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**F/2 Single Sky & Modernisation of ATC**

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## SINGLE SKY COMMITTEE

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### **SES II Roadmap**

- Submitted by the European Commission -

In the end of March 2009, the European Parliament and the Council of Ministers have come to a first reading agreement on the aviation package reviewing the Single European Sky (SES) legislation and extending EASA competence in the field of air traffic management and airport operations. At the same time the ATM Master Plan has been endorsed by the Council and in June 2009 the SESAR JU Administrative Board has been in the position to adopt the ATM Master Plan as the basis for the SESAR work programme.

Based on these policy developments, a number of actions will have to be taken very soon for implementation in the next years. The aim of this **paper** is therefore to turn the new legal framework into a comprehensive list of actions to be taken to ensure that the package effectively delivers in due time performance to the aviation industry. As a consequence, it may be used as a roadmap (or a step towards a roadmap) for the period 2009-2014.

A **table** listing all the actions identified to be taken and implemented, together with indicative target dates over the period 2009-2014, is attached. It is intended to contribute to providing a full overview to all actors involved.

## TOWARDS A ROADMAP TO IMPLEMENT SES II 2009-2014

### 1. A HIGHLY PERFORMING EU ATM NETWORK AS A COMMON OBJECTIVE SUPPORTED BY ALL ACTORS

1.1 "Drive performance" was the overriding message given in the aviation package. The aim was to align the activities of all actors in the Single Sky towards one single goal: on the basis of the SES I acquis, offer the most performing air traffic management infrastructure to the needs of an evolving aviation industry. Performance is at the heart of the new legislation. The four pillars of the package (performance, safety, technical innovation and airports) should allow a "gate-to-gate" approach materializing the performance improvements airspace users expect from air traffic management (ATM). A new institutional set-up was needed to reflect this new approach.

1.2 All actors will contribute together improve the performance of the ATM system.

- The new institutional SES II set-up require a number of new functions: (i) an independent Performance Review Body will assist the Commission and the national supervisory authorities in performance regulation; (ii) the EU Network Management function will complement the regional service providers with a genuine network approach. This will directly provide for a European perspective regarding airspace capacities, routes or frequencies; (iii) a Functional Airspace Block (FAB) Coordinator will facilitate the discussions between the actors in charge of the *change management* leading to the integration of services; (iv) EASA will strengthen the safety dimension of the ATM network. Building on the achievements of Eurocontrol, where Safety Regulatory Requirements paved the way to EU rules, and respecting the SES safety acquis, the "total system approach" will cover the whole aviation safety chain. One of the motors for the performance is technological innovation; (v) the SESAR Joint Undertaking pools current R&D efforts to speed up technological innovation. It will be for the Community to ensure a transition from development to synchronised deployment through appropriate regulatory instruments and financial incentives; (vi) finally, the airport capacity observatory will not only integrate the entry and exit points of the ATM network into a seamless aviation transport chain, but will also provide inputs to the network manager.

- SES II will also affect the role of existing players: (i) National Supervisory Authorities (NSA) will have to enlarge their current focus on principally safety, and turn themselves into genuine performance regulators. Beyond safety, authorities will have to cope with consultations, work closely together at regional level to elaborate performance plans at functional airspace block level, setting performance targets for all performance areas; better coordination at EU level will also help; (ii) as improving performance will require management of the change process, a more visible social dialogue will play a vital role in maintaining the human factors dimension, ensuring consistency at local and regional levels. At all stages of the process, expertise of staff will guarantee commitment to improve quality of air navigation services and quality of jobs; (iii) moreover Eurocontrol and the European Community will need to establish a new cooperation scheme to satisfy SES requirements, allocating clear roles for industry and Member States; (iv) the military dimension is still a key consideration when improving the

European ATM system and Member States should make best use of the Single Sky Committee to involve defence representatives in all phases of the decision-making process.

1.3 All in all, the harmonious functioning of all actors involved will rely on the strong partnership between Member States, the Commission and stakeholders. Only a strong partnership is able to materialize the SES goals.

## **2. OVERVIEW OF THE MAIN ACTIONS TO BE IMPLEMENTED OVER THE PERIOD 2009-2014**

2.1. The implementation of the first legislative package (the part of it which has not been amended by the second legislative package) remains necessary for the proper implementation of the SES II. Therefore the roadmap identifies a number of actions which are part of SES I (e.g interoperability, analysis of terminal charges, etc...).

2.2. The implementation of the **performance scheme** will be a very high priority. The Commission will present an implementing rule on the performance regulatory process to the Single Sky Committee early in 2010 with the aim to start quickly with a first three year reference cycle covering the period 2012-2014. Once the Performance Regulation adopted and the Performance Review Body designated, the preparation of a first reference period will start by setting the Community wide targets (end 2010). The process to set national/airspace block targets and plans can then take place in 2011, so that the first reference period can start in 2012. This timing would also allow FABs to play their roles as adequate vehicles to achieve the performance improvement.

2.3. At the same time, the performance scheme rules will be mirrored in the **charging Regulation**<sup>1</sup>, where the traditional automatic full cost recovery mechanism will be replaced by a "determined cost" principle. In a performance-based system, the performance targets will exercise pressure on the cost bases and hence the unit rates. In order to achieve their targets, Member States will adopt incentives schemes on ANS providers and airspace users. Such schemes should go beyond the mere cost-efficiency approach and become a genuine incentive to contribute to safer, greener and more efficient aviation.

2.4. SES II endorses and reinforces **FABs** as drivers to performance and to change of the industrial ATM landscape. With a firm 2012 deadline, Member States and their air navigation service providers will confirm their commitment to work towards alliances and/or integration of services<sup>2</sup>. Functional airspace blocks should also become the reference level for Performance Regulation and may extend SES beyond EU borders along the wider European Common Aviation Area.

The experience of SES I has shown that the creation of FABs is a far reaching process of change management to overcome fragmentation. The task for Member States is to prepare the current governance structures to the future landscape of the performance regulatory scheme in a regional perspective, i.e. to allow a professional and independent

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<sup>1</sup> Commission Regulation (EC) N° 1794/2006 of 6 December 2006 laying down a common charging scheme for air navigation services.

<sup>2</sup> It has to be noted that in 2008 TEN-T financial support has been already allocated to FAB projects for a total amount of 9 million Euro.

service provider to ally or integrate and so to achieve the targets set in compliance with the performance plan.

SES II introduces a FAB Coordinator in order to facilitate the process of change. The Commission will nominate or a group of individuals end of 2009, so that Member States can call upon their mediatory services, helping them to deliver. Moreover, active coordination between FABs should also deliver results, e.g. exchange of best practices, facilitation for solving technical and operational issues, preparation of the ATM Master Plan deployment.

2.5. Regional service provision (e.g. at FAB level) can only perform when integrated in the whole network. SES II therefore introduces the **network management function**. The present European level co-ordination will be strengthened to assist air navigation service providers in improving overall efficiency in the design and management of routes, in addition to coordination of frequencies, or the allocation of transponder code pools, etc. and in providing guidance for the deployment of the SESAR related infrastructure. The network management could be improved through the full implementation of the Flexible Use of Airspace and to evolve towards more dynamic concepts.

The challenge is to strengthen the governance structures responsible for the management of these central functions on basis of SES principles. As these functions steer the daily operations of airspace users and service providers, involvement of industry is key to performance. Again, the partnership between Commission and Member States is instrumental to achieve the required governance change within Eurocontrol, before the Commission may entrust this organisation with specific tasks on basis of Community rules.

2.6. The inclusion of aerodromes, ATM and ANS into the **EASA** total-system logic will contribute to improving safety at network level in line with growing traffic, but will also require that EASA accesses the required expertise in these new areas. Respecting the solid safety acquis under SES legislation and the growing experience of national supervisory authorities, EASA should concentrate on issues not yet covered by current legislation, in particular related to the network or developed by SESAR, and on assisting the authorities in their safety oversight functions. Furthermore, EASA is to play a key role in promoting a genuine safety culture, also by managing incident reports. In order to ensure coherence in the implementation of Single Sky, the Commission will seek the agreement of the Single Sky Committee on implementing rules in the field of ATM (safety), while appropriately involving the Safety Committee. Priority should probably be on the development of safety measures for aerodromes.

2.7. The **SESAR** programme should also contribute to performance by pooling the research efforts towards clear goals endorsed in the European Air Traffic Management Master Plan adopted in March 2009.

The programme value added is the fact that the SESAR Joint Undertaking is well embedded in the overall SES institutional set-up. This implies that Community legal and financial instruments can be used to ensure an efficient and effective deployment of the ensuing technologies. Certification procedures may involve EASA if the technology concerns the network as a whole, which will not only satisfy forward-fit requirements but also the retro-fit aspects of stakeholders. The Commission will adopt the required interoperability rules, in line with international standards, to speed up the pace of

technological innovation. In this context, cooperation with the FAA and the US NextGen programme will take place as a priority.

The FABs will become more and more the "vehicle" where the SESAR "motor" will become the heart of the technological system and the ideal place for deployment of advanced technologies and the new platform for FAB coordination will be involved in this process. The Commission will, before end 2010, suggest an update of the ATM Master Plan and come up with concrete proposals on governance and funding of the deployment phase of SESAR, in light of the experience of the development phase and with the aim to achieve the most cost-efficient introduction of new equipment and technologies.

2.8. As airspace is the infrastructure for aviation, **airports**, as the entry and exit points to the ATM network, must be integrated in the performance chain. The quality of air navigation service provision depends on airports operations and vice-versa. Green flights begin and end in airports. They require also ground operations and turn-around to be as environmentally and energy friendly as possible. That is why the **gate-to-gate** approach includes the airport dimension through integration of flow of information and operations throughout the system, which includes an appropriate coordination of ATM and airports slots management. Inputs from the AIRE programme shall be taken into account to ensure early benefits.

2.9. The Single European Sky, complemented by the SESAR Programme, provides the overarching context for enabling the safe access to airspace to all users without any discrimination, including the integration of specific constituents like Unmanned Aircraft Vehicles (UAV). Therefore, explanatory activities shall be initiated to consider how to facilitating the use and the integration of UAVs in Europe.

### **3. MONITOR PROGRESS AND DELIVER RESULTS QUICKLY INSIDE AND OUTSIDE THE EUROPEAN UNION**

3.1. The aviation package will be implemented very likely in times of economic turmoil. The sense of urgency during its preparation and adoption process has only been exacerbated. It is time for action and to **deliver results**. The intention is to start with the implementation of the new package immediately after its formal approval, with 2012 as the date for the first performance cycle and the establishment of FABs.

3.2. A possible acceleration of the SES implementation will be considered in order to **get early tangible benefits**. Stakeholders will be invited to study how operational measures could be identified urgently bringing immediate benefits (quick wins) to the ATM network.

3.3. Any actor in the decision-making chain should contribute along the lines of this roadmap to deliver the paradigm shift towards a more effective and above all more predictable system. Solid **governance** structures need to be implemented as well as effective **monitoring** of progress at national, FAB and European levels. It is the intention of the Commission to report on a regular basis to the Council of Ministers and to the European Parliament. The Single Sky Committee, the Industry Consultation Body as well as representatives of the Social Dialogue will assist the Commission in its tasks.

3.4. The Single Sky will also deliver results in EU neighbouring countries, especially based on multilateral and bilateral agreements to establish a **European Common**

**Aviation Area.** At the same time some of these neighbouring countries are being associated to FAB initiatives. In addition the impact of SESAR in international aviation is leading to the establishment of a closer association to the development phase of the programme from relevant third countries. Finally, the goals of global interoperability and an extension of Single Sky rules to a pan-European area necessitate proper coordination within ICAO.

Attachment: Roadmap for the SES Implementation 2009-2014 (list of actions)

## ROADMAP FOR SES IMPLEMENTATION 2009-2014 - LIST OF ACTIONS (V.19/06/09)

<u>ACTION</u>					
Nb	TITLE	LEGAL BASIS	ACTORS CONCERNED	TARGET DATE	COMMENTS
<b><u>SES 1</u></b>					
	Regulation on Aeronautical Data Quality (ADQ)	Art 3 IOP reg	SSC	end 2009	Preparation already going on (mandate to Eurocontrol)
	Regulation on Surveillance Performance and Interoperability (SPI)	Art 3 IOP reg	SSC	early 2010	Preparation already going on (mandate to Eurocontrol)
	Regulation on Air Traffic Flow Management (ATFM)	Art 9 ASP reg	SSC	end 2009	Preparation already going on (mandate to Eurocontrol)
	Compliance review of cost basis and charges	550/2004 and 1794/2006	MS	Cont.	Request for support
	Analysis of Terminal Charges	1794/2006		Cont.	Request for support
	SES / Flexible Use of Airspace annual reports			Cont.	Request for support
	Monitor application of SES 1 legislation		EC, MS	Cont.	Infringement procedure against Greece going on
	Initiate Peer Reviews of NSA	2096/2005 reg	EC, MS	end 2009	Request for support
	Establish a platform of NSAs			on-going	TBC
	Management of Social Dialogue	550/2009	EC	Cont.	Would become an key pillar in the context of SES II
	Development of electronic aeronautical information (& portal) (Legal basis dev	Art 3a ASP Reg	ECTL	2012	For deadline IR and supporting material needed by 2010/2011
	Development of Standardised Rules of the Air (Legal basis developed further	Art 4 ASP reg	ECTL, ICAO, EASA	2010-->	Performed in stages, starting 2009 and finishing 2012
<b><u>SES 2</u></b>					
<b>PERFORMANCE SCHEME</b>					
	Update of Charging Regulation	550/2004 and 1794/2006		2010	Request for support
	Adoption of the performance regulation	550/2009	EC	2010	
	Designation of the Performance Review Body	550/2009	EC	2010	

NSAs to organise themselves for the performance scheme	550/2009	MS	2009-2011	
Liaise with EASA for safety dimension	550/2009	EC	Cont.	
Adoption of Community performance targets	550/2009	EC	2010+	
Adoption of national/FAB targets and plans	550/2009	MS/FABs	2011	
Implementation of the first performance cycle	550/2009	EC, MS	2012-14	Continuous assessment with stakeholders

<b>NETWORK MANAGEMENT</b>				*pending results of discussion between EC/ECTL.
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Development of route design function	Art 6 ASP Reg	EC, ECTL*	2012	For deadline the IR needs to be ready 2010
Development of Frequency assignment & co-ordination function	Art 6 ASP Reg	ECTL (?)	2012	For deadline the IR needs to be ready 2010
Development of transponder code management function	Art 6 ASP Reg	ECTL*	2012	For deadline the IR needs to be ready 2010
Further development of ATFM	Art 6 ASP Reg	ECTL*	As needed	Timetable clarified after passing IR currently in SSC
Further extension of Network Management Function	Art 6 ASP Reg	ECTL*	2013+	Timetable & content clarified by SESAR needs
Designation of the Network Manager	Art 6 ASP Reg	EC, ECTL	2011	

<b>FABS</b>				
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Preparation of the implementation of FABs	550/2004	MS	2009-2011	On-going process, bottom-up approach
Full implementation of FABs	550/2004	MS	2012	
Coordination between FABs (FAB Focal Points meetings)	N/A	EC, FABs	Cont.	
Financial support to FABs		EC	Cont.	TEN-T support already granted
Develop IR on information requirements before FAB establishment	550/2004	EC		TBC
Develop guidance material for the establish and modification of FABs	550/2004	EC, FABs	Cont.	through FAB Focal Points Group
Designation of the FAB system coordinator	550/2004	EC	2010	
Facilitation for solving technical and operational issues	N/A	EC		
Review of the 2008 study on FAB performance	N/A	EC	2011	Mid term review of developments.

<b>EASA **</b>	** The EASA rulemaking programme for ATM to be elaborated. Therefore the following are just initial thoughts on possible rulemaking tasks. In general the regulations and essential requirements foresee that rules for which basis already exists (SES etc.) will be made from that basis.			
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ANSP certification requirements	EASA BR Art 8b(2)		2013	
Requirements on design, manufacture and maintenance organisations (?)	EASA BR Art 8b(4)		2013	
Possible requirements on equipment certification	EASA BR Art 8b(5)		2013	

Reformulating ATCO licensing directive as implementing rule (incl. Training of	EASA BR Art 8c & Annex Vb	2013	
Other IR's as necessary on authority requirements, organisation requirements, SESAR related issues etc.		?	i.e modelling for environment performance targets

### ATM MASTER PLAN AND SESAR PROGRAMME

SESAR Programme development phase		SESAR JU	Cont.	
Update of the ATM Master Plan	Reso. 30.03.09	SJU, EC, MS, Stakeholders	2010	Based on WP C
Preparation of deployment (IP1, IP2, IP3)	Reso. 30.03.09	SJU, EC, MS	2009+	with the involvement of stakeholders
Memorandum of Cooperation on R&D with FAA including Cooperation with FAA on SESAR-NextGen interoperability	Reso. 30.03.09	EC, MS	2010	Negotiations to start under SW presidency following Council decision on the negotiation mandate.
SESAR deployment phase	Reso. 30.03.09	EC, SJU	2010	Proposal to Council and EP

### AIRPORT CAPACITY

Contribution to the Network Magement definition		Observatory	Cont.	
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### GOVERNANCE AND ASSESSMENT OF PROGRESS

Update of the Single Sky Committee ToR to reflect SES legislation			2009	
Roadmap for SES 2 implementation - Communication		EC, Council	2010	
Safety requirements for SES: EASA-Eurocontrol transition path			2009-2012	
Reform of Eurocontrol: contribution to SES 2 (PRB, NM, safety/EASA...)			2009+	Investigate the feasibility of a EU pillar in the Agency
Monitoring of SES implementation progress		SSC, ICB	Cont.	

### TREN POLICY - RELATED ACTIONS

SES and SESAR to be reflected in the revised TEN-T Guidelines		EC, Council, EP	2010	Based on Green Paper consultation
FP 7 mid term review		EC	2010	
Financing of ATM modernisation		EC, Council, EP	2010	including EU financial instruments
Facilitation of insertion of Unmanned Aircraft Vehicles (UAV)	N/A	EC, ICB	2010	