation from other modes of regulatory actions, such as economic regulation and management of scarce resources.

This integrated and truly holistic approach towards aviation safety is also crucial since the future aviation system will head for a gate-to-gate concept, with future characteristics such as stronger integration of the air side of aerodromes into the ATM system, close integration and even amalgamation of some ground based and air-borne roles related to digital data exchange, collision avoidance and aircraft separation and inclusion of ground movements on the apron and taxiways. Furthermore, high traffic densities require integration of safety procedures for surface movement and arrival/departure management, as well as for flow and capacity management. This necessity would be fully reflected by the present option.

Also, the process of timely conversion of regulatory proposals into community law is well served by the extension of EASA competences, since EASA is fully integrated in the regulatory process of the European Commission and is empowered to adopt certification

specifications and acceptable means of compliance itself. Furthermore **enforcement and standardisation inspections mechanisms** already in place in the current EASA system could easily be extended to these new areas.

Regulatory gaps as well as overlaps, as existing today would be eliminated by a sole EASA rule making and certification. When the responsibilities of the regulatory system for all parts of the aviation domain are in EASA hands, **a uniform and high level of safety in aerodromes and ATM/ ANS safety** can be achieved across the domains and across the Member States countries.

By following this option, EASA could develop and enforce compliance with uniform sets of safety rules for the whole aviation domain which would be beneficial as there would be a **reduced amount of interfaces**.

Since per this option all aviation safety matters would be contained within the EASA system, this option provides also for **an optimum knowledge management** solution with regard to possible interchange and reference.

Furthermore, by the separation of the regulatory function from the service provision as mentioned above this alternative would come free of a potential **conflict of interests**. Also, it would allow for political arbitration between conflicting objectives to take place at the appropriate political level.

All in all, the introduction of a common regulatory framework is expected to reveal a key improvement for the overall safety level. **Taking the above mentioned key safety improvements into account, the strong point of the extension of EASA competences is the introduction of a common approach across the whole safety system, fully integrated into the Community policy and inseparably embedded into the Single European Sky initiative**.

Those very positive findings remain valid for all possible variations of this option as assessed by the RIA[52].

5.2.2 Economic impact

Though certainly not accurately quantifiable at this stage, an improved safety record resulting from the impact of a complete and efficient safety regulatory system in European aviation will lead to economical benefits for the involved market players as air carriers, airports and service providers, all emerging from an increased competitiveness, attractiveness, as well as less accident related cost. Details of this positive impact could be given only by future experience on related cost savings due to reduced accident/incident rates and the budgetary consequences of future Implementing Rules, if and where applicable. The latter will be subject to a complete Impact Assessment at the time of their submission to the Comitology process.

With regard to the economic effect created by the overall administrative effort emerging from this option, the considerations below should be taken into account:

- **Aerodromes:**

[52] ref. [7], page 49ff

In the course of the IS-SG consultation, a preliminary cost impact analyses was performed by the Commission with regard to the administrative cost incurred by the regulation of aerodromes by DG TREN.[53] This work scrutinized the related regulatory action into individual subparts and attached assumptions of effort and frequencies to those. Overall, a 10 step approach has lead to a potential, indicative picture of related administrative cost.

In particular, this applies to the number of affected aerodromes, for which the analysis assumed three scenarios: 500, 1000 or 1500 affected aerodromes, for each scenario a sensitivity analysis and cost impact assessment was performed. The number of aerodromes affected by the intended measure will be in the area of 700 as detailed in section 4.2 above.

Therefore, the basic rationale of the cost analysis as performed by the preliminary assessment can be used for this assessment, by interpolating the results of the 500 and 1000 scenarios:

- By assuming an average number of aerodrome regulatory personnel between 2 and 6 Full Time Equivalent (FTE) per Member State currently occupied with aerodrome rulemaking as assessed in the above mentioned analysis[54]:

- The sensitivity analysis shows that the EASA extension to aerodromes would be more economical in all cases between those 2 and 6 FTE, with major annual savings compared to the current effort of the Member States, depending on the actual number of FTE assumed. The wide range of FTEs and incurred savings are explained by the fact that, while rulemaking would be performed by EASA, the certification and regular oversight still would remain in the remit of the national authorities. With the developing aviation market it can not be ruled out that personnel currently working in the rulemaking sector would be realigned to those certification or oversight areas. However, this effect rather should be attributed to national adjustments to the new situation rather than a reduced saving created by the measure.

- This indicates the relation of savings compared to the actual cost: With a cost estimate between 5.2 and 13.2 Mio €/a, the measure was assumed to lead to an effort between 3.4 and 5.5 Mio €/a. Therefore, the saving of administrative and substantial cost is assumed be in the area of around 50 % of the current level (Refer to Annex 1, figure 5.2.2).

- Those figures are obtained assuming a total of 17 additional EASA personnel needed for rulemaking, standardisation and overhead.[55] This fully matches the figures of the Preliminary Impact Assessment[56] which have been used for the EASA Business Plan approved by the Management Board of the Agency.[57]

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53 ref. [10]
54 ref. [10], step 9 and 10: Assessment of affected entities and extrapolation
55 ref. [7], page 59ff and ref.[10], Step 9
56 ref. [2], Annex D, page 40ff
57 ref. EASA Business Plan 2008-2012

- With regard to the total EASA related cost, an update of the calculation above using the EASA Business Plan tool (average cost per EASA employee to include overhead, infrastructural and travel cost amounts to 140 000 € annually) is even more illustrative: Based on this figure, the expected 17 additional personnel would lead to an increase in administrative cost for EASA of 2.380.000 € annually. This substantially corresponds to the results of the analyses performed by the Preliminary and Regulatory Impact Assessments, which arrives at slightly higher annual costs of about 3 Mio. €.[58]

- A stated in section 5 above, the assessment of actual economic burden or relief created by later rules will be performed during the implementation level of those rules and, as being not feasible, is excluded from the scope of the present assessment.

- However, by the above it becomes visible that the indicated level of effort will not come with an overall affection to airport charges, or, following this vein, airline tickets or change in the traffic development. For example, German airports alone collect a total of about 1500 Mio. €/a, so the administrative effort indicated above must be regarded comparatively minimal. However, as a cost increase is ruled out, a negative impact in that sense is not foreseeable.

- **ATM/ANS**

  As mentioned before, safety rulemaking as one pillar of ATM/ANS safety regulation is currently performed by EUROCONTROL. This involves an estimate of up to 12 personnel.[59] Using the same approach for the relation between rulemaking and other EASA personnel required for inspection and adjacent tasks as used for the aerodrome effort above, an estimate of 16 additional personnel for the ATM/ANS part can be assumed to be carried by EASA. The four additional posts (as compared to EUROCONTROL) are created to fulfil the standardisation inspection functions.

  Consistently, a related annual cost of the same order of magnitude as above, i. e. of 2.240.000 € can be expected.[60]

Taking into account these estimated total administrative cost of 2.380.000 € for the aerodrome part plus 2.240.000 € for the ATM/ANS part and the attached annual savings compared to the status quo, the economic impact of this option is assessed to be positive.

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58 ref. [7], page 102f. This corresponds to ref. [2], which adds up the equal shares of aerodrome and ATM/ANS efforts arriving at 4.4 to 6.5 Mio. € as per Annex D, page 39.

59 ref. [2], Annex D, page 40. Note that the estimated effort currently is not performed by employers fully assigned to the safety area, but related duties are split across the organisation.

60 ref. [2], Annex D, page 39.

5.2.3 Environmental impact

In general, it should be pointed out that a centralization of regulation and complete, highly effective and harmonized rule making action should provide for an optimum platform to take into account future matters which are not directly affected by the intended measure. Hence, with regard to the environmental impact of the extension of EASA, while no direct link to environmental aspects exists, this option is regarded beneficial on top of the reduction of possible ecological damage by decreased accident rates following improved air safety. This was also indicated by the former assessments.[61] A negative impact to the environment is not foreseeable.

5.2.4 Social impact

The most meaningful positive social impact will be achieved by reduction of air transport casualties, injuries and damages. However, as for the economical impact above, this important social contribution can not be quantified yet.

With regard to aerodromes and linked to the economical assessment above, the very detailed analysis performed by EASA, broken down in 5 different areas, each with 3 variations of potential social impact depending on technical ways of implementation, has evidenced a certain variety of possible social impacts, all with nearly exclusively beneficial impacts.[62]

The impact of the transfer of aerodrome safety rulemaking tasks from national administrations to EASA is expected to be minimal. Indeed the number of staff in charge of drafting aerodrome safety rules in each Member State is rather limited and should be relatively easily effected to other functions.

As for the ATM/ANS part, it is estimated that 12 persons are currently occupied by related rulemaking action within EUROCONTROL. The impact on these persons of the transfer of these tasks to EASA could vary depending on the implementation options retained. These options might vary from "outsourcing" by EASA of these tasks to the affected staff of EUROCONTROL to the direct employment of these personnel by EASA. Also, a realignment within the organisation could emerge from this situation. In total, it is found that possible negative impacts to EUROCONTROL staff could be very limited or even nullified by close consultation between COM, EASA and EUROCONTROL in the implementing phase of the measure.

In addition, it must be pointed out that a remaining adverse social effect to Member State and EUROCONTROL personnel would be overcompensated by the EASA jobs covering same and additional duties and by the positive social, also job growth related impacts following the overall European air transport stimulation as indicated above.

Thus, all in all the social impact of this option is expected to be positive, while a negative balance can be ruled out.

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61 ref. [2], page 40 and [7], pages 70, 81, 87 and 95

62 ref. [7], page 70ff, 81, 87, 96ff and 99f

5.2.5 Other impacts

Timeline: Regards the timeline of implementation hence effect of the measure in question, a period of transition for ATM/ANS matters from EUROCONTROL to EASA would materialize. Furthermore, also for aerodrome matters the related staff would need to be built up and familiarized. However, those start up related challenges would fall into the period of rule development and take place prior to the active oversight and certification tasks.

Third countries: As the current ATM/ANS safety achievements performed by EUROCONTROL encompass non-EU Member States, a shift to EASA could lead to "abandoning" those States. However, as most of those States are Members to EASA or signed an ECAA agreement, this effect would currently pertain to the States of Moldova, Turkey, Armenia, Monaco and Ukraine only. However, the Basic Regulation, through its Article 66, offers them the possibility to join the European safety system through the conclusion of specific safety agreements. Overall, therefore a negative impact to those countries therefore can be ruled out and no such effect is assumed to materialize.

Furthermore, it can be found that the above mentioned, significantly positive safety and economic are not limited to the Community Member States but will benefit also third countries' airlines and passengers.

Civil-military interface: The proper co-ordination of the civil and the military side is of utmost importance to airspace management, calling for a stable civil-military interface when applying a change to the regulatory framework affecting this area.

So far, this interface has been assured via coordination at national level as well as through the Single Sky Committee (SSC). The transfer of ATM/ANS safety matters to EASA should be designed to ensure that negative impacts are avoided. This question is limited to the technical issue on how to ensure a proper coordination, which will be elaborated in the course of the implementation of this option. Therefore, while pointing out the need for an appropriate solution, the actual nature of this solution is beyond the scope of this assessment.

5.3 Option C: Extend Eurocontrol mandates issued by the COM

5.3.1 Safety impact

Extending the EUROCONTROL mandate to the areas of aerodromes and ATM/ANS offers the advantage of keeping current ATM/ANS rulemaking expertise in place at EUROCONTROL. However, a number of drawbacks have been identified:

- In the field of aerodrome regulation, no regulatory experience is available in EUROCONTROL. Therefore, this matter would form a totally new and unaccustomed subject of the EUROCONTROL remit. For EUROCONTROL, this would mean to adapt the existing organisation which is tailored to ATM/ANS needs to integrate the very different aerodrome subject without being able to benefit from sharing in house experience pertaining to all other safety aspects of aviation.

- This option would fall short of the total system approach mentioned above, with a sole and independent safety body dealing with safety matters. All hazards emerging from interfaces with other safety players will occur. As airworthiness, operations and licensing matters are

subject to EASA competence already, this issue forms an inevitable safety (and efficiency) drawback.

- The tasks of inspecting and auditing Member States as regards their obligation to implement Community legislation, are absent from the remit of EUROCONTROL. To change this situation would call for a substantial change in the international system of this organisation. A task which is out of proportion with this objective which, as we have seen under option B, can be fulfilled by four persons.

- Conflict of interest: EUROCONTROL today accommodates competence for service provision and rulemaking including safety. These competences are functionally separated within the EUROCONTROL organisation to avoid any mix of interests and responsibilities. However, since they remain within the same organisation a conflict of interest might arise which could be even seen in violation of the separation requirements as per European law[63].

In total, the safety impact created by this option is assessed to be slightly positive.

5.3.2 Economic impact

With regard to the actual administrative cost, the option to extend the EUROCONTROL mandates is considered to follow in close analogy the costs calculated above for the option to extend EASA. After all, the distribution of responsibilities between the central agency and the national level would be the same in both options. Furthermore, the salary levels at EUROCONTROL and EASA are very similar. However, due to the increased coordination effort created by the split into two safety bodies a certain surcharge compared to option B would have to be expected.**5.3.3 Environmental impact**

Provided the related responsibilities are executed to the same quality as per the above EASA extension policy option, the impact to environment would follow the same rationale as described under sections 5.2.3.

5.3.4 Social impact

Beside the crucial positive social effects emerging from increased air safety as detailed in section 5.2.4 above, the social impact incurred by this option would show slightly beneficial as the up to 12 personnel mentioned in sections 5.2.2 and 5.2.4 would not be affected. However, as this would pertain to potentially required mobility only rather than to an actual decrease in employment, this impact is regarded minimal, while in addition and as highlighted by section 5.2.4 this could also be mitigated by proper transition arrangements.

With regard to the personnel dealing with aerodrome matters, the same rationale applies as explained for the EASA option above, i. e. the small group of Member States staff is expected to be realigned within the individual national Civil Aviation Authority.

Hence, the total social impact by this option is regarded still slightly positive.

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[63] ref. "Framework Regulation for the creation of the single European sky", Regulation (EC) 549/2004, and "Regulation on the provisions of air navigation services in the single European sky, Regulation (EC) 550/2004, 10 March 2004

5.3.5 Other impacts

Timeline: Regards the implementation of the option, no effects are visible opposing a timely and fully adequate taking up of related duties.

Third countries: It is fair to assume that, to a certain degree, the positive safety and economic impact detailed above would still lead to a slightly positive impact even in countries outside the European Community. The extent of this effect will be determined by the order of magnitude of those triggering impacts, though.

Civil-military interface: As mentioned under 5.2.5 above, this issue which attracted some attention by stakeholders raised the question of the treatment of related safety issues through the proper body and Committee. However, if a regulatory competence for aerodromes and ATM/ANS was given to EUROCONTROL, the impact to the necessary solution of this matter would be neutral.

5.4 Option D: Establish a new Agency

In this section, the impacts of the option to establish a new, independent Agency are briefly benchmarked against the status quo.

5.4.1 Safety impact

Certainly, the establishment of a new Agency as a regulatory body on the areas of aerodromes and ATM/ANS is expected to lead to improvements in the overall safety level.

However, as under 5.3.1 above and for similar reasons, those improvements would be very limited:

- This new agency would exist beside EASA and EUROCONTROL, which would create a triangle of distributed regulatory activities. Although all intended safety competence areas would be covered by one of these bodies, the aviation safety system would suffer from a significant lack of efficiency which would arise as the result of having even an additional regulatory body.

- Therefore, this option could not overcome the mentioned efficiency, integration and interface challenges.

- In addition, as a fully new entity would be put in place, significant start up difficulties with related performance degradation would have to be expected. Furthermore, the building up of organic expertise would be aggravated by the sole thus distant character of this entity, which does not provide for in-house knowledge exchange and cross referring.

For the reasons indicated above, the safety impact of this option is assessed to be slightly negative.

5.4.2 Economic impact

Certainly, the establishment of a New Agency would lead to a decrease of multiplication in rulemaking activity and of existing overlaps compared to the benchmark situation.

However, as again not being integrated into a total system approach by being responsible for the entire European aviation system, this achievement will be rather limited and does still provide an open door for reduced efficiency and duplication of related efforts and provisions in areas such as certification. The same applies for harmonisation and interoperability issues.

This effect would be very pronounced as the number of players hence interfaces would be even increased by the present option.

Being forced to coordinate within a triangle between EASA and EUROCONTROL, the complexity of the attached decision making process also would be enlarged. A reduced efficiency and the inevitable higher overhead effort would lead to a strong limitation of possible cost reduction.

Hence, similar to the findings in section 5.3.2, a variation in cost due to the reduced efficiency of this option has to be foreseen, while a quantification of this effect is neither feasible nor necessary at this stage.

5.4.3 Environmental impact

With regard to this impact emerging from option D, no significant difference can be seen to the general impact consideration as created by options B and C as discussed under section 5.2.3 ff. However, looking at the overall reduced efficiency of the option in question it is assumed that the slight beneficial impact possibly created by reduction of accidents would be nullified in this case.

5.4.4 Social impact

Again, a social contribution might arise from a possible reduction of accidents, a more healthy aviation market and related collective job growth. Furthermore, option D does not include the advantage of making use of management, administrative and support staff already in service. Therefore, the total social impacts assessed for this option is regarded nil.

5.4.5 Other impacts

Timeline: The same consideration applies as described in sections 5.2.5 and 5.3.5 above. However, as the set up of a discrete body requires additional effort thus time, this additional start up friction has to be taken into account for the option in subject.

Third countries: The slight positive safety impact emerging from this option might provoke very minimal positive impacts in other countries; however, as this option would not come with an additional economical element supporting this tendency, the overall impact of the option on third countries is regarded nil.

Civil-military interface: Again, and for the same reasons as stated under 5.2.5, this matter would have to be treated with attention during the implementation phase of the measure in order not to provoke potential safety gaps by this interface.

6 COMPARING THE OPTIONS

In order to reach final conclusions by isolating the most preferable option, all the options above need to be compared to each other and their benefit balanced against the objectives listed in section 3. The table below provides an overview of the identified impacts as detailed in section 5 above, especially highlighting the safety impact as this needs to be given the highest amount of gravity. The given ratings indicate the nature of the individual impact by following classification against the reference line established by the status quo:

+ + +	significantly positive	- - -	significantly adverse
+ +	positive	- -	adverse
+	slightly positive	-	slightly adverse
0	unchanged	n/a	not applicable

Option	**A** **"Do nothing"**	**B** **EASA**	**C** **Eurocontrol mandates**	**D** **New Agency**
Safety	deteriorating level, not compatible with challenges - - -	integrated, holistic approach high overall efficiency integrated enforcement mechanisms standardisation tools in place no interfaces problems separation regulation / service provision integrated knowledge management SES, community policy + + +	improvement limited by disintegration of safety matters overall reduced efficiency enforcement legally open no standardisation platform persisting interfaces problems reduced separation of regulation and service split knowledge against policy + +	as option C, but even less efficient as distinct from all other safety matters more interfaces problems knowledge management challenges against policy +
Economy	- -	high efficiency, best cost /saving ratio best positive impact to aviation market and economy + +	+	0
Envmt	-	+	+	0
Social	- -	+ +	+	0
other	n / a	0	0	0

Looking at this comparison, and based on the reference line given by the status quo imperatively requiring action, firstly it is pointed out that the assessment of option D (Establish a new Agency) revealed that it does not include any advantage over the options B (Extend EASA) or C (Extend EUROCONTROL mandates). In contrary, this option adds up the individual partial disadvantages incurred by the other two. Therefore, it can be excluded as clearly being inferior, limiting the further, detailed comparison to options B and C.

With regard to the safety impact, the option C suffers from the consequences of the failure to achieve a holistic approach. Option C will fail to provide standardisation inspections and enforcement of competence functions. It will maintain a split of safety competences between two organisations, EASA and EUROCONTROL. Therefore, in spite of a certain degree of positive safety results option C is considerably weaker than option B.

The same applies for the economical impact, where the key cost figures among the different options follow the same vein but are based on the very different efficiency results of those options. Hence, the option to extend EASA is supported by its higher overall efficiency, so receives higher scores for the incurred effects both with regard to cost and to general market development factors emerging from the measure. This comparison of qualitative nature, while already providing a clear result, reflects the fact that air safety is hardly measurable and especially an economic and social quantification attached loss of lives is regarded inappropriate. Instead, the figures below, based on conservative assumptions and on the figures provided in section 2.2 above, reveal a potential development of European air safety related cost: Starting from the average of 920 Mio. € of accident related cost per year incurred at global level, the European damage is carefully estimated to be at 10% of that figure.[64] Taking the duplication of traffic until the year 2025 into account, and leaving aside the exponential effect of related risk growth, the resulting accident figures should be multiplied by 2, arriving at 184 Mio. € of annual economic damage in Europe. The total contribution to that figure emerging from aerodrome and ATM/ANS safety is assumed to be in the area of at least 10% each, thus for each of those sectors an average annual economic damage of 9,2 Mio. € (today) and 18,4 Mio. € (year 2025, following the "Do nothing" option) is assumed. The estimated annual effort for option B in the area of aerodromes (2,380 Mio. €) and ATM/ANS (2,240 Mio. €) indicates the minor nature of the effort compared to the potential saving of accident related damage.

The same applies for option C; however, a justified quantification of the reduced efficiency incurred by this option must be taken into account by 10% reduction of effects on the safety side and another 10% increase of organisational effort.

Following this very conservative comparison, only a slight safety improvement created by the measure will lead to an economic "break even". Annex 1, figure 6 indicates a related sensitivity analysis.

A key difference of the two options appears for the social impact. While both options create positive effects due to the safety and economical impacts – again reduced in the case of option C – this EUROCONTROL option scores with the sole advantage of not requiring any change

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64 As the aviation accident statistics are based on low numbers hence are highly volatile, it is most appropriate to take the broadest level of numbers and "shrink" them to the level needed, based on valid and conservative assumptions. The numbers given do not include the significant contribution by non-accident occurrences, especially by incidents involving taxi or other ground operation, ref. [7], page 30f.

in the human resources aspect. However, as mitigating tools can be used in the implementation phase of the EASA option, this slightly non positive element is overcompensated by the other advantages of option B.

As regards the issue of timeliness to reach operational cruising speed, both options have individual weaknesses and advantages: EASA will benefit from the integrated knowledge management and the existing, safety-oriented structure, while EUROCONTROL benefits from having ATM/ANS expertise already in house. The matter of civil-military interface, though certainly important, pertains to the technical implementation phase and does not indicate a preference for one of the option.

In total, the above indicates that option B is clearly the most preferred option. Considering a weighing of the different fields of impact, and concluding that the impact on safety matters are by and large the most important effect as compared with economic and social ones, this result appears even more pronounced. **Therefore, it is concluded that the very prominent option to meet the current and future safety challenges face by the European aviation is option B, extending the scope of competence of EASA to the regulation of aerodromes as well as of ATM and ANS. This solution is also fully consistent with the Community policies in aviation safety and completes the Single European Sky and SESAR initiatives by adding the required safety element.**

7 MONITORING AND EVALUATION

This section highlights the tools and rationale available for a continuous and systemic monitoring process as well as evaluation of impacts and results achieved, which are supposed to be compared with the intentions and especially with the related general, specific and operational objectives as listed in section 3.

Regulation (EC) 216/2008 provides already an evaluation tool by its Art. 62. According to this provision, an external evaluation of the impact of the Regulation, of the Agency and its working practices has to be performed at periodic intervals. It is based on a broad stakeholder consultation and shall include an action plan. Following an initial evaluation to be commissioned within three years after the taking up of the new duties by EASA, this evaluation shall be performed every five years. By applying the same rationale, it is intended to suggest reducing the initial evaluation period following the enactment of these extension measures to three years after the entry into force of the selected Implementing Rules. Furthermore, Articles 10 and 24 on safety oversight and standardisation inspections of Member States and their undertaking are adequate tools to assess if the measures are correctly implemented, promote and enforce remedial actions if they are not and give the European Parliament, the Council and the Commission a systemic indication of the effectiveness of the adopted measure and of its Implementing Rules.

For technical detail and explanation on possible proposed indicators balanced against the established objectives, it can be referred to the preliminary Impact Assessment, ref. [2], page 67ff, on an exemplary basis.

All in all, therefore a complete and satisfying set of monitoring and evaluation tools is put in place to ensure the correct path for implementation and achievement of the objectives listed under section 3.

Annex 1: Figures

Figure 2.2.2.2: European Organisations

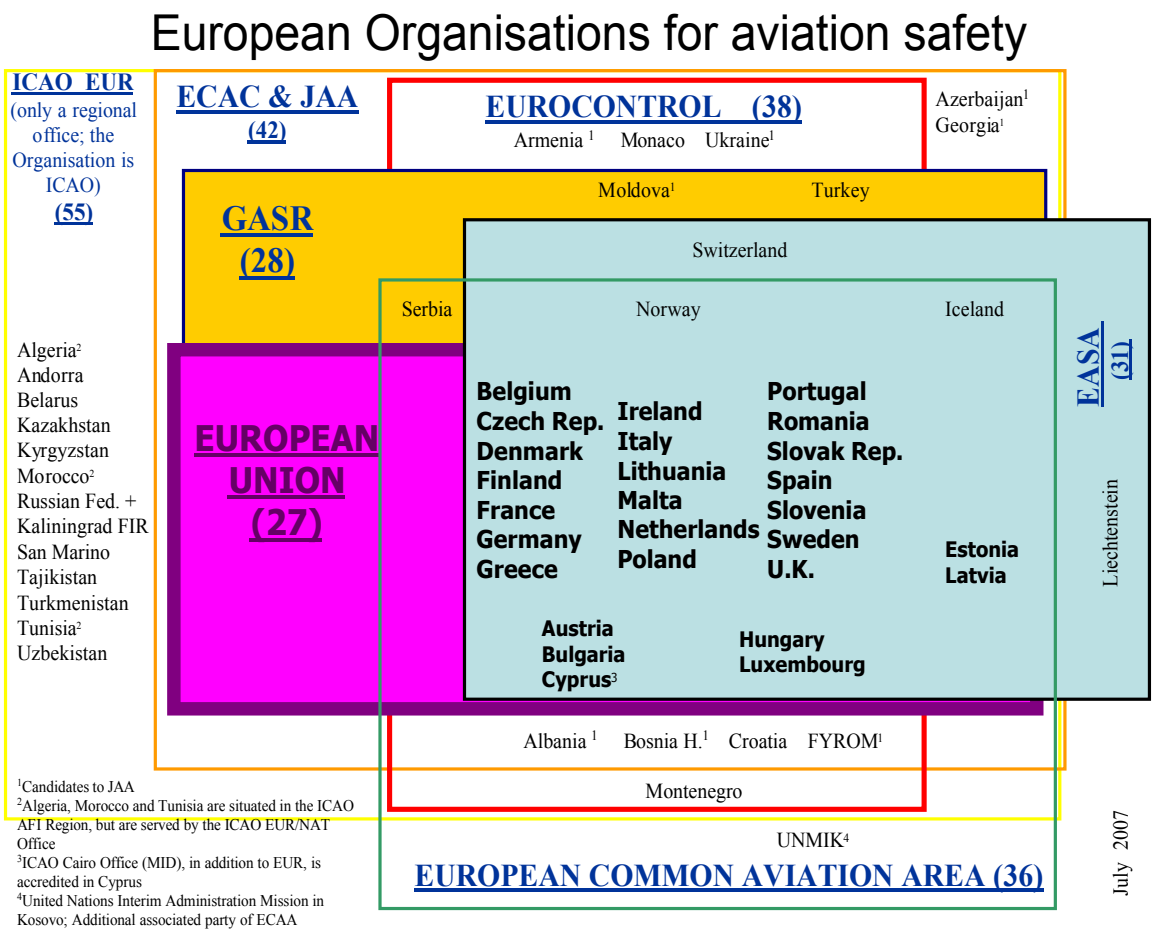


Figure 2.2.1: Western-built Jet Aircraft Accident Costs 1997-2006 (ref. [11], page 13)

Figure 2.2.2: 2006 Runway Excursion Accidents (ref. [11], page 26)

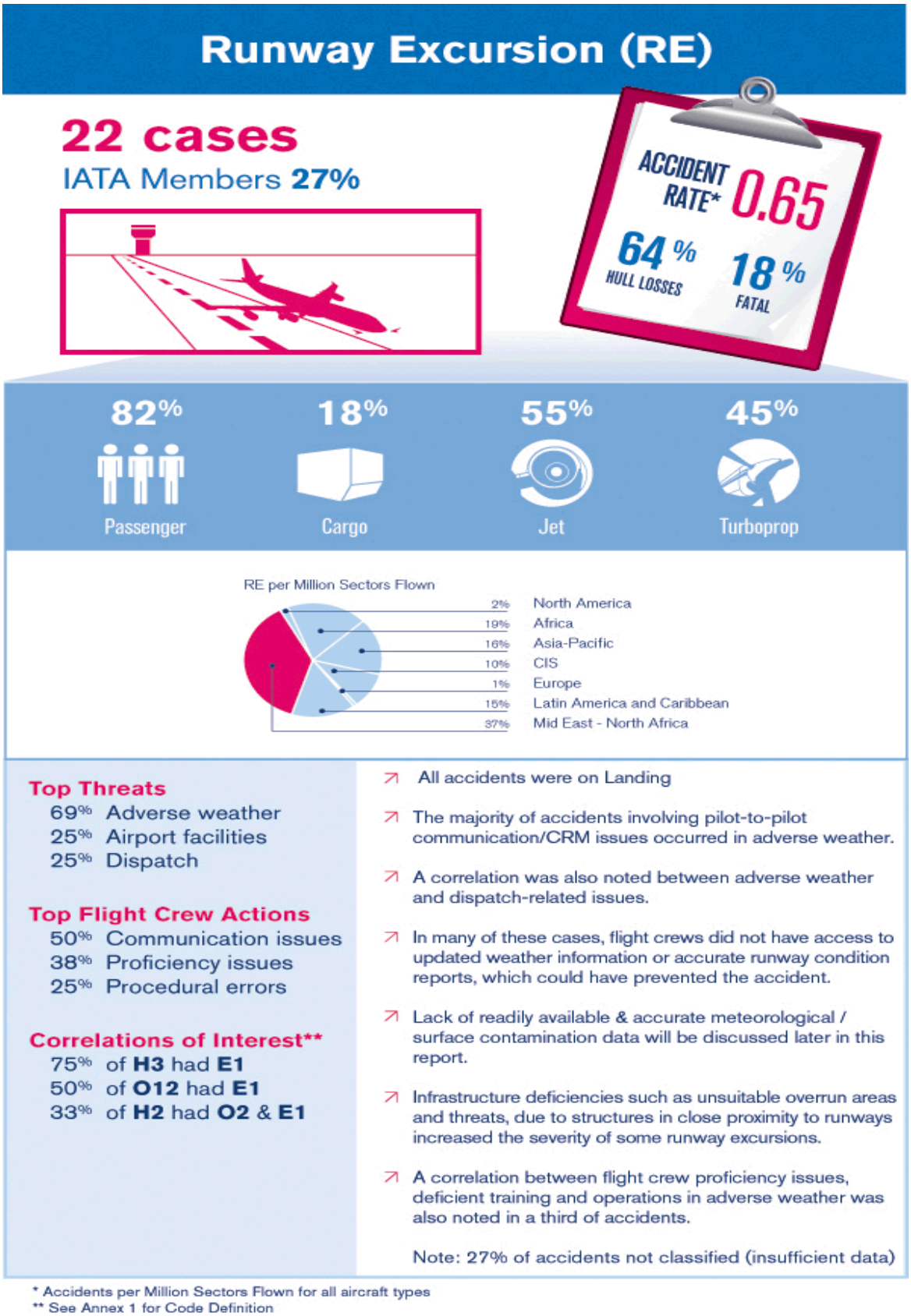


Figure 2.2.3: 2006 Ground damage Accidents (ref. [11], page 28)

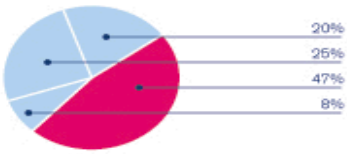
Ground Damage / Injuries (GND)

7 cases

IATA Members **71%**

100%	0%	86%	14%
Passenger	Cargo	Jet	Turboprop

Ground Damage per Million Sectors Flown



Ground Damage by Phase of Flight

Top Threats

33% Airport facilities
33% Maintenance
17% Ground ops

Top Flight Crew Actions

17% Communication issues
17% Procedural errors

Correlations of Interest**

No significant correlations

57% of events = Ground Collision between aircraft

43% of events = Ramp damage

- IATA members were severely affected in this accident category.
- The majority of accidents (57%) involved collisions between aircraft during the taxi phase.
- The remaining 43 % of accidents involved damage on the ramp during preflight.
- The lack of standardized ground handling procedures contributed to ramp damage.

Note: 1 accident not classified (insufficient data)

* Accidents per Million Sectors Flown for all aircraft types
** See Annex 1 for Code Definition

Figure 2.2.4: 2006 Approach & Landing Accidents (ref. [11], page 29)

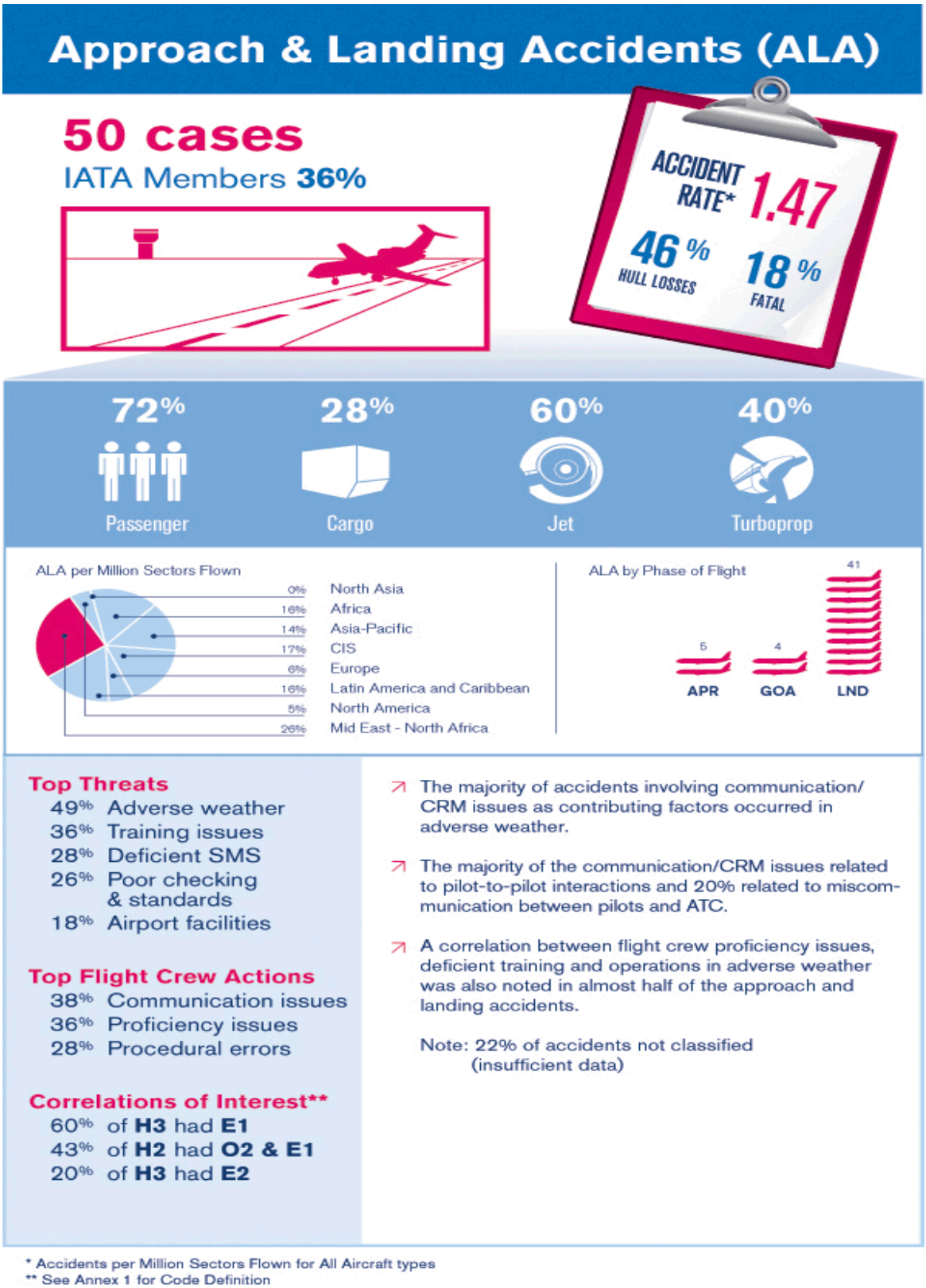


Figure 2.3.1: Factors of safety threat

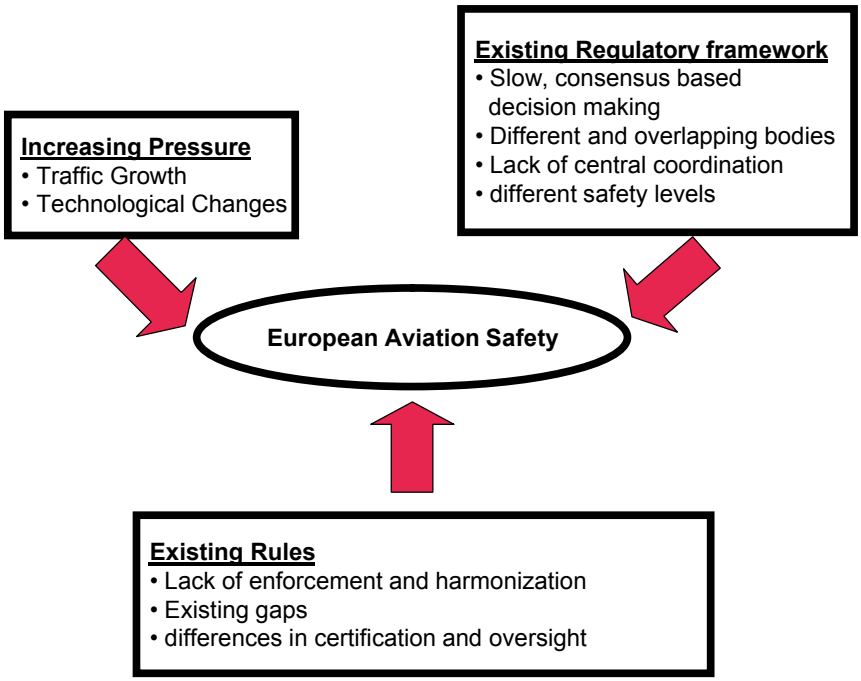
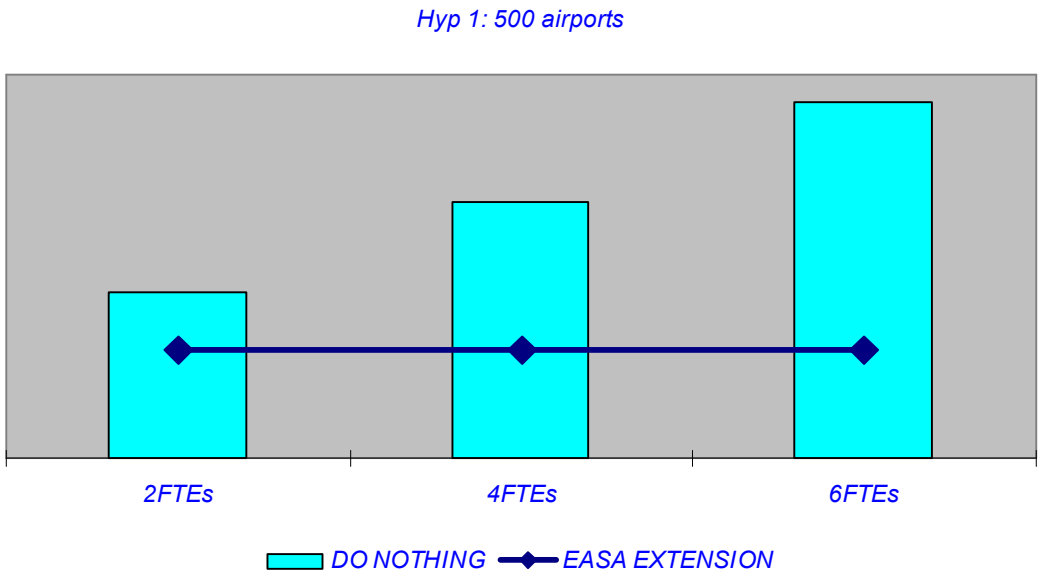


Figure 4.2.1: Aerodrome characteristics

Number	Public use	IFR	Typical Infrastructure and use
50	Yes	Yes	Major and hub airports, more than 50 000 annual movements, long runways, intensely used by large aircraft
650	Yes	Yes	1. Same as above, but less actual movements 2. Shorter runways, no or limited use by passenger aircraft, instrument procedures serving low end scale of commercial and corporate type use
1445	Yes / No	No	Shorter, non-IFR runways not allowing (regular) use of commercial operation, partial grass runways, very high amount of general and recreational operation
3000	No	No	very short, mostly grass runways, recreational operation only

Figure 5.2.2: Relation of savings



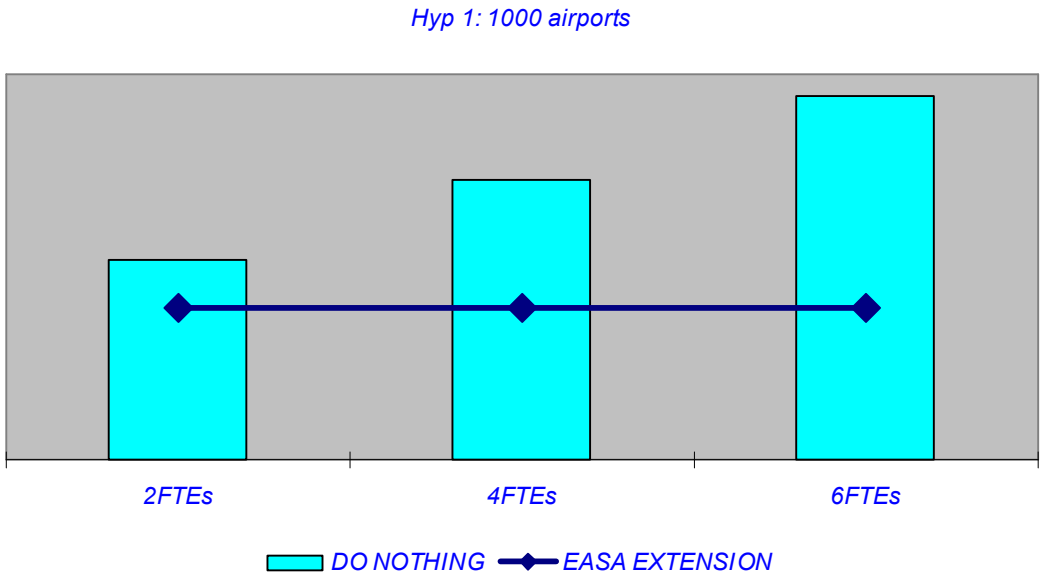


Figure 6: Cost sensitivity analysis

Based on the conservative analysis provided in section 6, in Mio. € / year:

			today	**2025**
Global damage			920	1840
European damage			92	184
aerodrome contribution to damage			9,2	18,4
ATM contribution to damage			9,2	18,4
			share of cost (%)	
			today	**2025**
Cost option B	aerodrome	2,380	**25,87**	**12,935**
	ATM	2,240	**24,348**	**12,174**
Cost option C	aerodrome	2,618*	**28,457**	**14,228**
	ATM	2,464*	**26,783**	**13,391**

* Cost of option B * 110 % due to reduced efficiency

The sensitivity analysis reveals that the cost incurred by the measure is in the area of 25% today, with a decreasing share in the following years.

Annex 2 List of Abbreviations

AFIS	Aerodrome Flight Information Service
AIB	Accident Investigation Body
AIM	Aeronautical Information Management
AIP	Aeronautical Information Publication
AIS	Aeronautical Information Service
AMC	Acceptable Means of Compliance
ANS	Air Navigation Services
ANSP	Air Navigation Service Provider
ATM	Air Traffic Management
ATS	Air Traffic Services
CFIT	Controlled Flight Into Terrain
CRD	Comment Response Document
COM	Communication
CS	Certification Specification
EAD	European Aeronautical Database (Eurocontrol)
EASA	European Aviation Safety Agency
ECAC	European Civil Aviation Conference
ERs	Essential Requirements
ESARR	EUROCONTROL Safety Regulatory requirements
EU	European Union
FTE	Full Time Equivalent
FUA	Flexible Use of Airspace (between civil and military)
GA	General Aviation
GAP	Ground Accident Prevention programme
GASR	Group of Aerodrome Safety Regulators
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation
ICB	Industry Consultation Body
IFR	Instrument Flight Rules
IRs	Implementing Rules
IS-SG	Inter-Service Steering Group
JAA	Joint Aviation Authorities
JAR	Joint Aviation Requirements
MET	Meteorological services
Mil	Military
MS	Member States (EU)
MTOM	Maximum Take Off Mass
NAA	National (or Civil) Aviation Authority
NAV	Navigation
NPA	Notice for Proposed Amendment
NPV	Net Present Value
NSA	National Supervisory Authorities
OPS	Operations
PRC	Performance Review Commission (Eurocontrol)
PRU	Performance Review Unit (Eurocontrol)
RFFS	Rescue & Fire Fighting Services
RIA	Regulatory Impact Assessment
R&D	Research and Development

SAFA	Safety Assessment of Foreign Aircraft
SARPS	Standards And Recommended Practices
SES	Single European Sky
SESAR	Single European Sky ATM Research
SESAR JU	SESAR Joint Undertaking
SMS	Safety Management System
SSC	Single Sky Committee
SUR	Surveillance

Annex 3 References

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