# ATM Information Digest

## December 2016 edition

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*The authors welcome any comments or corrections on the content to improve its accuracy – please contact icb-support@askhelios.com*

NCP NSA Coordination Platform

ICB Industry Consultation Body

EGHD Expert Group on the Human Dimension of the Single European Sky

# Introduction

The ATM Information Digest provides ICB, NCP and EGHD members with a quick reference on the main developments within the Single European Sky (SES). The content is organised by the five pillars of SES: Performance and Charging, Safety, Technology, Airports and Human Factors; with the latter pillar contained within the Technology section. The ATM Information Digest is revised quarterly, and this edition is structured as follows:

## 1. EU Policy

- **Aviation:** A summary of global and EU aviation policy.
- **Air Traffic Management in the EU:** A summary of EU ATM policy.
- **Funding and Financing Modernisation in ATM:** A summary of the funding and financing opportunities within European ATM, including information on the third Transport Call for Proposals for CEF funds.

## 2. Performance

- **Performance and Charging Scheme:** A summary by reference period, the evolution of the PRB, and future charging mechanisms.
- **Functional Airspace Blocks:** A summary of the status of FABs.
- **Network Functions:** An overview of the nomination of the Network Manager, update of the Network Functions Implementing Rule, network performance and CDM processes.

## 3. Technology

- **Research Programmes:** An overview of aviation and ATM research, in particular the SESAR R&D programme.
- **SESAR Deployment:** The framework to implement SESAR technologies and concepts, and current status.
- **Interoperability:** An overview of the current status of implementation of interoperability IRs, and related technical issues.
- **Human Factors:** An overview of the status of work on human factors within SESAR.

## 4. Safety

- **Safety Oversight:** Summary of the safety oversight regulation and EASA Rule Making activity.
- **EASA Basic Regulation:** An overview of the update to the EASA Basic Regulation.

## 5. Airports

- **European Observatory on airport capacity & quality:** Summary of the work of the airports observatory.
- **Current legislative proposals:** An overview of current airport related legislative proposals within the EU.

In addition, there are a number of supplementary annexes:

- **Useful Resources:** Provides a list of the latest documents, with their corresponding URLs, providing information on SES policy and performance. It also includes links to access dossiers from Comitology Committees and Commission Expert Groups.
- **Public Consultations:** Provides a list of on-going and planned public consultations related to Air Transport.
- **On-going Legislative Procedures:** Provides a list of on-going legislation related to Air Transport.
- **European Parliament Procedures:** Provides a list of legislation and reports related to Air Transport undergoing procedure in the European Parliament.
- **Status of EASA rulemaking:** Provides an overview of the status of EASA Rulemaking Tasks related to Air Transport.
- **SES Legislation:** Provides a list of all existing legislation relating to SES.
- **Results of 2015 CEF Call.**

# 1 EU Policy

This section provides an overview of EU policy and legislation, and also provides the link with the wider global aviation community. It contains the following topics:

- **Aviation:** Global and EU aviation policy summary.
- **Air Traffic Management:** EU ATM policy summary.
- **Funding and Financing:** Summary of the funding and financing opportunities within European ATM. Updated with information on 2015 CEF Call for Proposal.

## Aviation

### EU Transport Policy

The EC's 2011 White Paper "Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system" sets the direction for EU transport policy.

The Commission performed a mid-term review of the paper in 2015, and in July 2016 the Commission published a Staff Working Document on the implementation of the 2011 White Paper on Transport, highlighting its achievements and challenges. The overarching conclusion is that there is still little progress towards the goals set in 2011 – this is, in particular, attributed to the follow-up adoption of proposals by legislators, as well as the implementation, lagging behind.

### Flight Path 2050 (Long Term Vision)

The European Commission published its long-term vision for Aviation in Europe, Flightpath 2050, in 2011. The report establishes how and where European research priorities should be set to maintain EU growth and worldwide competitiveness, whilst also meeting market needs and environmental challenges. Further information can be found in Research Programmes.

### EC Aviation Strategy

As part of its work programme for 2015, the Commission announced it would examine ways to improve the conditions of the aviation sector by bolstering its competitiveness through the aviation package (number 11 of the new initiatives).

The Commission's Aviation Strategy was published on 7th December 2015. It is composed of several documents: a communication, a detailed supporting working document, a legislative proposal to amend EASA Basic Regulation (see below), and Regulatory Impact Assessments for the changes to the EASA BR and regulation of drones.

The Aviation Strategy lays down the Commission's vision for aviation as a whole in Europe. Three key priorities have been recognised:

1) Tapping into growth markets by improving services, market access and investment opportunities with third countries, whilst guaranteeing a level playing field.

2) Tackling limits to growth in the air and on the ground by reducing capacity constraints and improving efficiency and connectivity.

3) Maintaining high EU safety and security standards by shifting to a risk and performance based mind-set.

In ATM, the Aviation Strategy recognises the importance of SES initiative in improving safety, raising capacity, cutting costs and minimising environmental impact, but concludes that the project is still not delivering. To this end the Commission urges the Council and European Parliament to adopt the SES 2+ proposals.

The Aviation Strategy also underlines the priority to be given to the implementation of the performance scheme, the evolution of the Network Manager towards an industrial partnership, the technological modernisation of the sector, and the promotion of cooperative arrangements

with appropriate actors in key partnerships of the EU. Finally, it announces the Commission's intention to promote the exchange of best practices among Member States concerning minimum service levels in airspace management.

**EU Aviation Agreements**

Following the publication of the European Commission's Aviation Strategy, steps are being taken to negotiate EU-level comprehensive aviation agreements with key partner countries:

1) In March 2016, the Council of the European Union authorised the EC to open negotiations with China and Japan in view of concluding Bilateral Air Safety Agreements (BASA).

2) In June 2016, the EU member states granted the EC the exclusive mandate to negotiate EU-level aviation agreements with four key partners: The United Arab Emirates (UAE), Qatar, Turkey and members of the Association of South East Asian Nations (ASEAN). The first round of negotiations has already taken place with the members of ASEAN and with Turkey.

Existing EU aviation agreements include the following:

- EU-US Air Transport Agreement, (2007), amended by a Protocol.
- Multilateral Agreement on the establishment of a European Common Aviation Area (2006), which is yet to be ratified.
- Agreements with Morocco, Georgia, Jordan, Moldova, and Israel.

An aviation agreement with Ukraine has been negotiated and is expected to be signed in the near future, whilst negotiations are on-going with Lebanon, Tunisia and Azerbaijan.

**EASA**

Regulation (EC) No 216/2008 (EASA Basic Regulation), published on 19th March 2008 and amended by Regulation (EC) No 1108/2009 in November 2009, established the European Aviation Safety Agency (EASA) and dictates its remit, responsibilities, future implementing regulations, management and funding.

In order to identify the most appropriate way to update the Basic Regulation, after consultation EASA produced Opinion 01/2015 (European Commission policy initiative on aviation safety and a possible revision of Regulation (EC) No 216/2008) in March 2015. The opinion highlights areas where significant work is required to defragment the existing regulatory framework. Further details are available in the Safety section.

As part of the Aviation Strategy, and taking into account the recommendations provided by EASA, the Commission released a legislative proposal amending the EASA BR. The proposal does not repeal or modify parts of the SES legislation. The proposal:

- Permits the use of delegated powers to adopt Implementing Rules including certification of ANS providers and systems (e.g. conformity assessment), and regulation of drones.
- Strengthens EASA's role in the areas of security.
- Allows EASA to use route charges for certain SES related activities.

The rapporteur for the proposal is Marian-Jean Marinescu. The proposal is undergoing ordinary legislative procedure and a draft report by the TRAN Committee was published in May 2016.

## Air Traffic Management in the EU

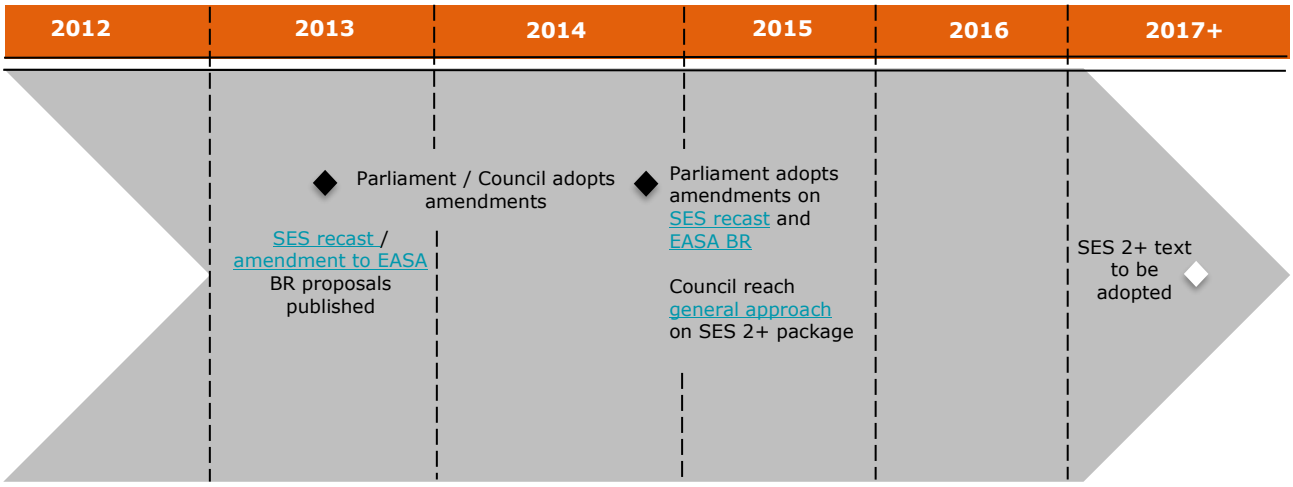
**SES 2+**

The SES 2+ legislative proposal comprises a recast of the existing SES Regulations (SES Recast, 2013/0186 (COD)) and an amendment to the EASA Basic Regulation (2013/0187 (COD), see also the EASA section above). The two legislative proposals are currently undergoing ordinary legislative procedures in the European Parliament and the Council of the European Union. For the European Parliament, the TRAN Committee is responsible for both legislative processes.

Two 'committees for opinion' have been assigned to the SES recast fiche: The Industry Research and Energy (ITRE) Committee, and the Legal Affairs Committee. The ITRE Committee decided not to provide an opinion.

On the Council side, there was significant activity under the Italian Presidency in the latter half of 2014. The Commission provided a progress report on 1st October 2014 in preparation for the 8th October 2014 Transport Council meeting. A high-level conference with ministers and CEOs took place in November 2014, to further discuss details of the SES 2+ proposals. The Council agreed to the general approach on the SES 2+ proposals at the Transport Council meeting on 3rd December 2014 as described in a press release that was published after the meeting.

The SES 2+ package is recognised as a priority in the Trio Programme (January 2016 – June 2017), the agenda drafted jointly by the Presidency Trio of the Netherlands, Slovakia and Malta and which outlines the 18-month work programme of the council. However, progress continues to be dependent on resolving the Gibraltar issue.




**EU-US Collaboration in ATM Modernisation**

The FAA's NextGen (Next Generation Air Transportation System) and the EU's SESAR are the two largest ATM modernisation projects currently under way; the U.S. and EU collaboration aims to harmonise and secure ATM modernisation efforts between these two projects.

The 2016 update for NextGen was published in April 2016. The update outlines the progress made on key programmes, safety, environment and decision support systems over the past year, as well as sets out plans for the future.

The collaborative harmonisation work between the U.S. and the EU has taken place under the Memorandum of Cooperation (MOC) between the United States of America and the European Union on Civil Aviation Research and Development, which was signed in March 2011. The two parties have agreed to explore the potential of expanding the current cooperation in the field of ATM R&D to all phase of ATM modernisation, including deployment and all other areas of the SES. The Commission will request the Council for a mandate to negotiate the amendment of the MOC.

NextGen and SESAR published a Joint State of Harmonisation Document in December 2014, providing a high-level summary of the current state of progress toward achieving the necessary level of interoperability between NextGen and SESAR. An updated version of this document is expected to be published in 2017.

In September, the latest report on the US/EU comparison of Air Traffic Management-Related Operational Performance was released. The report is the 5th in a series of join ATM operational performance comparisons between the US and Europe.

**Single European Sky Awards**

At the World ATM Congress in Madrid on 8th March 2016, the Commission unveiled the five winners of the first Single European Sky Awards, aimed at rewarding projects that have contributed the most to the achievement of the Union's SES. The five winners were:

- COOPANS Alliance: an example of the harmonisation of ATM systems, which can be considered the backbone of the SES and which brings significant benefits to the operators and service providers of the entire ATM system.
- Time Based Separation at Heathrow: a concrete example of a coordinated deployment of an innovative solution contributing to SES performance objectives.
- The BOREALIS alliance: Delivering FRA across Northern Europe by 2021: a major contribution to implementing SES and a great example and model of a voluntary coordination amongst national authorities, air navigation providers and many other organisations.
- Remote Tower Services (LFV): a good example of implementation of an innovative SESAR Solution paving the way towards a new era for air traffic control.
- Improvement of the Spanish Air Traffic Management Network performance through an ordered change management process: an example of how the performance of a national ATM system can be strongly improved with regulatory instruments based on SES.

## Funding and Financing Modernisation in ATM

**Implementation of the TEN-T**

The implementation of the Trans-European Transport Network (TEN-T) is facilitated by Connecting Europe Facility (CEF) funds for the period 2014-2020, and was previously supported through TEN-T funds (2007-2013). SES and SESAR are recognised in CEF as a 'horizontal project'.

The Innovation and Networks Executive Agency (INEA) is responsible for managing parts of the CEF and Horizon 2020 programme (with the exception of ATM research, which is managed by the SESAR JU). INEA also manages the remaining TEN-T projects.

Reports:

- The Fraunhofer study (summary note) assesses the wider economic effects which would occur if Europe failed to complete the core TEN-T network by 2030, as required by the TEN-T guidelines.
- The Christophersen-Bodewig-Secchi Report (June 2015) is an Action Plan "Making the best use of new financial schemes for European transport infrastructure projects" which identifies and recommends projects which could benefit from financial instruments.

**Connecting Europe Facility (CEF)**

CEF is an integrated financial instrument for investing in EU infrastructures in relation to Trans-European Network projects covering transport, energy and telecommunications. The CEF is the common focal point for network-related projects and coordinated funding for the EU financial period (2014-2020). The CEF regulation was published on 20th December 2013.

The total budget of the CEF earmarked for transport related projects between 2014 and 2020 is €26.2 bn, of which €11.3 bn will be transferred from the Cohesion Fund. Approximately €2.5 bn is allocated for SES-SESAR implementation up to 2020: €1.5 billion in the form of grants from the general envelope; €500 million in the form of grants from the Cohesion envelope; and €500 million in the form of financial instruments.

CEF funding rates of eligible costs (as a percentage of the overall cost of the project) are:

- 50% for studies and implementation of infrastructure.

- 50% for ground equipment.
- 20% for airborne equipment.

According to the ATM Master Plan, the target concept for SESAR deployment is expected to require an investment of between €18 bn and €26 bn by 2035. Further information can be found in the SESAR Deployment section.

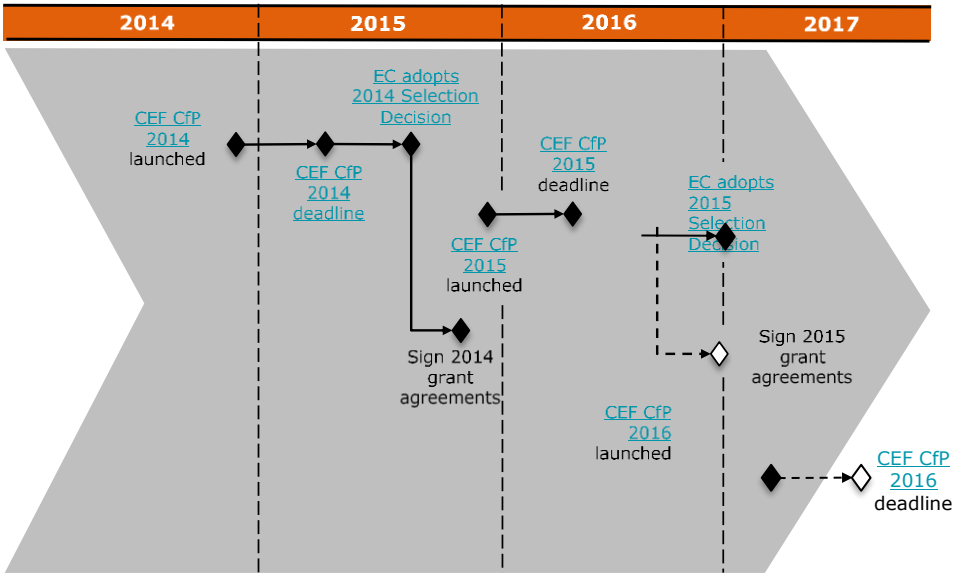
The CEF Multi-Annual Work Programme (Commission Implementing Decision C(2014)1921 and its annex) was adopted on 26th March 2014. INEA has launched three calls for proposals: 2014, 2015 (Table 11), and 2016. Indicatively, 80% of the funding under each call has been made available for Projects within the scope of the PCP and 20% for other SES-SESAR projects. In the 2016 call, 30% (€96 million) of the budget allocated to the PCP has been earmarked for projects related to the SDM's recovery Plan for Datalink implementation (please refer to Page 23).

The overall results of the CEF Calls are summarised in the following table:

| Call | Indicative ATM Funding Value (pre-decision) | Funding received for PCP Projects | Funding received for non-PCP Projects | Decision |
|---|---|---|---|---|
| **2014** | €300 M | €325 M | €50 M | 2014 Decision |
| **2015 (General)** | €515 M | €473 M (value of funding applied for: €1 076 M) | €123 M (value of funding applied for: €140 M) | 2015 Decision |
| **2015 (Cohesion)** | €300 M | €59 M (value of funding applied for: €112 M) | €39 M (value of funding applied for: €40 M) | 2015 Decision |
| **2016 (General)** | €300 M | N/A | N/A | N/A |
| **2016 (Cohesion)** | €100 M | N/A | N/A | N/A |

*Table 1: Summary of the 2014, 2015 and 2016 Calls for Proposals*

The timeline for the award of CEF funds is indicated below:



**European Fund for Strategic Investment**

In January 2015, the Commission published a legislative proposal to establish the EFSI, aiming to mobilise funding for projects of at least €315 bn to help promote growth and employment in the period 2015-2017. The EFSI Regulation was adopted in June 2015.

Due its success in its first year, in September 2016 the Commission proposed to double the duration and size of the EFSI. The Commission has therefore proposed a legal extension that covers the period of the current Multiannual Financial Framework (ie until the end of 2020) that should provide a total of at least €500 billion euro of investments by 2020, and Member States are called to contribute as a 'matter of priority'. Beyond 2020, the Commission intends to put forward proposals to ensure that strategic investment will continue at a sustainable level.

To ensure the feasibility of the EFSI, public funds (€16 bn from the EU and €5 bn from the EIB, rising to €26 bn from the EU and €7.5 bn from the EIB under the new proposal) will be used to guarantee private investors. Project bonds will be issued to generate a multiplier effect to reach at least €500 bn under the new proposal. The EU has planned to raise the guarantee by reallocating funds within its financial framework. As a consequence, the CEF envelope for grants has been reduced, decreasing the funds available to ATM by €0.5 bn.

**EIB**

The European Investment Bank (EIB) has a range of standard financial products available to support SESAR deployment. It is possible to accumulate CEF funding and EIB loans, up to a limit of 70% of the total project cost. For Cohesion States, this rises to 90%.

On 13th January 2016, the EIB and the SESAR Deployment Manager signed a Memorandum of Understanding formalising the way in which the parties will work together. Their aim is to ensure a range of financial instruments and mechanisms are available to industry stakeholders to support the implementation of the SESAR Deployment Programme.

# 2 Performance

This section provides an overview of the performance pillar, covering the following topics:

- **Performance and Charging Schemes:** A summary by reference period, the evolution of the PRB, and future charging mechanisms.
- **Functional Airspace Blocks:** A summary of the status of FABs.
- **Network Management:** An overview of the nomination of the Network Manager, update of the Network Functions Implementing Rule, network performance and CDM processes.

## Performance and Charging Scheme

The SES Performance and Charging Scheme is organised around fixed Reference Periods (RPs) for which legally binding performance targets are set at the EU, FAB and national level.

The European Court of Auditors has started a performance audit of SES policy initiatives, which includes the performance and charging schemes. The outcome is expected early 2017, and will assist in the revision of the regulation for the next reference period.

**Reference Period 2 (2015 – 2019)**

*Targets*

The Performance Scheme ((EU) No 390/2013) and Charging Scheme ((EU) No 391/2013) Regulations for RP2 (2015–2019) were adopted in May 2013. An ad-hoc meeting of the SSC on 4th February 2014 adopted EU-wide targets for RP2.

In March 2015, the Commission adopted two Decisions:

- Decision (EU) 2015/348 listed those plans that were consistent with the national or FAB-level plans.
- Decision (EU) 2015/347 listed those plans that were inconsistent with the national or FAB-level plans.

Member States with non-compliant targets submitted revised performance plans by 2nd July 2015. At SSC/60, on 24th -25th February 2016, the SSC gave a positive opinion on a Decision assessing certain revised targets.

Draft decisions tabled for vote at SSC/61 laid out corrective measures for Member States of Blue Med FAB and FAB EC in the areas of capacity and cost-efficiency:

- Members of Blue Med FAB (Cyprus, Italy, Greece and Malta) and Members of FABEC (Belgium, Luxembourg, France, Germany and the Netherlands) were required to adjust their performance targets in the area of capacity.
- Members of FABEC (France, Germany, the Netherlands and Switzerland) were required to adjust their performance targets in the area of cost-efficiency.

The two Decisions received no opinion from the SSC. The Decisions were subsequently submitted to the Appeal Committee which also provided no opinion. Following this result, the Commission is in process of formulating their intention and way forward.

On 30th November 2015, the PRB delivered and published its advice to the Commission on the Union-wide cost efficiency targets for terminal ANS, which was discussed in the Single Sky Committee in 2015. Given the complexity of the matter, Member States felt that the proposal was not mature enough for immediate implementation and criticised the suggested approach, which would result in the re-opening of adopted performance plans.

The PRB also assisted the Commission in assessing the Network Performance Plan, which can be viewed by members on the portal, and which contains performance targets for all key

performance areas and for all indicators, consistent with the Union-wide performance targets for the entire reference period. The Commission approved a final version of the Plan.

*RP2 unit rates*

On 18th March 2016 the Commission announced that the unit rates for Belgium-Luxembourg, France, Germany, the Netherlands and Switzerland were non-compliant with the Performance and Charging scheme, for both 2015 and 2016. This was detailed in Decision (EU) 2016/420 and 2016/419 respectively. The unit rates of the other states were found to be compliant for both 2015 (after some adjustments) and 2016.

The non-compliant Member States were required to recalculate their unit rates for 2015 and to carry over any difference, due to the temporary application of the unit rates, to the calculations of the unit rates for 2016. They were also required to resubmit 2016 unit rates.

The 2017 unit rates were submitted by each member state on 1st June 2016, and have now gone through an assessment by the PRU to verify their compliance with the performance and charging regulations. All technical issues have been addressed directly with the member states with the majority now resolved. The remaining open issues relate mainly to whether a financial bonus/penalty on the capacity targets generated in 2015 should be carried over to 2017. This will be clarified, taking into account the views of the Member States, in the upcoming Commission Decisions on 2017 unit rate compliance. The Commission has also launched a study to look into the existing incentive schemes, identify best practices and make recommendations for improvements in view of RP3. The work is expected to deliver results in the summer 2017.

*Monitoring*

The PRB annual RP2 monitoring report covering 2015 (expected in Q4 2016, having been presented at SSC/62) will describe the performance achieved by FABs, EU Member States, Norway, Switzerland and the Network Manager in the four Key Performance Areas (KPAs) of Safety, Environment, Capacity and Cost-efficiency. This report will be based on monitoring reports submitted by the NSAs and the Network Manager, subject to the provisions of the Performance and Charging Regulations. It will also present the Union-wide view of performance achieved in 2015 compared to the relevant targets.

**Preparations for Reference Period 3 (2020 – 2024)**

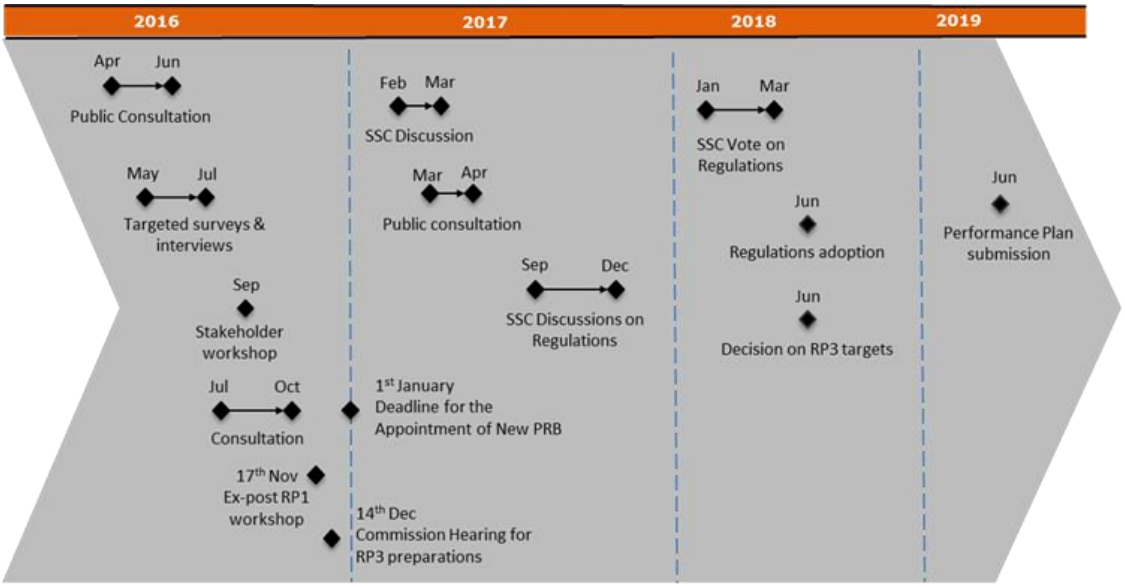
To inform the drafting of the Performance and Charging Schemes for RP3, the Commission is performing an ex-post evaluation of RP1 (contracted to Ecorys). An open public consultation, as well as targeted stakeholder consultations and dedicated interviews took place throughout June-September 2016. Before the conclusions are gathered into a final report, Ecorys are hosting a workshop on the 17th November with stakeholders to discuss and test the findings.

In addition, a white paper tabled at SSC/61 (available on the membership portal) introduced the objectives for RP3 by discussing the network issues as they stand today along with a summary of evidence when seen from a PRB perspective. The paper highlighted some key areas of concern, which in the PRB's opinion will need to be addressed, and suggested 16 performance objectives for RP3. Stakeholder feedback on the paper was open until 30th September 2016; comments will be consolidated and taken into account in the finalisation of the White Paper in November. A further stakeholder event on the paper was organised by the PRB for 9th November 2016.

The Commission also plans to launch a study into the evaluation of regulatory options.

The Commission will host an open RP3 Hearing on 14th December 2016, to which all stakeholders are invited to present their positions and opinions. Discussions on the legislative proposal will start within the SSC in Autumn 2017.

The timeline to develop the RP3 Performance and Charging Scheme Regulations is indicated below.




## Future charging mechanisms

The European Commission published a study report exploring various mechanisms for modulating charges to achieve better flight efficiency and reducing flight delays. The study aims to further develop a set of guidelines and recommendations by investigating the current charging framework, and further developing the charging policy underpinning the common charging scheme for ANS in the EU.

## New Performance Review Body (PRB)

With a view to strengthening the impartiality of the PRB, the Commission Implementing Decision setting up the independent group of nine experts (including its Chair) designated as the PRB of the SES was given a positive opinion at the ad-hoc SSC meeting in September 2016. The designation is for the period starting on 1st January 2017 and ending at 31st December 2024.

To ensure the efficient and effective functioning of the PRB, the Decision states that the PRB should be supported by a Secretariat provided by the Commission, without reducing its independence.

The Commission is now preparing for the adoption of the Decision, and for the launch of an open call for applications for the new PRB chair and members for appointment in time for the PRB's first meeting in Q1 2017. The next steps were outlined at SSC/62 under Item 8.4, and can be found on the membership portals.

*Technical support to the PRB*

From 2017 onwards, the technical support, currently provided by the PRU, will be organised in a manner to ensure the PRB is independent from services and entities regulated under the Performance and Charging schemes. The PRB support function will form part of a broader support team under the supervision of the Commission.

The Commission will work on setting-up the technical support, to be in place by September 2017 at the latest. EUROCONTROL will provide support in the interim under current arrangements. This is explained in full in Item 3.3 of the ad-hoc SSC on 2nd June 2016, and can be found on the membership portals.

# Functional Airspace Blocks

Functional Airspace Blocks (FABs) were defined in Regulation (EC) No. 1070/2009 amending Regulation (EC) No. 549/2004 and were to be established before 4th December 2012.

As described in Table 2: Summary of FABs and FAB members**Error! Reference source not found.**, there are nine FABs.

| FAB | Members |
|---|---|
| **Baltic FAB** | Lithuania<br>Poland |
| **Blue Med FAB** | Cyprus<br>Greece<br>Italy<br>Malta |
| **DANUBE FAB** | Bulgaria<br>Romania |
| **Denmark Sweden FAB** | Denmark<br>Sweden |
| **FAB CE** | Austria<br>Bosnia and Herzegovina<br>Croatia<br>Czech Republic<br>Hungary<br>Slovak Republic<br>Slovenia |
| **FAB EC** | Belgium<br>France<br>Germany<br>Luxembourg<br>Netherlands<br>Switzerland |
| **NEFAB** | Estonia<br>Finland<br>Latvia<br>Norway |
| **SW FAB** | Portugal<br>Spain |
| **UK-Ireland FAB** | Ireland<br>United Kingdom |

*Table 2: Summary of FABs and FAB members*

The formal establishment of FABs was monitored by the Commission. Following establishment, the Commission evaluated each of the FABs, and initiated formal infringement proceedings against seven of the nine FABs (Baltic FAB, Blue Med FAB, DANUBE FAB, FAB CE, FAB EC, SW FAB, UK-Ireland FAB) by sending Letters of Formal Notice in April 2014 and July 2014. Infringement proceedings have since been lifted for DANUBE FAB (16th July 2015).

The FAB EC Member States received a reasoned opinion in July 2015, in which the Commission requested States to notify of measures taken to accelerate FAB EC implementation.

The Commission contracted a study on the FABs, to assess their organisational, operational and technical progress following their creation in December 2012. The study also intends to define measurable benchmarking criteria, to identify best practices and to benchmark FABs against the applied criteria. A workshop based on the study's interim results was organised for November 2016. At the workshop, stakeholders were consulted in order to provide recommendations for the further development and implementation of FABs.

# Network Management

## Regulatory context

The Network Functions Implementing Regulation (NF IR) (EU) No 677/2011 was adopted on 7th July 2011, laying down detailed rules for the implementation of ATM network functions.

Commission Decision C(2011)4130 designated EUROCONTROL as the Network Manager (NM) until 31st December 2019 (ie the end of RP2) to perform the network functions under the condition defined in the NF IR.

*Update of Network Functions IR*

The Commission is currently in the process of updating the regulation using a two-step approach.

The first-step review resulted in an amendment to the Network Functions IR (EU) No 970/2014 which was approved and published in September 2014, and focussed largely on short term amendments.

The Commission is now focused on a more in-depth second-stage of the review. In support of this, the Commission has performed a targeted audit of the governance and financing of the NM; results were published in July 2016. The audit has served as the basis for improving the existing functioning of the NM until end of 2019, and for identifying future requirements of the NM to be considered in the context of the future nomination of the NM for RP3 and beyond.

The Network Performance Plan for the period 2015-2019 was adopted by the Commission on 11th August 2016 (Commission Implementing Decision (EU) 2016/1373).

## Network Manager audit

The Commission has performed a targeted audit of the financing of the NM to clarify the cost base and get best performance of the NM. The report was published in July 2016.

Following the completion of the audit, the Commission requested that the NM and Eurocontrol submit and action plan for corrective measures. The key areas identified were: greater management autonomy of the NM, the provision of relevant information to the NMB, a Data and Confidentiality policy statement, more transparent financing of the NM, greater transparency of financial information, an improvement of the definition of the NM role, the establishment of the NM cost base, and the monitoring of cost efficiency. Eurocontrol submitted the draft plan on 23rd September 2016; the Commission has completed its assessment and has asked the NM to consolidate its draft before formal approval and implementation in 2017.

## Summary of Network Performance

The NMB adopted the 2015 NM annual report in June 2016. This report gives an overview of the recent activities performed in the context of the network functions.

Over the first 8 months of 2016, European traffic was 2.3% greater than the same period in 2015. The busiest day ever in Europe was 9th September with 34,594 flights. The largest growth was seen in the south-west driven by the shift of holiday traffic, while airport delays in Turkey has adversely affected traffic in Eastern Europe.

- Enroute delays are currently expected to be outside the 2016 target, and higher than that of 2015, although NM has delivered en-route delays savings beyond its commitment in the NPP (14%). In the first half of the year, 15% of all ATFM delays were due to ATC industrial actions. Additionally, large contributions to delays came from staffing, weather and due to additional weekend issues (roster inflexibility, staffing etc).
- The KEP (and KEA) has been affected via the several industrial actions, impact of user charges and non-optimal AU flight planning. This has produced an average daily difference of 100,000 NM from the shortest available routes.

- The NM is now playing an active role to coordinate 8.33 kHz channel spacing, with all but four States having nominated an 8.33 National Coordinator responsible for related deployment activities. In addition, the NM is contributing to the development of the Aviation Spectrum Vision and Strategy, and European Aviation Common Position, to address the issue of available aviation spectrum.
- The NM has performed four frequency monitoring campaigns over the 2016 – VDL-2, secondary surveillance radar frequencies and DME frequencies. The analysis is ongoing, however, the NM and CDM group RAFT have so far concluded that more datalink monitoring campaigns should be carried out, discussions need to be started with Communication Service providers into the coordination of VDL-2 deployment, and the NM should take action for the monitoring and control of the consistency of the VDL-2 infrastructure deployment.

Strategic points for 2017, and beyond, are summarised below:

- The 2016-2019/20 Network Operations Plan indicates that the ACCs that are not expected to meet their reference values during the rest of RP2 – 11 ACCs from 5 ANSPs – with the last NMB accepting proposed NM measures to address the issues. If these measures are adopted by the ANSPs, it is likely that the RP2 European capacity target will be close to being achieved.
- NM has proposed cost efficiency improvements through consolidated night services, and measures to be applied in the pre-tactical phase to improve predictability. ANSPs are considering them.
- Until the end of 2016, 38 ACCs would have implemented Free Route Airspace. Cross-border implementation of DCT has already started, and either is, or soon will be, available in many areas of Europe.
- To further advance FRA implementation, a workshop is being held in Belgrade in mid-December with involvement from the NM and many European ANSPs. Discussion are to focus on optimum ways and means to steer a few individual cross-border initiatives.
- The NM is in close cooperation with the EC in starting preparation of the next EACCC exercise POWER 17. It will test the response of aviation to a total loss of power that would simultaneously occur across several countries. The prep-meeting was scheduled for 29th November, with the exercise carried out on 1st -2nd February. An ad-hoc EACCC workshop was hosted in Belgrade on 10th November.

**Cooperative Decision Making Processes**

The initial cooperative decision making processes for the network functions, Network CDM, was initially approved in June 2012, following a positive opinion of the SSC. A first update took place in 2014, again with a positive opinion from the SSC (in SSC 55).

At SSC/61 the SSC were invited to give a positive opinion on the revised Network CDM, which have already been approved by the NMB on 12th April 2016, subject to SSC approval. This can be found on the membership portal

The key changes to these CDM processes included provisions for "Cooperative Arrangements with Third Countries ANSPs", a simplification of the Network CDM processes for European Route Network Design (ERNIP) and the Radio Frequency Function.

**Network Management Board (NMB)**

The governance of the NM is performed under the leadership of the NMB. The NMB, which met three times in 2016, is assisted by the Network Directors of Operations (NDOP) for matters related to the operation of the ATM network.

# 3 Technology

This section provides an overview of developments in European ATM technology, covering the following topics:

- **Research Programmes:** An overview of aviation and ATM research, in particular the SESAR R&D project.
- **SESAR Deployment:** The framework to implement SESAR technologies and concepts, and current status;
- **Interoperability:** An overview of the current status of implementation of interoperability IRs, and related technical issues;
- **Human factors:** An overview of the status of work on human factors within SESAR.

## Research Programmes

### ACARE

In response to the Flightpath 2050 vision, ACARE (Advisory Council for Aviation Research and Innovation in Europe) updated and produced a new Strategic Research and Innovation Agenda (SRIA) during 2012, alongside the establishment of new research programmes including Horizon 2020 (see below). SRIA provides a guide to the future direction of public and private research, and sets policy principles towards the achievement of Flightpath 2050.

### Horizon 2020

H2020 is the largest EU Research and Innovation programme with almost €80 billion of funding available from 2014 – 2020. It is the financial instrument implementing the Innovation Union, a Europe 2020 flagship initiative aimed at securing Europe's global competitiveness.

H2020 brings together all existing Union R&I funding, including the Framework Programme for Research, the innovation-related activities of the Competitiveness and Innovation Framework Programme, and the European Institute of Innovation and Technology.

The Horizon 2020 Framework Programme for Research and Innovation (2014–2020) was formally adopted by EC 2013/743 on the 11th December 2013 following earlier approval in the EP Plenary on 21st November 2013. An updated version of the Horizon 2020 Work Programme for 2016–2017 was published on 25th July 2016.

### SES ATM Research

The European ATM Master Plan (2015 Edition) was approved by the SJU Administrative Board on 15th December 2015. The plan is intended to form the basis of the SESAR Joint Undertaking's SESAR 2020 Research and Innovation Programme as well as identifying essential ATM functionalities. This edition of the ATM Master Plan has been updated to refine the vision for future EU ATM systems, extends the performance ambition to 2035, and makes explicit reference to cyber-security and RPAS.

The SESAR 2020 programme will operate in the period 2016-2024. The Multi-Annual Work Programme covering the period 2016–2024 was published in September 2015. An amended Annual Work Programme for 2015 has been released integrating relevant SESAR 2020 financial details.

SESAR 1 (2007-2016)

*SESAR Releases*

Since 2011, the SJU has completed 68 validation exercises, identifying fully mature solutions which have been put forward for industrialisation and subsequent deployment. The results of the

most recent validation exercises can be found in Release 3 (2013), Release 4 (2014) and Release 5 (2015). The SESAR Solutions Catalogue, released by the SJU on 14th June 2016, draws together 63 SESAR Solutions delivered by SJU members and partners to modernise Europe's air traffic management system. To complement the catalogue, the SJU has provided an interactive map, which offers a graphical representation of the solutions grouped by phase of flights.

*SESAR showcase event*

Projects under the first round of SESAR R&I (SESAR 1) are due to be complete by 31st December 2016. With SESAR activities coming to a close, the SJU hosted an event on 14th – 16th June 2016 to showcase the achievements of SESAR 1.

SESAR 2020 (2016-2024**)**

On 16th June 2014, the Council of Ministers of the European Union adopted Regulation (EU) No 721/2014 amending Regulation (EC) No 219/2007, extending the duration of the SESAR Joint Undertaking from 31st December 2016 to 31st December 2024. The amendment also entrusted the SJU with €585 million from the Horizon 2020 Framework Programme (Regulation (EU) 1291/2013) to execute and deliver the SESAR R&I Programme 2020.

The SESAR 2020 Programme is based on the ATM Master Plan and is split into three main research phases:

1) Exploratory Research (€85 million from Horizon 2020)
2) Industrial Research and Validation (€1.2 billion from the SEAR JU partnership)
3) Very Large Scale Demonstrations (VLDs) (€300 million from the SEAR JU partnership)

The total funding for Phase 2 and Phase 3 comprises €500 million each from Horizon 2020 (H2020), EUROCONTROL and industry members to reach a combined total of €1.5 billion.

*Call for SESAR Membership and SESAR 2020 Work Programme*

As part of the extension of the SJU to 2024, the renewal of the SESAR JU Partnership was launched on 9th July 2014. In March 2016, the SJU announced the 19 Members that will participate in SESAR 2020 activities. SESAR 1 members Airbus, DFS, DSNA, Enaire, ENAV, Finmeccanica, Frequentis, Honeywell, Indra, NATMIG, NATS, SEAC and Thales (Air Systems and Avionics) will continue to contribute to SESAR 2020. They are joined by new members COOPANS, AT-One consortium, B4 consortium, Dassault Aviation and Skyguide.

The SESAR 2020 programme will operate in the period 2016–2024 (commencing Q3 2016). The Multi-Annual Work Programme covering the period 2016–2019 was published in September 2015.

*SESAR 2020 Call for Proposals*

The SEAR JU will launch calls for Proposals (CfP) for SESAR 2020 Projects in two waves:

1) Wave 1 (2016–2019)
2) Wave 2 (2019–2021)

The Wave 1 CfPs for the SESAR JU members was published by the SJU in October 2015, and covers industrial research and validation and preparation for VLD activities for the period 2016-2019. This call for proposals brings together the results from SESAR 1 requiring further research, as well as new research content aligned with the European ATM Master Plan. It covers 28 projects with a total budget of €260.1 million; the indicative budgets for each topic can be found in the Amended Annual Work Programme 2015.

Wave 1 projects were forecasted to start in Q3 2016 following an agreed ramp up in planning. Effective synchronisation will enable resources to be allocated to SESAR 2020 projects as SESAR 1 projects come to a close.

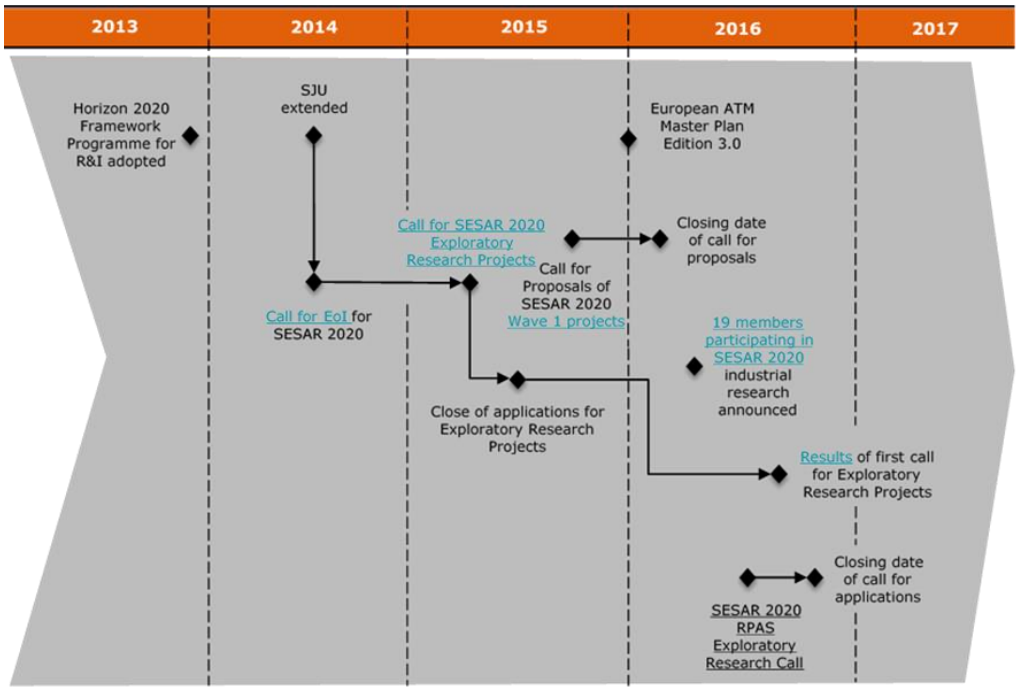
The second Call for Proposals for SESAR JU members – Wave 2–, expected to be released in 2018, will cover the period 2019-2021. The overall estimated budget for the IR and VLD activities of SESAR 2020 (Wave 1 and Wave 2) is €398 million.

*SESAR 2020 Exploratory Research*

The objective of the SESAR 2020 Exploratory Research (ER) Programme is to address the known, yet unsolved, problems across the ATM Research domain. In March 2015, the SJU published the first Call for Proposals for SESAR 2020 ER projects under the umbrella of the Horizon 2020 Research Framework Programme. Main calls will continue to be released every two years until 2020, with additional ad-hoc calls released as deemed necessary.

SESAR 2020 ER has an overall budget of €85 million, with €20.6 million made available under the first call to co-finance research projects on eleven research topics within two areas: ATM Excellent Science and Outreach, and ATM Applications-Oriented Research. The first call led to 28 projects being selected for €20.4 million of funding. These selected projects will run until 2018.

Additionally, on 28th June 2016 the SJU published the RPAS (Remotely Piloted Aircraft Systems) Exploratory Research Call, with an overall budget of €9 million available for seven research topics within two Work Areas: Operational Issues (Work Area 1, €0.8 million) and Technical Issues (Work Area 2, €8.2 million). The closing date for applications was 25th October 2016, but the deadline was extended to 15th November.




# SESAR Deployment

**SESAR Deployment**

The Commission adopted, with the favourable opinion of the Single Sky Committee (SSC), the Implementing Regulation (CIR) (EU) No 409/2013 on the governance of SESAR Deployment in May 2013. The CIR defines four key instruments needed for SESAR deployment within the SES framework: common projects, deployment programme, governance mechanism, and targeted incentives.

Subsequently, the Commission adopted the first Common Project, the "Pilot Common Project" (PCP) (CIR (EU) No 716/2014), on 28th May 2014. The PCP mandates the implementation of 6 ATM Functionalities (AFs) across specified stakeholders.

Responsibility for the management level of the deployment governance is held by the Deployment Manager. The SESAR Deployment Alliance was appointed as the Deployment Manager by the European Commission on 5th December 2014 with the signing of the SESAR Deployment Framework Partnership Agreement. The Deployment Manager submits the Deployment Programme to the Commission for its approval; the Deployment Programme translates Common projects into implementation projects, indicating "how" common projects will be implemented.

A proposal for the update of the Deployment Programme was published by the Deployment Manager for consultation in July 2016; the consultation period for the final draft has ended and further details are available on Page 19.

The final version is yet to be approved by the Commission. The Deployment Programme is the reference for the Call for Proposals for public funding for actions aiming to deploy Common Projects (see the Funding and Financing Modernisation in ATM section).

The governance of SESAR Deployment is at three levels, as described in this section:

1) **Policy level:** Established by the Commission, and for which it is directly responsible, the Policy level adopts Common Projects, appoints the Deployment Manager, oversees SESAR deployment, ensures it is aligned with the SES regulatory framework, and decides on the allocation of the Union's budget in support of deployment activities.

2) **Management level**: Led by the Deployment Manager. The management level develops, maintains and implements the Deployment Programme, and manages the implementation level.

3) **Implementation level**: Consists of individual implementation projects to implement the Deployment Programme.

**Policy level**

The Commission has established the policy level of the deployment governance, for which it is directly responsible.

*Pilot Common Project*

The Single Sky Committee (SSC) adopted the Commission Implementing Regulation (CIR) ((EU) No 409/2013) on the governance of SESAR Deployment in May 2013. The CIR defines 4 key instruments needed for SESAR deployment within the SES framework: common projects, deployment programme, governance mechanism, and targeted incentives.

The Pilot Common Project (PCP) CIR (EU No 716/2014) was published in May 2014. The PCP mandates the implementation of 6 ATM Functionalities (AFs) across specified stakeholders. A review of the PCP will be carried in 2017.

A status report on the progress of SESAR deployment was completed by Imperial College London and released in May 2016 on a request from the European Parliament's TRAN Committee. It was found that PCP implementation is currently on track, however there are delays anticipated for the PCP pre-requisites. The SDM is looking at ways to accelerate their deployment to remain on track, and the costs of these delays are yet to be determined.

*Future Common Projects*

The Commission will launch proceedings for the identification and definition of a second Common Project in 2017.

## Management level

*Deployment Manager*

In accordance with CIR (EU) No 409/2013, responsibility for the management level of the deployment governance is held by the SESAR Deployment Manager (see the **Error! Reference source not found.**section). The SDM's coordination tasks are funded through a levy on CEF grants, which are managed by INEA.

Recent Memorandums of Understanding (MoUs) and Memorandums of Cooperation (MoCs) signed by the SDM are summarised in Table 3. These Cooperative Arrangements have been formally approved by the Commission through Decision C(2016) 6332 final.

In addition, to facilitate the industrialisation processes for PCP SESAR solutions and to ensure the timely availability of standards and products according to the Deployment Programme, in March 2016 the SDM published a Call for Expression of Interest to set up MoUs with manufacturers. 20 ATM-related manufacturers expressed their willingness to co-operate with the SDM.

| Partner | Date signed | Link | Purpose |
|---|---|---|---|
| **SJU** | 10/03/2015 | Memorandum of Understanding SJU | Provide a platform for future cooperation for the smooth and timely deployment of the SESAR solutions. |
| **EDA** | 30/06/2015 | Memorandum of Understanding EDA | Establish efficient cooperation and mutual support between civil and military stakeholders with regards to SESAR Deployment |
| **EUROCAE** | 08/03/2016 | Memorandum of Cooperation EUROCAE | Provide the principles and sets a framework for efficient cooperation and communication between the SDM and EUROCAE with regard to SESAR deployment, in light of Regulation 409/2013. |
| **EIB** | 01/06/2016 | Memorandum of Understanding EIB | Ensure a range of financial instruments and mechanisms are available to industry stakeholders to support the implementation and the sustainable financing and of the SESAR Deployment Programme (see also the EIB section. |

*Table 3: Recent Memorandums of Understanding (MoUs) and of Cooperation (MoCs) signed by the SDM*

*Deployment Programme (DP)*

The Deployment Programme sets out a plan to implement all elements of the PCP. On 7th October 2016, the Deployment Manager released the final version of the 2016 edition of Deployment Programme, although it should be noted that it is still subject to approval by the EC. The 2016 version includes a monitoring view providing an overview of the current implementation status of the PCP within Europe. In addition, the results of a family re-assessment have introduced three additional families to the DP.

The final version of the 2016 edition of the Deployment Programme (DP 2016) includes only the implementation projects submitted in the CEF 2015 Call which were awarded funding and identifies subsequent PCP deployment gaps. This 'gap analysis' will then serve as the basis of the (now open) 2016 CEF Call (see the Funding and Financing Modernisation in ATM section).

*Data Link Services (DLS) Implementation Strategy*

Addendum 1 of the DP 2016, developed upon request of the EC, contains the 'Implementation Strategy towards Initial Trajectory Information Sharing' for Data Link Services. The objective is to set a realistic path from the current situation up to AF6 implementation by the deadlines set in the PCP (ie 1 January 2025 for ground, and 1st January 2026 for airborne segment).

This Strategy builds on the SJU's DLS-related studies (see later) and other relevant findings from New European Common Service Provision for PENS2 and DLS and includes the DLS Implementation Action Plan.

Based on the Strategy, a Datalink Recovery plan has been published by the SDM on the 17th October 2016, aiming at identifying the relevant actors, milestones and next activities to be undertaken in order to achieve the full DLS implementation in Europe (see Page 23).

*SWIM Governance Action Plan*

DP 2016 contains a second addendum: SWIM Governance Action Plan which defines a Roadmap towards SWIM Governance implementation. This was produced in response to the Commission tasking the SDM to define a SWIM Governance deployment action plan as a mitigation action with regards to the high-level risk N°8 – late definition/failure to establish SWIM governance – as previously identified in the DP 2015.

The SWIM Governance action plan was introduced alongside other SWIM related material at the SWIM Deployment workshop on 6th October 2016.

**Implementation level**

*Implementation Projects: 2016 CEF Transport Calls for Proposals for Public Funding*

On 10th June 2016, the SESAR Deployment Manager launched a Call for Indication of Interest to participate in the 2015 CEF Call, which closed on the 13th September 2016. The 2015 CEF Call is now open, and the SDM held a '2016 CEF Transport Calls for Proposals Launch Event' on 27th October 2016, which launched the responses preparation phase by providing detailed information on the process, timing and documentations to be provided.

For each Proposal, the first draft of the IP (Implementation Project) Description were submitted to the SDM by 3rd November 2016, the second draft by 17th November, and the Final IP Description should be submitted by 2nd December using the STAR Tool. As in previous years, the SDM will provide an excel IP template for candidates to use.

*Implementation Projects: 2014 and 2015 CEF Transport Calls for Proposals*

Table 1 on Page 9 summarises the funding awarded to PCP Implementation Projects (IPs) within the 2014 and 2015 CEF Transport Calls for Proposals; the applications for these IPs were coordinated and submitted by the SDM. A list of the Implementation Projects that were allocated funding under both the CEF Calls is available in the Annexes to the 2016 Deployment Programme, and the results of the 2015 Call are summarised in Table 11 (page 42).

Kick-off meetings for the implementation of PCP IPs in Cluster 1 (General Call Projects to be completed by 31st December 2018), Cluster 3 (Cohesion Call Projects), and Cluster 2 (General Call Projects to be completed after 31st December 2018) of the 2015 CEF Call was held by the SDM in November. In each of these meetings, the Action Execution Phase for the respective Cluster will be launched.

# Interoperability

This section outlines interoperability issues relating to the development and deployment of technologies, including standardisation and technical regulation activities undertaken in relation to SES and SESAR.

**Implementing Rules**

The Commission is currently working to resolve a number of issues with existing implementing rules, including ADQ, SPI, VCS and DLS.

*Aeronautical Data Quality (ADQ) IR*

The ADQ IR was amended in September 2014 by Regulation (EU) No 1029/2014.

The SSC/58 paper provided an update on the status of compliance with data quality requirements. This can be found on the membership portals.

Linked to the ADQ IR, an NPA on AIS/AIM was published by EASA on 27th April 2016 and thematic workshops were held in February 2016 and September 2016, with the objective of EASA delivering its Opinion on AIS/AIM in Q2 2017. This work should ultimately result in the incorporation of AIS/AIM requirements (including those from the ADQ IR) into the Common Requirements, and the repeal of the ADQ IR.

*Surveillance Performance and Interoperability IR*

Step one of the Commission's two-step approach for revision of the SPI IR was completed in September 2014 with the publication of Regulation (EU) No 1028/2014. The deadlines for forward fit and retro fit were delayed to 8th June 2016 and 7th June 2020 respectively.

Step two will comprise more significant changes, following a detailed review for the scope and impact. EASA Rule Making Task RMT.0679 was launched in 2015 to revise the mandate delivering results including a cost-benefit analysis as advised by the SJU. An output is expected in late 2017/early 2018. Further details may be found in the EASA Rulemaking section.

At the Ad-Hoc SSC on the 2nd June 2016, held due to compliance issues raised by many industrial stakeholders that resulted in many operators failing to meet their obligations (either in terms of requirements or implementation date). The Commission, on the basis of EASA recommendations, presented a proposed amendment to Regulation (EU) No 1207/2011. These issues and EASA recommendations are available on the membership portals in agenda item 9.12 from SSC/65. On 14th July 2016, the Commission hosted a workshop on compliance issues with Regulation No 1207/2011 (SPI). The draft EASA findings on the subject were presented, collecting input from stakeholders to review proposed amendments to the Regulation.

A commission Implementing Regulation amending SPI Regulation (EU) 1207/2011 is expected to be submitted to the opinion of the Single Sky Committee soon.

*VCS IR*

The Commission held a workshop on VCS 2 IR in January 2015 to assess the implementation of the regulation. In light of the workshop conclusions, the Commission engaged the NM to take an active and central role in coordinating and steering the implementation of VCS, including the handling of exemptions (civil and state aircraft). The NM provides reports to the SSC (including a report at SSC/60) which are available on the Membership Portals, as is a detailed list of tasks in support of VCS implementation.

At SSC/62, the Commission presented an updated text of a draft Implementing Regulation amending Implementing Regulations (EU) No 262/2009 and No 1079/2012. The proposed update can be found on the Membership Portals, within the meeting documents for SSC/62.

*Data Link Services IR*

Regulation (EU) 2015/310, amending (EC) 29/2009, was published on 26th February 2015. The ground implementation deadline is now 5th February 2018, whilst the airborne implementation deadline is 5th February 2020.

On 27th July 2016 the SJU released the results of the ELSA consortium's study "VDL2 measurement, analysis and simulation campaign". The study makes a series of recommendations in the areas of Ground Network, Avionics, Standardisation and Compliance, and ATN/VDL2 Network Implementation and Oversight Framework.

On the 19th October 2016 the Deployment Manager was appointed by the Commission as Data Link Services (DLS) Implementation Project Manager, thus acting as an architect for DLS implementation in Europe.

A Datalink Recovery plan, based on the "DLS Implementation Strategy towards Initial Trajectory Information Sharing", was published by the SDM on the 17th October 2016. It aims at identifying the relevant actors, milestones and next activities to be undertaken in order to achieve the full DLS implementation in Europe, avoiding inappropriate investments. A deployment workshop was held on 20th October to introduce how the DLS implementation strategy and recovery plan will impact the 2016 CEF call – Datalink services will form a priority funding area, with up to 30% of the budget (€96 million).

Finally, the Commission held a workshop on the future of Data Link on 24th November, addressing both short term implementation issues and longer-term perspective. Actions following this workshop should include the launch of an EASA Rulemaking Task to address the Data Link issues, as well as further clarifications on standardisation or network oversight.

*PBN IR*

EASA published Opinion 10/2016 on 2nd August 2016, addressing safety, interoperability, proportionality and coordination issues related to the implementation of performance-based navigation (PBN) within the European airspace.

Included as an Annex to this Opinion was the draft Commission Implementing Regulation (CIR) laying down implementing rules for common airspace usage requirements and operating procedures, and repealing Commission Regulation (EU) No 1332/2011. Subpart PBN of the Annex to this draft Regulation establishes the specific requirements for the introduction of performance-based navigation (PBN), which shall apply from 6th December 2018 and which ANSPs, aerodrome operators, the Network Manager and EASA must comply with.

*CR-O IR*

Information on the CIR laying down common requirements for Service Providers and Oversight in ATM/ANS can be found in the Safety section.

**Conformity Assessment**

Under SES 2+, the process of demonstrating compliance with the Essential Requirements of the interoperability Regulation is to be moved from the SES legislation to the EASA Basic Regulation. Whereas this process (Conformity Assessment) has been supported by EUROCONTROL to date, EASA will take the lead in the future.

An RMT on the future of Conformity Assessment was scheduled to start in 2016, however it is now suspended due to the delay in implementing SES 2+.

## ATM Standardisation - EASCG

The European ATM Standards Coordination Group (EASCG) was created in 2015 to coordinate ATM-related standardisation activities; the group arises from the European ATM Master Plan, in support of Single European Sky implementation.

The main task of the EASCG is the development, monitoring and maintenance of an overarching European ATM standardisation Rolling Development Plan (RDP), which is based on the current roadmap from the SESAR framework, inputs from the EASCG members (including the military), and, where needed, other key actors in the aviation domain. The RDP consolidates the standardisation working programmes of the Standard Development Organisations (SDOs) and notably links the developed "standards" to the ATM Master Plan, and to the PCP as relevant. The RDP also identifies, for each domain (eg Navigation Applications) and specific area (eg Airborne Capability), the existing standardisation items and activities, along with their responsible organisation (eg EUROCAE), working group or committee (eg WG-85), and status (eg published). Additionally, reference is made, where applicable, to the ATM Master Plan, the related PCP ATM functionality or the Deployment Programme Family.

## Remotely Piloted Aircraft Systems (RPAS)

A-NPA 2015-10 consultation by EASA resulted in the publication of an Opinion of a technical nature on the introduction of a regulatory framework for the operation of unmanned aircraft on 18th December 2015. No draft legal text is proposed beyond that by the Aviation Strategy.

RMT.0230 was launched in September 2016; the first meeting of this RMT was held on 21st November 2016.

EASA published a 'Prototype' Commission Regulation on Unmanned Aircraft Operations on 22nd August 2016. The purpose of the prototype regulation is to inform and consult stakeholders in view of the ongoing negotiations with the Parliament and the Council on the review of Regulation (EC) No 216/2008 and in view of giving indications on the possible direction that EASA will take on its implementation, after appropriate consultation, in a notice of proposed amendment (NPA) planned for the end of 2016.

On 30th September 2016, EUROCAE announced the creation of EUROCAE WG-105 Unmanned Aircraft Systems (UAS), which is tasked with developing standards and guidance documents that will allow the safe operation of UAS in all types of airspace, at all times and for all types of operations. The first meeting of the Working Group was held from 15th - 17th November 2016.

In November 2016, the SJU published the European Drones Outlook Study. The study gives an overview of the current RPAS landscape, provides a view as to how the market will evolve up to 2050, and outlines how European level support can safely unlock the potential of drones. The study suggests that a series of immediate actions must be taken at EU level to both boost innovative capabilities and implement comprehensive regulation that creates a single drone market.

A High Level Conference on RPAS was held by the Commission on 23rd – 24th November 2016, in Warsaw. A speech by Violeta Bulc, the Commissioner for Transport, given at the conference is available here. The Warsaw Declaration summarises the outcomes of the Conference and outlines a number of well-coordinated actions to develop the EU drone ecosystem and to deliver it by 2019, building on the guiding principles given in the Riga Declaration.

## Human Factors

### Human Performance in SESAR

SESAR 1 considered Human Performance (as one of four research and innovation transversal solutions in a dedicated Work Package (WP 16) besides the areas of safety, security, and environment. Projects related to HP were tasked to produce reference guidance material (including a repository) that supports operational and technical projects to account for human factors along the project lifecycle. The guidance includes methodologies to assess HP, tools and methods as well as best practices related to automation or information presentation.

*Achievements*

A joint methodology to perform Human Performance Assessments has been developed – an essential step to overcome previous segregated analyses on individual stakeholder level. This methodology helps to federate airborne and ground partners and establishes a Human Performance Assessment related to an ATM concept from a wider perspective. It is strongly connected with validation.

The guidance and the process facilitates that HP can be practically integrated in a project. Resulting analyses and conclusions help to mature the solution since knowledge is commonly built and shared among the stakeholders.

*SESAR 2020*

The Human Performance Assessments methodology is widely applied and serves as state-of-the art reference to assess human performance in SESAR projects with major impact on the human.

This methodology is incorporated into the SESAR 2020 programme to ensure that the needs of the human centred design are integrated within the project environment. Human Performance tasks will be undertaken by SESAR 2020 projects for each of the E-OCVM (European Operational Concept Validation Methodology) maturity phases and Technology Readiness Levels (TRLs).

# 4 Safety

This section provides an overview of the safety pillar, covering the following topics:

- **Common requirements for service providers and the Oversight in ATM/ANS and other ATM network functions:** A summary of the subject regulation and EASA Rulemaking activity.
- **EASA Basic Regulation:** An overview of the update to the EASA Basic Regulation.

Note that a full overview of EASA's Rulemaking Programme is provided in the EASA Rule Making section.

## Common requirements for service providers and Oversight

Commission Implementing Regulation (EU) No 2016/1377 was published on 19th August 2016[1], repealing Regulation (EC) No 482/2008, Implementing Regulations (EU) No 1034/2011 and (EU) No 1035/2011 and amends Regulation (EU) No 677/2011. Regulation (EU) No 2016/1377 amalgamates IRs 1034/2011 (Safety Oversight) and 1035/2011 (Common Requirements) into a single rule. IR 2016/1377 lays down common requirements for the provision of air traffic management and air navigation services ('ATM/ANS') and other air traffic management ('ATM') network functions for general air traffic, in particular for the legal or natural persons providing those services and functions and for the competent authorities and the qualified entities acting on their behalf which exercise certification, oversight and enforcement tasks in respect of those service providers.

## Update to EASA Basic Regulation

After consultation with NSAs, EASA produced Opinion 01/2015, European Commission policy initiative on aviation safety and a possible revision of Regulation (EC) No 216/2008, in March 2015. The Opinion 'supports a European Commission policy initiative whose aim is to improve the performance of the European Union (EU) aviation system'. As such, it 'identifies the most appropriate ways to update Regulation (EC) No 216/2008 (the EASA Basic Regulation) in order to make it best respond to changes in the aviation environment and subsequent challenges to its safety'.

The Opinion includes a proposal for NSAs to be able to delegate some of their oversight tasks to EASA (or other organisations), if they lack resources and expertise, and suggests that Member States have the option of delegating oversight of state (not including military) aircraft to EASA on a voluntary basis.

It also included suggestions to further expand the scope of EASA competence to cover new areas, such as Airport Ground Handling, Remotely Piloted Air Systems (RPAS), and security.

## EASA Rulemaking Activities

A full overview of EASA's Rule Making Programme is provided in the EASA Rulemaking section on Page 36.

[1] The text of Regulation (EU) No 2016/1377 was corrupted during the publication process; it contains translation and formatting issues. The Regulation is expected to be fully repealed and re-adopted to address/correct these issues.

# 5 Airports

This section provides an overview of the airports pillar, covering the following topics:

- **European Observatory on airport capacity & quality:** A summary of the work of the airports observatory.
- **Current legislative proposals:** An overview of current airport related legislative proposals within the EU.

## European Observatory on airport capacity & quality

The European Observatory on airport capacity & quality was established to assist the Commission in addressing challenges of airport capacity & quality facing EU airports and to facilitate an exchange of experiences and best practices. The Observatory has 43 members, comprised of 15 organisations and 28 national administrations. The most recent Plenary meeting took place on 27th May 2015, and the work of the following three Task Forces is summarised in this section:

- Economic and social impact of unaccommodated demand.
- Delays to air transport in Europe – methods of measuring, reporting & analysing.
- Learning from national strategies on airport capacity.

### Economic and social impact of unaccommodated demand

This Task Force was established to estimate the economic cost (in terms of GDP and employment) of not being able to accommodate additional demand by 2035, as forecasted by EUROCONTROL in its Challenges of Growth Report (2013). The task force also explored the environmental variables affecting capacity of the EU airports set to face congestion.

The Task Force's report on the "Economic impact of unaccommodated demand and environmental variables influencing airport capacity" was presented to the 8th Plenary in May 2015. The key results are presented in Table 4 below.

| Impact | InterVISTAS Approach[2] | Oxford Economics/IATA Approach[3] |
|---|---|---|
| Lost Potential Direct Impact | €11.8bn / 173,000 jobs | €19.3bn / 306,000 jobs |
| Lost Potential Indirect & Induced Impact | €16.4bn / 261,000 jobs | €33bn / 513,000 jobs |
| Subtotal of Economic Footprint | €28.2bn / 434,000 jobs | 52.3bn / 818,000 jobs |
| Foregone catalytic impacts and economy-wide productivity | €44.1bn | €86.3bn |
| Lost Potential Tourism Impact | N/A | €24bn / 485,000 jobs |
| Negative Economic Welfare Impact | N/A | €5.4bn - €13.6bn |

*Table 4: Economic & Social Impact study - key results*

The taskforce recognised the potential of environmental regulations to moderate the economic impact of the aviation sector, and noted that managing the environmental impacts is one of the keys to secure the industry's ability to grow. The report made several recommendations which could be addressed through future European Commission initiatives, including an assessment of

[2] In 2013 prices

[3] In 2012 prices

the effects of environmental restrictions on airport capacity and an assessment of studies on the links between the environment and health.

EUROCONTROL has launched the new Challenges of Growth study, which is expected to include a 20-year forecast and release its final report in 2018.

**Delays to air transport in Europe – methods of measuring, reporting & analysing**

This task force was charged with assessing any gaps in understanding the sources of airport delays in Europe, in order to achieve a coherent picture of delays, including ground based delay.

The task force's report was presented to the 8th Plenary on 27th May 2015. It concluded current mechanisms for capturing delay data (including the EUROCONTROL Central Office for Delay Analysis, CODA) have served the industry well and should continue to do so, but that there is scope for improvement. The specific recommendations were:

- To ensure that the need for and quality requirements of delay recording & reporting are widely understood and that collection is improved through automation, better guidance material and the application of a 'no blame' culture.
- To refine the current IATA delay codes and associated Performance Indicators to ensure they remain fit for purpose.
- To attempt to capture the costs of delays, in order to cover the perspectives of a wider range of stakeholders.

**Learning from national strategies on airport capacity**

This task force was tasked to develop learning from national, regional and local strategies on airport capacity, in order to respond to the problem that the proposed expansion of airports globally would not be sufficient to satisfy the demand for flights across the world.

The task force's report was presented to the 8th Plenary on 27th May 2015, and identified several points which were significant to tackle airport capacity, notably:

- Airports should be more fully integrated into the overall European Aviation network.
- Stakeholders should be encouraged to make best use of existing infrastructure (including both primary and secondary/regional airports).
- Authorities should look for opportunities to spread the benefits of competition to generate economic and social benefits.
- The need to share best practice guidance on national and local airport planning.
- EU funding should be targeted at bottlenecks, and further research on the impact of charges, levies and taxes linked to aviation should be performed.

## Current legislative proposals

There is one legislative proposal related to airports undergoing co-decision within the European Parliament and Council of the European Union:

- Amendments to the Common rules for the allocation of slots at EU airports (recast) were agreed in European Parliament plenary on 11th December 2012. The proposal is now awaiting 1st reading in Council, and budgetary conciliation convocation.

In addition, the following legislative proposals have been withdrawn:

- Ground handling services at Union airports and repeal of Council Directive 96/67/EC - (7th March 2015: procedure lapsed / withdrawn).
- Proposal for a Directive of the European Parliament and of the Council on aviation security charges - (7th March 2015: procedure lapsed / withdrawn).

## Aerodrome certification

According to Commission Regulation (EU) No 139/2014 publish on the 12th February 2014, Aerodromes that fall within the scope of EASA will be subject to regulations set by EU/EASA following their conversion to an EASA Certificate. Aerodromes fall within scope of EASA if the meet the following conditions:

Open to public use and which serve commercial air transport and where operations using instrument approach or departure procedures are provided, and:

(a) have a paved runway of 800 metres or above; or

(b) exclusively serve helicopters.

EASA Aerodromes are required to transfer from their current national licence to an EASA certificate by 31st December 2017.

The European Commission published Commission Regulation (EU) No 139/2014 on 12th February 2014. The regulation contains the Implementing Rules that cover all EASA aerodromes.

EASA has provides their Acceptable Means of Compliance (AMC) and Guidance Material (GM) as well as their Certification Specifications (CS) and Guidance Material to support this change.

The Opinion 01/2015 issued by EASA in early 2015 on the review of the EASA Basic Regulation does not suggest any change of the applicability of the Basic Regulation to smaller aerodromes and this will not be part of any proposal coming out of the European Commission in the near future.

# 6 Annexes

## Useful Resources

| | |
|---|---|
| **Strategy Documents** | |
| European ATM Master Plan Edition 2015 | December 2015 |
| Network Strategy Plan 2015 to 2019 | March 2015 |
| Network Operational Concept 2019 | March 2015 |
| European Network Operations Plan 2016-2019/2020 | June 2016 |
| **ATM Performance and Benchmarking** | |
| CANSO Global ANS Performance Report 2015 | December 2015 |
| Annual Network Operations Report 2015 | May 2016 |
| Network Operations Report – September 2016 | Latest: October 2016 |
| CODA 2015 Annual Digest | May 2015 |
| Monthly CODA Reports | Latest: August 2016 |
| **PRB Publications** | |
| PRB Performance Dashboard | Monthly Updates |
| PRB White Paper – RP3 Performance objectives | June 2016 |
| PRB RP2 Union-wide Targets Final Report | September 2013 |
| PRB Annual Monitoring Report 2014 | October 2015 |
| U.S./Europe comparison of ATM Operational Performance 2015 | August 2016 |
| U.S./Europe comparison of ATM Operational Performance 2013 | June 2014 |
| U.S/Europe comparison of ANS cost-efficiency trends 2002-2011 | November 2013 |
| **Safety** | |
| ICAO Safety Report 2016 | July 2016 |
| Global Aviation Safety Plan (2017-2019) | 2016 |
| European Aviation Safety Plan (EASA) 2014-2017 | May 2014 |
| EASA Annual Safety Review 2014 | October 2015 |
| SRC Annual Safety Report 2014 | December 2015 |
| **Traffic Forecasts** | |
| STATFOR Industry Monitor | Latest: September 2016 |
| STATFOR Seven-Year Forecast 2016 to 2022 | February 2016 |
| STATFOR 20-year Forecast 2012 to 2035 | June 2013 |
| STATFOR Very Long Term Forecast 2013 to 2050 | June 2013 |
| **SES Compliance** | |
| EPRS Briefing on Single European Sky status | April 2015 |
| ESSIP Report 2014 | June 2015 |
| ESSIP Plan 2015 Edition | January 2016 |
| LSSIP State Reports | 2015 |
| Report on SES Implementation 2013 | December 2014 |
| **SESAR JU and SESAR Deployment** | |
| SESAR 2020 Multi-Annual Work Programme | September 2015 |
| SESAR 2015 Annual Work Programme | October 2015 |
| SESAR Solutions Catalogue | June 2016 |
| Annual Activity Report 2015 | June 2016 |
| Annual Report 2014 | June 2015 |

| | |
|---|---|
| NextGen-SESAR: State of Harmonisation | December 2014 |
| SESAR Release 5 | 2016 |
| SESAR Release 4 | 2015 |
| SESAR Release 3 | 2014 |
| SESAR Release 2 | 2013 |
| SESAR Release 1 | 2012 |
| **Other documents** | |
| ECA: The Future of Flying in a Single European Sky | 2015 |
| EASA: UAS Safety Risk Portfolio and Analysis | October 2016 |
| TRAN Committee: Safe integration of drones into airspace | September 2016 |
| Challenges of Growth 2013 | July 2013 |
| List of EUROCAE ATM-related WGs | |

*Table 5: Useful Resources*

### Comitology Committees

- Single Sky Committee (SSC)
- Committee for the application of common safety rules in the field of civil aviation (EASA Committee)
- Connecting Europe Facility Coordination Committee

To access SSC dossiers (agendas and summary minutes) follow this link and these instructions:

1. In the top box select 'Search for Dossiers'
2. In the bottom box ('Committee/Basic legal act') select 'Committee'
3. Under service responsible, select 'Mobility and Transport' and press 'Search'
4. Scroll down and select the Committee
5. (Optional - specify any further details in the 'Dossier' box)
6. Click the 'Search' button

SSC working papers are made available via the membership platform.

### Commission Expert Groups

European Observatory on Airport Capacity & Quality
*Documents from the group are available in the additional information tab.*

**Objective**: to advise the Commission on the implementation of the action plan for airport capacity, efficiency and safety in Europe and on any matter relating to airport policy, notably airport capacity.

Expert Group on the Human Dimension of the Single European Sky
*Agendas and summary minutes are available in the additional information tab.*

**Objective**: to advise the Commission with respect to the implementation and development of the Single European Sky regarding all measures having significant human dimension implications.

European ATM Standards Coordination Group
*European ATM Standardisation Rolling Development Plan available on the RDP tab.*
**Objective:** to coordinate all relevant standardisation activities.

# Public Consultations

This section provides links to relevant public consultations.

| | |
|---|---|
| **1. European Commission** | |
| Ex-post Evaluation of the Single European Sky Performance and Charging Schemes | Consultation period: 7/06/2016 – 4/09/2016 (results) |
| Interim Evaluation of Horizon 2020 | Consultation period: 20/10/2016 – 15/01/2017 |
| **2. Performance Review Body** | |
| No open consultations | |
| **3. European Aviation Safety Agency (ATM relevance only)** | |
| **Notices of Proposed Amendments** | |
| Requirements for air traffic services (NPA 2016-09(A), NPA 2016-09(B)) | Consultation period: 14/09/2016 – 28/02/2017 |
| Proposed Special Condition RPAS Flight Control System | Comments closed 21/07/2016 |
| **4. EUROCAE** | |
| Ice and Rain Minimum Qualification Standards for Pitot and Pitot-Static Probes | Consultation period: 03/07/2015 – 14/08/2015 |
| MOPS for Traffic Alert and Collision Avoidance System II (TCAS II) Hybrid Surveillance | Consultation period: 29/07/2015 – 04/09/2015 |

*Table 6: Public Consultations*

# On-going Legislation

## Single Sky Committee

| | |
|---|---|
| **1. Recently approved Commission Implementing Regulations and Decisions** | |
| **SERA Part C**<br>Commission Implementing Regulation (EU) 2016/1185<br>(Amending CIR (EU) No 923/2012) and repealing (EC) No 730/2006) | Adopted through written procedure on 4th August 2016 |
| **Common Requirements and Oversight**<br>Commission Implementing Regulation (EU) 2016/1377<br>(Amending Regulation (EU) No 1034/2011 and Regulation (EU) No 1035/2011 and repealing (EC) No 482/2008) | Adopted through written procedure on 20th July 2016, subject to repeal and readoption.[1] |
| **2. Proposals awaiting decision** | |
| **Commission Implementing Decision on independent group of experts designated as the PRB** | Decision adopted at ad-hoc SSC of 13th September 2016. |
| **Commission Implementing Decision on revised performance targets** | Adoption of Decisions pending |
| **Surveillance Performance and Interoperability**<br>(Amending CIR No 1207/2011) | Amendments presented to SSC/62 for final comments. Inter-service consultation within the Commission on draft text imminent. Next steps, SSC Members requested to provide formal opinion on final text upon completion of consultation. |
| **Interoperability**<br>(Amending (EC) No262/2009 and (EU) No 1079/2012) | Launch of written procedure is imminent. |
| (Amending (EU) No 1033/2006 and repealing (EU) No 428/2013) | Launch of written procedure is imminent. |
| **3. Expected Proposals** | |
| **PBN IR** | Further information in EASA Rule Making section |
| **Part-DAT** | |

*Table 7: On-going Legislation*

# European Parliament Procedures

| | | |
|---|---|---|
| **Proposals awaiting first reading by EP** | | |
| *None* | | |
| **Proposals adopted by EP in first reading and awaiting Council position** | | |
| Implementation of Single European Sky (Recast) | COM(2013) 0410<br>2013/0186 (COD) | Debate in Council on 03/12/2014 |
| Aerodromes, air traffic management and air navigation services: simplifying and clarifying the legal framework | COM(2013) 0409<br>2013/0187 (COD) | Text adopted by Parliament on 12/03/2014 |
| Ground handling services at Union airports and repeal of Council Directive 96/67/EC | COM(2011) 0824<br>2011/0397 (COD) | Proposal withdrawn by Commission on 07/03/2015 |
| Common rules for the allocation of slots at EU airports (recast) | COM(2011) 0827<br>2011/0391 (COD) | Text adopted by Parliament on 12/12/2012 |
| Proposal for a Directive of the European Parliament and of the council on aviation security charges | COM(2009) 0217<br>2009/0063 (COD) | Proposal withdrawn by Commission 07/03/2015 |
| **Recently adopted acts** | | |
| *None* | | |
| **Parliament Own Initiative reports** | | |
| Aviation strategy for Europe | 2016/2062(INI) | Awaiting committee decision |
| Safe use of remotely piloted aircraft systems (RPAS) in the field of civil aviation | 2014/2243(INI) | Text adopted by parliament 29/10/2015 |
| Implementation of the 2011 White Paper on Transport | 2015/2005(INI) | Text adopted by parliament 09/09/2015 |

*Table 8: European Parliament Procedures*

# Status of EASA Rulemaking Activities

## Overview

This section summarises the status of EASA Rulemaking activities on ATM/ANS.

The EASA 5-year Rulemaking Programme 2016-2020 provides an overview of the expected rules and deliverables and was officially adopted by ED Decision 2015/236/ED on 11th December 2015. It contains anticipated rulemaking tasks deemed necessary to support the deployment of the functionalities originating from the SESAR programme. The Programme has been reassessed to ensure it meets the objectives of the PCP Commission IR (EU) No 409/2013, which defines common projects, explains how they shall be governed and identifies incentives for their deployment. Close cooperation was also undertaken with the SESAR Deployment Manager to contribute to the first Deployment Programme (DP V1). Further reassessments of the regulatory needs will be undertaken and will be reflected in future updates of the Rulemaking Programme.

The draft Rulemaking Programme 2017-2021 is undergoing consultation with EASA Advisory Bodies aiming at its publication in December 2016.

On 16th March 2015, EASA published its proposals for the future of the aviation regulatory system, including a possible revision of (EU) No 216/2008 (the EASA Basic Regulation). Further information can be found in the EU Policy section.

*ATM / ANS rulemaking deliverables*

An overview of the latest progress of EASA's ATM/ANS rulemaking activities is provided below.

- **ATCO licensing (RMT.0153, RMT.0154):** The ATCO licensing Regulation (EU) No 2015/340 is applicable from 30th June 2015. The corresponding AMC/GM has also been published (Decision 2015/010/R and ED Decision 2015/015/R). To support application, Easy Access Rules for ATCO, including the ATCO IR and AMC/GM, has been published and will be updated after each substantial change.

- **SERA (RMT.0609, RMT.0610):** Regulation (EU) No 2016/1185 relating to the update and completion of the common rules of the air and operational provisions regarding services and procedures in air navigation (SERA Part C) was published on 21st July 2016. It amends Implementing Regulation (EU) No 923/2012 and repeals Regulation (EC) No 730/2006. ED Decision 2016/023/R (and CRD 2015-14) on AMC/GM SERA Part C was published on 14th October 2016. A rulemaking task for the maintenance of SERA rule will be launched soon.

- **Part-DAT (ToR RMT.0593, RMT.0594):** This activity includes also the former ADQ-2 mandate. Opinion 02/2015 was published on 16th March 2015 and included inputs from public consultation (NPA 2014-20). The measures proposed in this Opinion have been integrated into Regulation (EU) 2016/1377 and amends Regulation (EU) No 965/2012. A Decision containing the related AMC/GM was anticipated to be published by Q2 2016, following alignment with the IRs once the proposal is adopted by the Commission. However, at the time of writing, no Decision has been postponed due to the on-going correction of the accidental publication of Regulation (EU) 2016/1377. In this context, the Agency is now aligning the draft AMC/GM with the Regulation in order to ensure a timely publication of ED Decision containing the associated AMC/GM once the new Regulation that repeals Regulation (EU) 2016/1377 is published in the OJ.

- **PBN IR (ToR RMT.0639):** Opinion 10/2016 on Performance-based navigation implementation in the EATMN was published on 2nd August 2016. It includes a proposal that ANSPs and aerodrome operators implement:

    - PBN approach procedures with vertical guidance (APV) that conform to the requirements of the RNP approach specification (RNP APCH) at all instrument runway ends (IREs) which are not served by precision approach procedures before 30th January 2020;

  - PBN standard instrument departure (SID)/standard instrument arrival (STAR) and air traffic service (ATS) routes as required to meet locally defined performance objectives that conform to the RNAV 1 specification or the RNP1 specification including the use of additional functionalities, as of 6th December 2018;
  - PBN requirements for the transition between the en route network and the SIDs/STARs to be consistent with the SIDs/STARs served; and
  - PBN requirements in support of rotorcraft operations in conformity with the RNP 0.3 specification.

- The inclusion of the PBN provisions in the Airspace Usage Requirements Regulation (EU) No 1332/2011 requires a re-structuring of the AUR regulation and of its current Part-ACAS. Furthermore, additional NPAs which provide the enablers for PBN implementation stemming from PCP CIR will be issued, such as airworthiness measures in CS-ACNS.

- **Revision of operational approval criteria for performance-based navigation (PBN) (ToR RMT.0256):** Opinion 03/2015 including draft Regulations was published on 31st March 2015. Decision 2016/008/R, amending the AMC and GM to Part-FCL and Part-ARA of Commission Regulation (EU) No 1178/2011 and the AMC and GM to Part-ORO and Part-ARO of Commission Regulation (EU) No 965/2012, was published on 2nd May 2016, following adoption of related IRs by the Commission.

- **Technical Requirements for Remote Tower Operations (ToR RMT.0624):** Guidance Material (GM) addressing single mode of operation and training and qualification of ATCOs (ED Decision 2015/014/R and ED Decision 2015/015/R published on 3rd July 2015) completed the first phase the RMT. EASA launched the next phase of the RMT, with a focus on extending the concept to busier environments and more complex models of operation, including the possible adoption of industry standards (when available). In the latter context, EASA is continuing to work closely with EUROCAE WG-100 and aims to publish a new NPA by Summer 2017.

- **Assessment of changes to functional systems by service providers in ATM/ANS and the oversight of these changes by competent authorities**: Regulation (EU) 2016/1377 based on Opinion 03/2014 and Opinion 02/2015 sets requirements for the assessment of the changes to functional systems, which is adapted to the concept of the existing requirements laid down in Regulation (EC) No 482/2008. The Agency is now aligning the draft AMC/GM with the Regulation in order to ensure a timely publication of ED Decision containing the associated AMC/GM once (EU) 2016/1377 is repealed and re-adopted (due to corruption during publication). Furthermore, in response to several stakeholders' requests tabled during the comitology as well as other forums e.g. EASA advisory bodies meetings, EASA is preparing NPA on additional AMC/GM that will indicate the characteristics/objectives of the assurance system to be applied to the software components of the functional system.

- **Revision of surveillance performance and interoperability (SPI) (ToR RMT.0679):** An exhaustive review of the scope, objectives, content and applicability of the SPI Regulation will be undertaken under this RMT. An NPA is due to be published in Q2/2017, with an Agency Opinion expected in Q2/2018 and a Decision expected in 2019.

- **Technical requirements and operational procedures for Aeronautical Information Services (AIS) and Aeronautical Information Management (AIM) (ToR RMT.0477, RMT.0478):** Essentially addressing the transposition of ICAO Annex 15 and notably including aeronautical data and aeronautical information quality requirements. The consultation period for NPA 2016-02, which was published on 27th April 2016, expired on 30th September 2016. The NPA proposes rules for service providers and for organisations involved in the origination of aeronautical data, thus amending Regulation (EU) No 2016/1377 and Regulation (EU) No 139/2014. Furthermore, the NPA proposes to transfer the related data quality requirements covered in Regulation (EU) No 73/2010 (SES ADQ1) to Regulation (EU) 2016/1377, i.e. under EASA regulatory

framework. An Opinion is due to be published in Q2/2017, with a Decision following the adoption of the related IR, anticipated in Q4/2017.

- **Requirements for ATS** transposing the relevant provisions of ICAO Annex 10 Volume II, Annex 11 and relevant provisions of Doc 4444 and Doc 7030 EUR **(RMT.0464/0468, ToR RMT.0464).** Subject NPA 2016-09(A) and 2016-09(B) was published on 16th September 2016 and are open to comment until 28th February 2017. As the subject matter of said NPA is closely interrelated to Regulation (EU) No 923/2012 (SERA) , it also propose minor amendments to said Regulation, which was recently amended by Regulation (EU) 2016/1185. The NPA also includes a set of requirements for the provision of Aerodrome Flight Information Service (AFIS), which is not explicitly addressed within the current ICAO framework. It aims to support the appropriate selection of Air Traffic Services to be provided at aerodromes and to harmonise the principles for working methods and operational procedures

- **Technical requirements and operation procedures for airspace design (ASD), including procedures design (ToR RMT.0445, RMT.0446). NPA 2016-13** was published on 25th October 2016 and it is open for consultation till end of January 2017. The proposal aims at harmonising the technical requirements on airspace structure design and the organizational and technical requirements for organisations providing service on flight procedure design as well as at implementing the Essential Requirements in Chapter 2, point (i) of Annex Vb to EASA Basic regulation.

- **Airworthiness review process (ToR RMT.0521, .0522):** NPA 2015-17 was published on 5th November 2015 and was open to comment until 5th February 2016. An opinion is expected to be published in Q1 2017.

- **Evidence-based and competency-based training (ToR RMT.0599):** Recognising that traditional training processes do not guarantee that pilots are competently trained, EASA have initiated a RMT addressing the initial and recurrent training of flight crew at the European level. NPAs are due to be published for consultation with Member States in Q4/2017 (EBT only) and 2019/Q1, and decisions are expected to be published in Q4/2018 (EBT only) and Q4/2020.

# SES Legislation

## Existing Rules and Regulations

| |
|---|
| **Framework Regulation (EC) 549/2004, amended by (EC) 1070/2009** |
| Performance Scheme Regulation (EU) 390/2013 (RP2) |
| **Service Provision Regulation (EC) 550/2004, amended by (EC) 1070/2009** |
| Common Charging Scheme Regulation (EU) 1794/2006, amended by (EU) 1191/2010 (RP1); (EU) 391/2013 (RP2) |
| Software Safety Assurance System (EC) 482/2008 |
| FAB Information (EU) 176/2011 |
| **Airspace Regulation (EC) 551/2004, amended by (EC) 1070/2009** |
| ATFM Regulation (EU) 255/2010, amended by (EU) 2016/1006 |
| FUA Regulation (EC) 2150/2005 |
| Airspace Harmonisation (EC) 730/2006, repealed by (EU) 2016/1185 |
| Network Management Functions (EU) 677/2011 |
| Standardised European Rules of the Air (EU) 923/2012, amended by (EU) 2016/1185 |
| **Interoperability Regulation (EC) 552/2004, amended by (EC) 1070/2009** |
| COTR Regulation (EC) 1032/2006, amended by (EC) 30/2009 |
| IFPL Regulation (EC) 1033/2006, amended by (EU) 929/2010 |
| FMTP Regulation (EC) 633/2007, amended by (EU) 283/2011 |
| DLS Implementing Rule (EC) 29/2009, amended by (EU) 2015/310 |
| Mode S Interrogator Regulation (EC) 262/2009 |
| ADQ Regulation (EU) 73/2010, amended by (EU) No 1029/2014 |
| ACID Implementing Rule (EU) 1206/2011 |
| SPI Implementing Rule (EU) 1207/2011, amended by (EU) No 1028/2014 |
| VCS-2 Regulation (EU) 1079/2012 repealing VCS Regulation (EC) 1265/2007, amended by (EU) No 657/2013 |
| **EASA ATM Rules** |
| EASA Basic Regulation (EC) 216/2008, amended by (EC) No 690/2009 |
| Common Requirements and Safety Oversight (EU) 2016/1377, repealing (EU) 1034/2011, repealing (EU) No 1035/2011, repealing (EC) No 482/2008 |
| ATCO Licence (EU) 2015/340, repealing (EU) 805/2011, repealing Directive 2006/23/EC |
| **SESAR** |
| SESAR JU Regulation (EC) 219/2007, amended by (EU) No 721/2014 |
| SESAR Deployment framework Regulation (EC) 409/2013 |
| Pilot Common Project (EU) No 716/2014 |

*Table 9: Existing Rules and Regulations*

## Community Specifications

| | |
|---|---|
| **Developed by ESOs** | |
| Airport Collaborative Decision Making (A-CDM) | EN 303 212 V1.1.1 |
| Advanced Surface Movement Guidance and Control System (A-SMGCS) | EN 303 213-1 V1.3.1<br>EN 303 213-2 V1.3.1<br>EN 303 213-3 V1.1.1<br>EN 303 213-4-1 / EN 303 213-4-2 V1.1.1<br>EN 303 213-5 / EN 303 213-6 published under R&TTE Directive |
| Data Link Services (DLS) | EN 303 214 V1.2.1 |
| **Developed by EUROCONTROL** | |
| Flight Message Transfer Protocol (FMTP) | Spec-0100 Ed. 2.0 |
| Initial Flight Plan System (IFPL) | Spec-0101 Ed. 1.1 |
| ATS Data Exchange Presentation (ADEXP) | Spec-0107 Ed. 3.1 |
| Flexible User of Airspace (FUA) | Spec-0112 Ed. 1.1 |
| Air-Traffic Services Message Handling System (AMHS) | Spec-0136 Ed. 2.0 |
| On-Line Data Interchange (OLDI) | Spec-0106 Ed. 4.2 |
| **Published as Technical Specifications** | |
| FDP Interoperability (ATC-ATC) | CEN TS 16071 |
| Software Assurance Levels (SWAL) | CEN TS 16501 |
| **On-going Community Specifications** | |
| GBAS Cat I | Suspended (mandated to CEN) |
| APV-BaroVNAV | Suspended (mandated to CEN) |
| APV-SBAS (LPV) | Suspended (mandated to CEN) |
| Aerodrome Mapping Data | Suspended (M/510, mandated to CEN) |

*Table 10: Community Specifications*

A number of additional Community Specifications were mandated to the ESOs by the Commission (M/524) in May 2013.

## Council Decisions

Council Decision (EU) 2015/2394 (on the position to be taken by the Member States on behalf of the European Union, concerning the decisions to be adopted by the Permanent Commission of Eurocontrol, with regard to the roles and tasks of Eurocontrol and on centralised services), published 8th December 2015, is of high interest in the context of the reform of Eurocontrol.

# Results of 2015 CEF Call

| | Action Number | Title | Recommended Funding (€) | % |
|---|---|---|---|---|
| Part A | 2015-EU-TM-0193-M | SESAR Deployment Programme implementation 2015 - Cluster 1 | 105,565,756 | 40.15% |
| | 2015-EU-TM-0196-M | SESAR Deployment Programme implementation 2015 - Cluster 2 | 367,150,964 | 42.73% |
| | 2015-EU-TM-0197-M | SESAR Deployment Programme implementation 2015 - Cluster 3 | 58,736,517 | 81.97% |
| Part B | 2015-BE-TM-0040-W | Required Navigation Performance Implementation Toolkit | 2,456,000 | 50.00% |
| | 2015-BE-TM-0234-W | (GC) Deployment of harmonised and interoperable high Performance European Surveillance System | 5,409,064 | 50.00% |
| | 2015-DE-TM-0128-W | Deploying New Radar Technologies (MaRS): Implementation of SES by Improving Performance, Interoperability and Modernizing ATM in Germany | 17,937,571 | 50.00% |
| | 2015-DE-TM-0268-W | Deploying Remote Tower (RTC): Implementation of SES by Improving Performance and Modernizing ATM for Tower Service Provision in Germany | 6,087,033 | 50.00% |
| | 2015-EU-TM-0102-W | UK and Italian Airport Consortium Proposal for PBN Instrument Flight Procedure Upgrade | 2,404,029 | 50.00% |
| | 2015-EU-TM-0103-W | DK-SE FAB Operational Harmonisation | 1,125,105 | 50.00% |
| | 2015-EU-TM-0242-W | (CC) Deployment of harmonised and interoperable high Performance European Surveillance System | 690,285 | 85.00% |
| | 2015-EU-TM-0266-W | Synchronised Performance Based Navigation Implementation Cohesion Europe | 32,600,708 | 83.53% |
| | 2015-EU-TM-0387-S | Convergence of DSNA and COOPANS ATM Systems step 1B (CODACAS 1B) - General part | 2,317,500 | 50.00% |
| | 2015-EU-TM-0388-S | Convergence of DSNA and COOPANS ATM Systems step 1B (CODACAS 1B) - Cohesion part | 658,750 | 85.00% |
| | 2015-HR-TM-0023-M | Implementation of the A-SMGCS system at Zagreb International Airport | 3,726,145 | 85.00% |
| | 2015-LT-TM-0155-W | Air Traffic Management (ATM) System Deployment | 6,672,020 | 49.24% |

| | | | |
|---|---|---|---|
| 2015-LT-TM-0160-W | Advanced Surface Movement Guidance and Control System (A-SMGCS) Modernization | 1,255,464 | 44.52% |
| 2015-LV-TM-0094-W | A-CDM RIGA | 965,000 | 50.00% |
| 2015-NL-TM-0402-W | Civil / Military Co-location at Schiphol | 4,966,970 | 50.00% |
| 2015-PT-TM-0383-W | LIS_iAOP | 1,457,034 | 80.00% |
| 2015-SE-TM-0016-W | Implementation of Functional TWR at Goteborg Landvetter Airport | 2,917,500 | 50.00% |
| 2015-SE-TM-0033-M | Skavsta Access 2.0 | 2,696,952 | 50.00% |
| 2015-SE-TM-0097-W | One synchronised ATM system - Contingency ATCC at OS/MM | 6,325,000 | 45.34% |
| 2015-SE-TM-0185-W | FRA High Seas Primary Surveillance Infrastructure | 3,099,000 | 50.00% |
| 2015-SE-TM-0355-M | Expansion of Remote Tower Services | 9,123,500 | 50.00% |
| 2015-SI-TM-0021-W | Initial Airport Operation Plan | 445,369 | 50.00% |
| 2015-UK-TM-0010-W | New NERL Operational Facilities Phase 1 | 8,459,250 | 50.00% |
| 2015-UK-TM-0012-W | Enablers to Support SESAR Deployment | 10,757,150 | 50.00% |
| 2015-UK-TM-0013-W | CNS Rationalisation and Upgrade within the UK | 5,615,000 | 50.00% |
| 2015-UK-TM-0047-S | Design of New NATS Systems to support SESAR Implementation | 3,645,350 | 50.00% |
| 2015-UK-TM-0067-M | PBN Implementation | 4,219,747 | 50.00% |
| 2015-UK-TM-0150-M | 8.33kHz Radio Equipage for UK GA Fleet | 4,345,773 | 20.00% |
| 2015-UK-TM-0281-S | Upgrade all UK Military Terminal ATM VHF radios to 8.33 kHz standard supporting the UK Lower Airspace Radar Service (LARS) | 2,250,157 | 50.00% |
| 2015-UK-TM-0356-S | Provision of Short-Term Conflict Alert (STCA) systems at 10 Royal Air Force Terminal ATM facilities located throughout the UK | 7,874,793 | 50.00% |

*Table 11: Results of 2015 CEF Call*

**Produced for the European Commission (December 2016)**

**For further information, please visit:**

**EGHD:** http://www.eghd-portal.eu/

**ICB:** http://www.icb-portal.eu/

**NCP:** http://www.ncp-portal.eu/

NCP NSA Coordination Platform

ICB Industry Consultation Body

EGHD Expert Group on the Human Dimension of the Single European Sky