



Annual Work Programme* 2015

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* For the definition, see Article 16(1)(b) of Council Regulation (EC) No 219/2007 as amended. This term corresponds to the term "**work plan**" defined in Article 2(22) of Regulation (EU) No 1290/2013 of the European Parliament and of the Council of 11 December 2013 laying down the rules for participation and dissemination in "Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)" ('**Rules for Participation Regulation No 1290/2013**') (OJ L 347, 20.12.2013 p.81): "the document similar to the Commission work programme adopted by funding bodies entrusted with part of the implementation of Horizon 2020 in accordance with Article 9(2) of Regulation (EU) No 1291/2013".

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1. INTRODUCTION

The Annual Work Programme¹ for 2015 as adopted in December 2014 has been revised in order to integrate the detail of the relevant SESAR2020² specific financing decisions as amended into a revised work programme template as directed by the Commission. The changes within this document relate to these two elements and the majority of the originally adopted content remains unaltered.

The SESAR Joint Undertaking (SJU) was established under Council Regulation (EC) 219/2007 of 27 February 2007 (as modified by Council Regulation (EC) 1361 / 2008 (SJU Regulation) and last amended by the Council Regulation (EC) 721/2014). Under this Regulation, the SJU is responsible for the modernisation of the European Air Traffic Management (ATM) system by coordinating, rationalising and concentrating all relevant research and development efforts in the EU. The SJU is also responsible for the execution and maintenance of the European ATM Master Plan³.

The Annual Work Programme of the SJU will provide an overview of objectives and activities to be carried out by the SJU in 2015. Its aim is to outline in detail its current goals and associated annual objectives and outcomes. It is intended that this document be in compliance with the SJU's financial rules that outline the following requirements to ensure the validity of its annual work programme - 'the annual work programme of [SJU] shall comprise detailed objectives and expected results including performance indicators. It shall also contain a description of the action(s) to be financed and an indication of the amount of financial and human resource allocated to each action.'

1.1 BACKGROUND AND MISSION:

Since 2004, the European Union gained competences in the ATM domain. The Single European Sky (SES) legislative framework aims at increasing the overall performance of the air traffic management system in Europe. SES focuses on performance through institutional changes and regulatory framework but also includes a major technological pillar, the SESAR Project.

The SESAR Project, through its definition, development and deployment processes, aims at delivering a new and global interoperable concept of ATM where operations are built around a continuous sharing of data between aircraft, air navigation service providers and airports.

The definition phase as such was concluded in 2008 and resulted in the Master Plan (i.e. Definition Phase D5), which was transferred from Eurocontrol to the SJU, which is since then its owner, and endorsed by the Council in 2009 to become the European ATM Master Plan.

The SJU coordinates the development phase and it is in charge of the execution and maintenance of the European ATM Master Plan; the last version is the 2012 edition which provides a streamlined and more deployment oriented view on the activities to be executed to achieve the Performance Targets.

R&D and deployment are closely interrelated. The R&D activities, performed since 2009, bring initial validated

¹ For the definition, see Article 16(1)(b) of the Statutes annexed to Council Regulation (EC) No 219/2007 as amended. This term corresponds to the term "**work plan**" defined in Article 2(1)(22) of Regulation (EU) No 1290/2013 of the European Parliament and of the Council of 11 December 2013 laying down the rules for participation and dissemination in "Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)" (OJ L 347, 20.12.2013 p.81): "the document similar to the Commission work programme adopted by funding bodies entrusted with part of the implementation of Horizon 2020 in accordance with Article 9(2) of Regulation (EU) No 1291/2013"

² "SESAR 2020" refers to the extended duration of the SESAR Development Phase covered by the European Union's 2014-2020 financial framework, which shall address the remaining activities of Step 2 and those related to Step 3 of the ATM Master Plan, as per Council Regulation (EU) No 721/2014 of 16 June 2014 amending Regulation (EC) No 219/2007 on the establishment of a Joint Undertaking to develop the new generation European air traffic management system (SESAR) as regards the extension of the Joint Undertaking until 2024.

³ Refers to the European ATM Master Plan (European Air Traffic Management Master Plan) referred to in Regulation 219/2007. This document outlines the essential operational and technological changes that are foreseen to provide SESAR contributions (besides other initiatives) to achieving the European Single European Sky performance objectives.

results which enter progressively in the deployment pipeline.

Within the current Programme R&D phase will deliver Step 1 – Time Based Operations² –and part of Step 2 – Trajectory Based Operations³ of the European ATM Master Plan, while the SESAR2020 Programme should achieve the remaining part of Step 2 and Step 3 – Performance Based Operations.

The SJU is established by Council Regulation (EC) 219/2007, as modified by Council Regulation (EC) 1361/2008 and last amended by the Council Regulation (EC) 721/2014.

The aim of the SJU is to contribute to the modernisation of the European air traffic management system by coordinating and concentrating all relevant research and development efforts in the European Union. It shall be responsible for the execution of the European ATM Master Plan and in particular for carrying out the following tasks:

- organising and coordinating the activities of the development phase of the SESAR project in accordance with the European ATM Master Plan, by combining and managing under a single structure public and private sector funding,
- ensuring and managing the necessary funding for the activities of the Development phase of the SESAR Project in accordance with the European ATM Master Plan,
- ensuring the involvement of the stakeholders of the air traffic management sector in Europe, in particular: air navigation service providers, airspace users, professional staff associations, airports, and manufacturing industry; as well as the relevant scientific institutions or the relevant scientific community,
- organising the technical work of research and development, validation and study, to be carried out under its authority while avoiding fragmentation of such activities,
- ensuring the supervision of activities related to the development of common products duly identified in the European ATM Master Plan, through grants to Members and through the most appropriate measures, such as procurement or the award of grants following calls for proposals to achieve the programme objectives, in accordance with Regulation (EU) 1291/2013.

The Council Regulation (EC) 721/2014 ensures that research and innovation on air traffic management, and in particular, the coordinated approach in ATM research and innovation in the context of the Single European Sky (SES) continues beyond the initial legal framework of 2016 under the EC Horizon 2020 Framework Programme.

1.2. VISION AND OBJECTIVES

High-performing aviation in Europe

The SESAR Joint Undertaking for Research and Innovation is delivering solutions to modernise air traffic management, enabling high-performing aviation in Europe and worldwide.

This vision is coherent with the 4 long term strategic objectives set by SES in terms safety improvement, capacity increase, reduction of environmental impact and services cost reduction.

The SJU's core values in support of its activities are:

- Innovation,
- Making a difference and adding value,
- Commitment,
- Ethics and Integrity.

The European ATM Master Plan shows the roadmap. Objectives will be set every year as stepping stones to accomplish the SJU's mission and achieve the vision.

In 2015 the operational work will continue to be structured in three key phases, the 'pipeline to innovation' referred to previously in SJU's strategic documents. The first phase concerns exploratory research, itself further categorised into those elements/projects dealing with scientific theory and those which investigate the initial applications of such science for the ATM sector. The second phase includes applied research, pre-industrial development and validation projects and is delivered through the SJU public-private partnership (PPP). The

third phase deals with very large scale demonstrations (VLDs) which are designed as demonstrations of particular programme concepts. These demonstrations provide the bridge between the development and deployment phases of SESAR & are delivered through work undertaken by the SJU PPP members, supplemented by open calls to ensure the widest possible stakeholder participation.

In order to address the expectations of Member states and to fulfil its core duties according to its Establishing Regulation, SJU has set itself a number of operational objectives. Whilst the European ATM Master Plan articulates the roadmap, these annual objectives serve as stepping stones to delivery of the organisation's overall mandate as defined within the European ATM Master Plan. The table below outlines these objectives for 2015. SJU will also provide regular information to the Administrative Board and other relevant stakeholders about their implementation and the performance of the Joint Undertaking.

#	Description of 2015 Objective	Target Indicator(s)
1	Execute Release 5⁴ and additional validation exercises related to PCP components in the following ATM functionalities⁵²: - Extended Arrival Management and Performance Based Navigation in the High Density Manoeuvring Areas; - Airport Integration and Throughput - Flexible Airspace Management and Free Route; - Network Collaborative Management - Initial System Wide Information Management; - Initial Trajectory Information Sharing	75% of the total R5 exercises to be completed by the end of Q4 2015
2	Launch SESAR 2020 and prepare SESAR 1 ⁶ handover	-Complete Membership Accession Process by Q3 and sign related Membership Agreements by Q4 -Complete Exploratory Research grant procedure by Q4 -Five S2020 Projects started by end of Q4. -Agreed SESAR 1 closure and handover plan by Q1
3	Update the European ATM Master Plan	-European ATM Master Plan presented to the SJU Administrative Board by Q2;

⁴ The SESAR "release" process has been developed by the SJU and its Members during the initial duration of the SESAR Development Phase in order to allow the SJU to perform its mission in the most efficient manner in accordance with Article 1 (5) of the SJU Founding Regulation. This annual process is twofold: firstly, it provides a direct relationship between SESAR and the future ATM system, and secondly, it changes how research and development activities are performed in the ATM domain. The release process gathers the contributions of all the different SESAR stakeholders and contributors in a more focused manner than previous fragmented Research and Development activities. It should be noted that part of Release 5 is planned for execution in 2016

⁵ Commission Implementing Regulation (EU) No 716/2014 on the establishment of the Pilot Common Projects supporting the implementation of the European Air Traffic Management (ATM) Master Plan.

⁶ "SESAR1" refers to the initial duration of the SESAR Development Phase covered by the European Union's 2007-2013 financial framework, which addresses all elements of Step 1 and approximately 80 % of Step 2 of the ATM Master Plan and should be completed by 31 December 2016⁶. This initial part of the development was set up under Council Regulation (EC) No 219/2007 of 27 February 2007 on the establishment of a Joint Undertaking to develop the new generation European air traffic management system (SESAR) amended by Council Regulation (EC) 1361/2008 of 16 December 2008

4	Execute the following specific mandates: • Datalink recovery actions assigned to SJU on time; • Complete RPAS definition phase	-Datalink study launched by Q1 2015; -2015 Datalink milestones achieved by the end of Q4; - Finalise the work on the Definition Phase of the RPAS integration in the non-segregated airspace by end of Q3
5	Actual completion of the SESAR1 Programme	Complete 80% of the last approved baseline for the full programme by the end of Q4

2. GOVERNANCE

The Statutes⁷ of the Joint Undertaking⁸ clearly define the composition, procedures and responsibilities of the governance organs of the SJU. In accordance with Article 2 of such Statutes, the governance organs are the SJU Administrative Board (ADB) and the Executive Director (ED). The SJU Administrative Board has the responsibility to ensure that the SJU complies with its statutory responsibilities as set out in its establishing regulation, all other relevant legislation and the relevant European Commission financial rules in relation to its use of public funds. The Executive Director is responsible for the successful leadership and management of the SJU and for the execution of the SESAR programme⁹ development phase¹⁰ and is accountable to the Administrative Board, to which he reports on a regular basis.

Under SESAR 1, a limited number of working groups provide specialist advice and support not carried out elsewhere. This arrangement supports and assists the SJU ED in the delivery of the SJU mandate and all working groups report directly to him.

Working groups are established recognising the importance of transparent decision-making, ensuring clear allocation and separation of responsibilities as well as taking due consideration of the potential and management of any conflicts of interest. The established working groups are currently:

The Programme Committee is the body assisting in the establishment of clearly defined and effective programme management through strategic guidance and tactical steering of the programme, but with its remit limited to PPP activities¹¹. This committee can launch ad-hoc and permanent supporting groups to conduct defined activities on its behalf. In the current programme (SESAR 1) the Programme Committee has established two permanent groups – the Project Control Group and a supporting Work Package Leaders meeting responsible for planning and content respectively;

The Scientific Committee provides scientific advice on the programme and can undertake specific tasks under the direction of the ED. The primary focus of this committee is on low maturity research outside of the PPP activities and therefore in the scope of Work package E;

The SESAR Performance Partnership is a strategic body whose purpose is to provide a single forum for coordination and endorsement of the views and interests of pan-European stakeholders regarding necessary changes to the European ATM Master Plan. In addition, the partnership monitors the objectives and results of the development phase of the programme. Both purposes have the aim of providing specific advice to the SJU Executive Director.

In summary, these arrangements are illustrated below:

⁷ means the Statutes of the SESAR Joint Undertaking annexed to amended Regulation (EC) 219/2007

⁸ The Single European Sky Air Traffic Management Research (SESAR) Joint Undertaking is a joint undertaking within the meaning of Article 187 of the Treaty on the Functioning of the European Union, set-up by Council Regulation (EC) No 219/2007 of 27 February 2007 on the establishment of a Joint Undertaking to develop the new generation European air traffic management system, as amended by Council Regulation (EC) No 1361/2008 of 16 December 2008 and by Council Regulation (EU) No 721/2014 of 16 June 2014.

⁹ The “SESAR Programme” means the technological pillar of the Single European Sky. It aims to improve Air Traffic Management (ATM) performance by modernising and harmonising ATM systems through the definition, development, validation and deployment of innovative technological and operational solutions.

¹⁰ The “development phase” means the second phase of the SESAR Programme as defined in Regulation (EC) No 219/2007, which covers both SESAR 1 and SESAR 2020.

¹¹ “PPP activities” refer to the SESAR Programme Development Phase activities, which are subject to grants resulting of calls for proposals restricted to SJU Members (implementation through the public-private partnership (PPP)). The rest of the activities of SESAR are by rules subject to open calls for tenders/proposals, as per its financial rules.

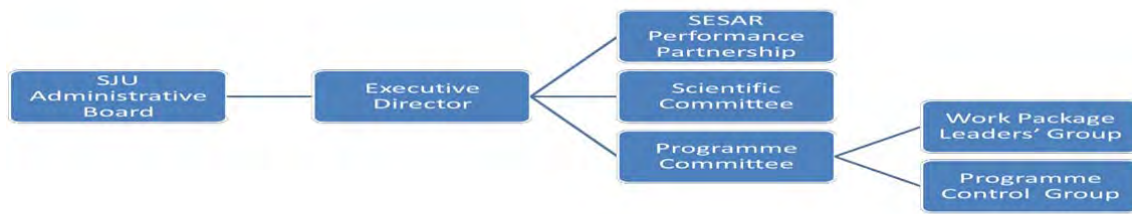


Figure 1: Current SESAR1 governance

This framework is in accordance with Article 11 of the SJU statutes and is necessary for the ED to exercise appropriate control over the implementation of the SESAR Development Phase (to which Article 5(1) (b) of the SJU statutes refers)

3. OPERATIONAL ACTIVITIES: THE SESAR PROGRAMME

3.1 SESAR 1

The SJU Work Programme 2009/2016 (SESAR 1) (following the results of the Reallocation and IBAFO III processes aiming at increasing its effectiveness and efficiency through the merger of some projects) today consists of about 250 interrelated projects, grouped into 16 Work Packages, each encompassing a particular domain of Air Traffic Management. This represents the contractual structure and addresses the main programme management aspects.

The success in SESAR 1's implementation relies also on the synchronisation among the different Projects belonging to different domains and on the achievements of interrelated Project results.

The progress of the various activities is ensured through regular Programme and Project management activities in order to achieve the operational and technical coherence of project deliverables.

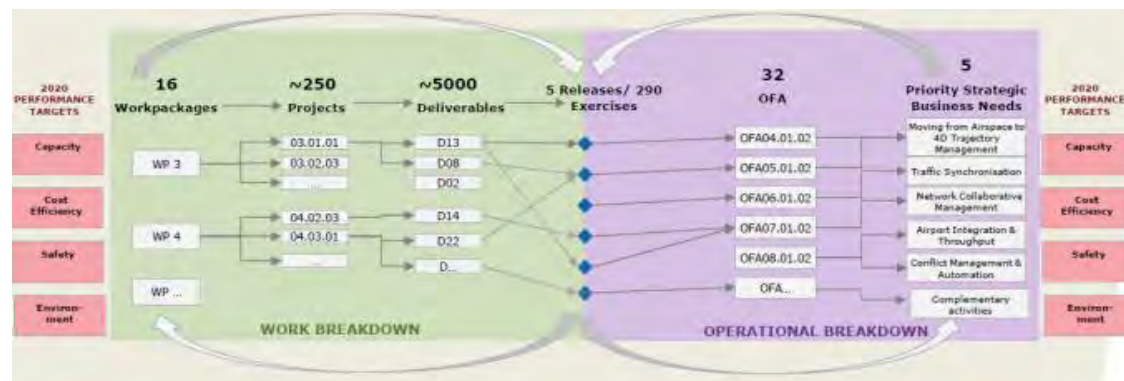
Many efforts have been dedicated since the inception to improve Programme management effectiveness from an operational perspective, decomposing SESAR 1 high level objectives into a more technical and operational level and defining in detail what has to be done, by whom and when. In early 2012, the SJU improved the Programme effectiveness identifying 5 Priority Strategic Business Needs to meet the most pressing operational demands of ATM stakeholders. These Priority Strategic Business Needs reflected the Key Features contained in the European ATM Master Plan and include:

- Traffic Synchronisation;
- Airport Integration and Throughput;
- Moving from Airspace to 4D Trajectory Management;
- Network Collaborative Management and Dynamic/Capacity Balancing;
- Conflict Management and Automation.

In order to ensure that R&D results coming from the SESAR Projects are adequately combined in such a manner to provide an answer to the European ATM Master Plan Key Features, Operational Focus Areas were identified. The Programme results are packaged in SESAR Solutions ready for industrialization and deployment.

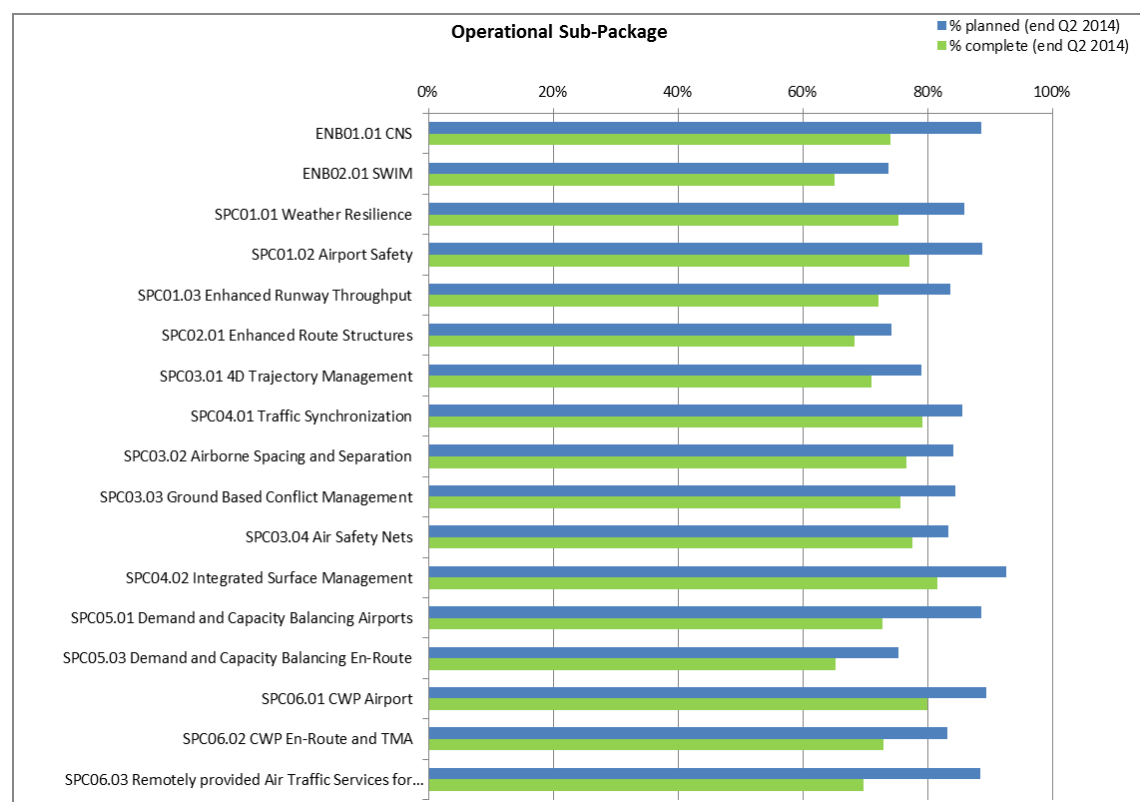
SESAR Programme results are validated in operational environments, with a yearly approach, through Releases. A SESAR Release therefore embeds groups of Projects delivering R&D results that can support decisions to move related activities to the industrialisation stage in a determined timeframe. The Projects activities identified as part of a Release are described in the Release Plan.

The figure below shows the link between the structure of the Programme, established to allow for the proper monitoring and supervision of the activities, and the outcome of its activities combined in Operational Focus Areas to answer the Priority Strategic Business Needs. It is a continuous virtuous cycle, which contributes to maintain the Programme focus on delivering the necessary operational and technological improvements needed to achieve, once deployed, the European ATM Master Plan Performance Targets.



3.1.1 Programme management

These sections describe the most important achievements so far, which will impact 2015 and the following periods in terms of research developments. The progress of SESAR 1, which encompasses the already achieved and on-going Releases, as well all the other activities addressing the maturing and validation of the SESAR concept, is monitored on a quarterly basis. The graph below shows the progress reported at the Q2 2014.



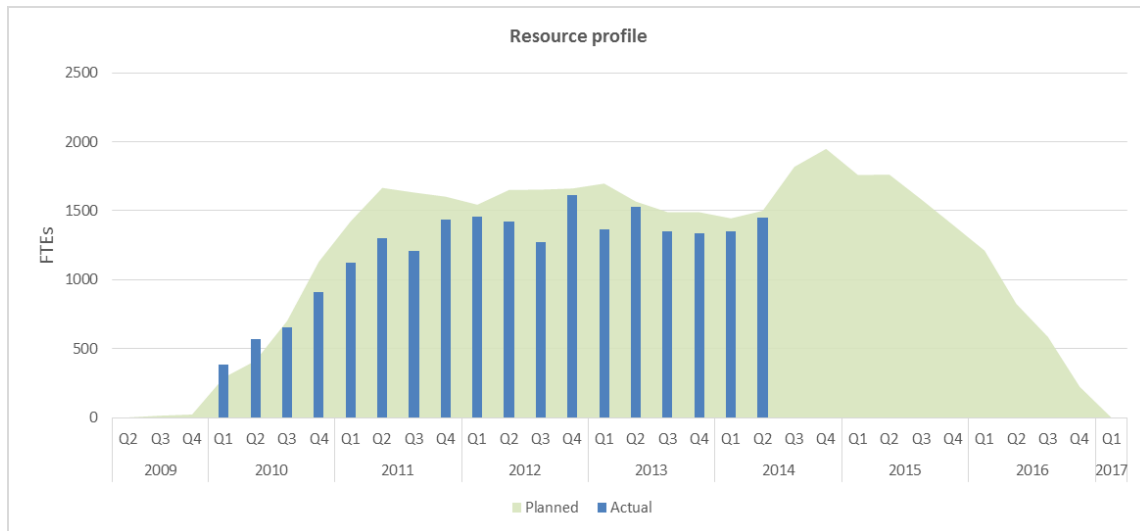
The progressive alignment of SESAR 1 with the "Priority Strategic Business Needs", derived from the European ATM Master Plan 2012, highlighted the scope for actions addressing efficiency improvements and rationalisation in the production of the Work Programme's deliverables.

At the end of 2013, the Administrative Board has endorsed the proposed Work Programme Reallocation which resulted in reducing the number of Projects to 250, through the prioritization of activities and the merging of some them. The result of the Reallocation 2013 provided the SJU with the necessary financial resources to award the activities for IBAFO III.

In fact, in 2013, the SJU identified the need to launch as of 2014 a number of new activities in order to complement or complete the work performed in SESAR 1.

In answer to the call (IBAFO III) launched by the SJU to its Members concerning 15 new Projects, the Members submitted proposals for 12 Projects for a total amount of EUR 19.9 million. These projects have been integrated into the Work Programme structure and have been launched into execution. The first results of these new projects are expected in the course of 2015.

The graph below shows that the resources made available to perform the Programme activities had reached certain stability in the past years just below 1500 FTEs per quarter slightly below the plan. This indicated that the Members, as overall, have reached a ceiling in the allocation of resources dedicated to SESAR 1. The last resources reallocation enables to plan for additional efforts made available in particular at the end of 2014 and along the year 2015. As 2015 will see the execution of the Release 5, the last Release aiming at delivering the PCP content, these additional resources are crucial to bring SESAR 1 to successful and timely completion.



In terms of progress made, the positive trend recorded along the last 2 years is confirmed as shown in the figure below. The percentage of completion versus plan has been progressively catching up the 90%. According to industry standards, and taking into account the R&D nature of the work done, this can be considered as a very good progress indicator.

The trend of data of the last five quarters (Q2 2013 to Q2 2014) continues to show a Programme completion between 3% and 4% per quarter. The 50% of actual % complete has been achieved in Q4 2013 leading to a current Q2 2014 % complete around 56%.

Confirmation of this trend throughout 2015 will bring the SESAR 1 execution to around 75% by year end 2015 below the objective of 80% actual % complete in respect of the last approved Programme baseline (objective 5 section 1.2). In order to redress the situation remedial actions should be implemented to accelerate in 2015 the deliverables handover reducing the current average delay. Members should ensure that the planned necessary resources are allocated to SESAR 1 and actions coordinated with the SJU and other relevant stakeholders.

Members should allow that the available budget is fully used. Furthermore it should be considered that in the coming two years SJU and Members will manage the closing of SESAR 1 and the ramp up of the SESAR 2020 whereas resources made available by the closing of the projects of the first will allow allocation to the projects of the second. This makes the years 2015 and 2016 challenging for the SJU and members if the current Programme targets have to be reached and SESAR 2020 effectively started.



Between January 2013 and June 2014, the SJU received 1,300 project deliverables and, in accordance with the PMP7 procedures, it reviewed directly a subset of 520 priority deliverables providing the elements to reach

conclusions on the overall quality of the Programme results. The SJU uses the direct review as a way to control quality and to take corrective actions before the output is used as input in interdependent Projects.

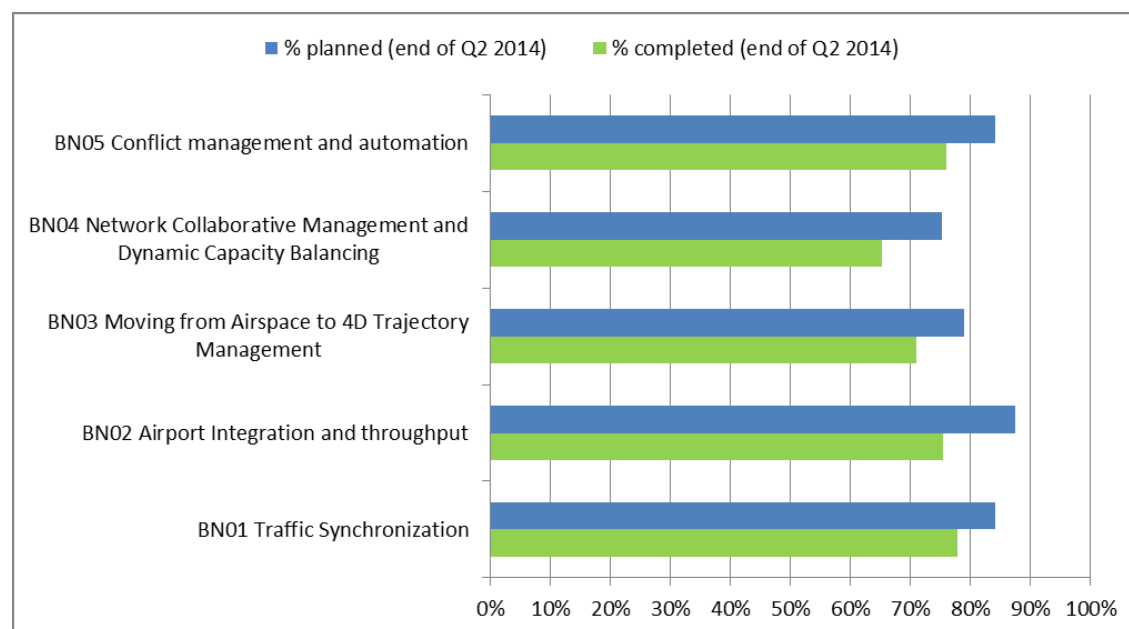
In 2015, about 900 deliverables should be made available for SJU quality assessment and around 2/3 should be effectively assessed, selected through a risk based approach.

The definition of the “Priority Strategic Business Needs” – derived from the European ATM Master Plan Key Features - enabled to provide a better visibility on the Programme direction and results expected. This was translated into a top- down process applied to Releases with clear end of V3 targets defined in time: this approach enabled the retro-planning of V1 & V2 activities – a substantial component of applied research - a more effective management of the Programme and, finally, a re-prioritization of resources.

This top-down approach has been strengthened in 2014 in order to ensure that Release 4 execution and Release 5 definition are aligned with the proposal on the first set of operational/technical improvements mature for deployment, as submitted to the European Commission in May 2013 in the Pilot Common Project (PCP). The Pilot Common Project constitutes the first batch of technical and/or operational changes to start to be implemented in the 2014-2020 timeframe.

In order to ensure that the PCP content meets the maturity requirements needed to ensure timely and synchronized deployment, Programme priorities have been revised and focused on the expected PCP components’ delivery.

The overall progress planned for Q2 2014 is reported in the graph below together with the progress made along the first 6 months of 2014 in the 5 Priority Strategic Business Needs.



Looking forward, beyond the 2014 horizon, the table below gives an overall view of the operational improvements to be achieved through successive Releases to fulfil the Priority Strategic Business Needs. The table shows actual deliveries as regards R1, R2 & R3 expected deliveries for R4& R5. The R5 is planned to be the last Release of SESAR 1.

Priority Business Need	Operational Sub-Package	OFA	R1	R2	R3	R4	R5
Airport Integration and Throughput	SPO01.01 Weather Resilience	01.01.01 LVPs using GBAS				AO-0505-A	
	SPO01.03 Enhanced Runway Throughput	01.03.01 Enhanced Runway Throughput		AO-0303			
					AUC-0702		
	SPO01.02 Airport Safety	01.02.01 Airport Safety Nets					AUC-0605-A AO-0209 AO-0104-A
					AO-0201-A		AO-0204
	SPO04.02 Integrated Surface management	04.02.01 Integrated Surface Management					AO-0305 AO-0205 AO-0215 AO-0222 AO-0223 AUC-0603-A AUC-0305
Network Collaborative Management and Dynamic Capacity Balancing	SPO05.01 Demand and Capacity Balancing Airports	05.01.01 Airport Operations Management	DCB-0304				AO-0801 AO-0803 AO-0804 DCB-0309
		05.03.06 UDPP				AUC-0101-A AUC-0103	
		05.03.03 Dynamic sectorisation and Constraint management		CM-0102-A			
	SPO05.03 Demand and Capacity Balancing En-Route	05.03.04 Enhanced ATFM Processes				CM-0103-A DCB-0308	DCB-0206 DCB-0306 CM-0103-A CM-0104-A
		05.03.07 Network Operations Planning					DCB-0103-A
		05.03.01 Airspace Management and AFUA				AOM-0205-A AOM-0202-A	AOM-0202-A AOM-0206-A
Traffic Synchronisation	SPO02.01 Enhanced Route Structures	02.01.01 Optimised 2D/3D Routes	AOM-0603 AOM-0605 (LPV Procedures)	AOM-0601 TS-0102		AOM-0702-A AOM-0705-A	AOM-0404 AOM-0702-A AOM-0705-A
	SPO03.02 Airborne Spacing and Separation	OFA03.02.01 ASIPA S&M				TS-0105-A	TS-0105-A
		04.01.02 Enhanced Arrival & Departure Management in TMA and En Route				TS-0103 TS-0305-A	TS-0303 TS-0305-A
	SPO04.01 Traffic Synchronization	04.01.01 Integrated Arrival/Departure Management at Airports				TS-0202 TS-0308	TS-0309 TS-0203
Moving from Airspace to 4D Trajectory Management	SPO05.01 4D Trajectory Management	03.01.04 Business and Mission Trajectory					AUC-0203-A
		03.01.03 Free Routing					AOM-0500 AOM-0501
Conflict management and automation	SPO03.03 Ground Based Conflict Management	OFA03.03.01 Ground Based Separation Provision in En Route	CM-0201 CM-0202 CM-0203	CM-0301		CM-0205	CM-0205 CM-0207-A CM-0201-A
		OFA03.03.02 Ground Based Separation Provision in the TMA					
	SPO03.04 Air Safety Nets	OFA03.04.01 Enhanced Ground Based Safety Nets	CM-0811		CM-0807-A		
		OFA03.04.02 Enhanced ACAS Operations	CM-0805			CM-0802	
Complementary Activities	SPO06.03 CWP Airport	06.01.01 CWP Airport				AO-0206-A	
	SPO06.03 Remotely provided Air Traffic Services for aerodromes	06.03.01 Remote Tower			SDM-0201 (Small size airports)	SDM-0201 (Medium airports) SDM-0206	SDM-0201 SDM-0204
	ENB02.01 SWIM	ENB02.01.01 SWIM ENB02.01.02 AIM/MET					IS-0901-A MET-0101 IS-0201-A
	ENB03.01 TME	ENB03.01.01 Trajectory Management Framework and System Interoperability with air and ground data sharing		IS-0301			

3.1.2 SESAR1 Programme Releases

A yearly Release encompasses SESAR solutions expected to reach a maturity V3 (ready for industrialisation) within the reference year; Four Releases have been already launched in the period 2011/2015, and the fifth is planned for execution in 2015 and 2016.

The SESAR Solutions delivered by R1, R2 and R3 can be found on the SJU website

(<http://www.sesarju.eu/solutions>). It should be noted however that the activity performed within Releases represents only part of the whole Programme's activity; the Projects not directly involved in the exercises shall continue performing applied and pre-industrial research. This will ensure that they reach the necessary maturity levels to be used as basis for future Releases.

3.1.2.1 Release 4 (2014)

The content of Release 4 was defined with a top down approach within the frame of the Priority Strategic Business Needs whereby candidate exercises must demonstrate the contribution to the Performance target per KPA.

Release 4 includes 20 exercises (among which 4 were moved from Release 3) clustered into 13 OFAs (1 Integrated Validation addresses 2 OFAs) and covers 4 Priority Strategic Business Needs.

Three exercises have been completed at the end of August. One exercise has been cancelled due to the needs to better prepare another similar exercise with a wider scope but that will also include the related objectives. Another exercise has been postponed to 2015 in order to better develop the validation platform.

The main operational improvements that Release 4 will deliver are:

Traffic Synchronisation

- Enhanced Arrival Management procedures integrating Airborne Spacing manoeuvres in an i4D+CTA and AMAN Extended Horizon environment;
- Basic AMAN-DMAN-ASMGCS integration;
- I4D+CTA operational procedures (for ATCO and Flight Crews) in the TMA environment.

Airport Integration & Throughput

- Improved low visibility operations thanks to the use of GBAS stations enabling Cat II/III approaches;

Network Collaborative Management and Dynamic Capacity Balancing

- Enhanced civil-military coordination based on the use of Variable Profile Area principle;
- Further development of the Short Term ATFCM Measures coordination procedures;
- Enhanced slot swapping procedures between different airlines;

Conflict management and automation

- Enhanced Medium term Conflict Detection and Resolution tools for the Planner and Tactical Controllers in the En Route;
- ACAS Resolution Advisory downlinked on the controller working position.

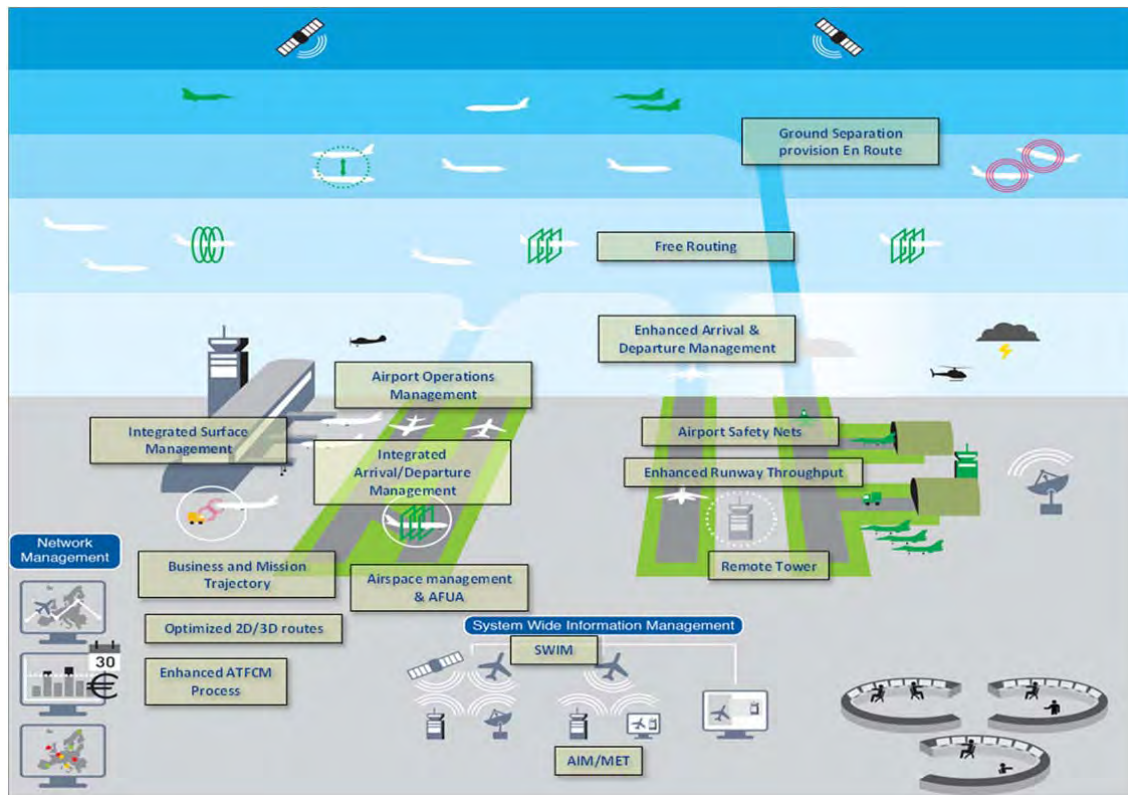
3.1.2.2 Release 5 (2015)

Still under definition, Release 5 content will be endorsed by the end of 2015 enabling to launch its execution in early 2015; this document is aligned with the "Release 5 plan V0.3 of October 2014. The definition and content of the different validation exercises that are proposed to be part of Release 5 are assessed by SJU from a quality perspective to ensure they will achieve the expected objectives.

Currently, Release 5 includes 40 exercises (among which 1 is moved from Release 3 and 1 is moved from Release 4) clustered into 13 OFAs and 1 ENABLER and covers the 5 Priority Business Needs. They address 35 potential SESAR Solutions (including Initial SWIM), composed of OIs belonging to 14 OFAs and 2 ENABLERS.

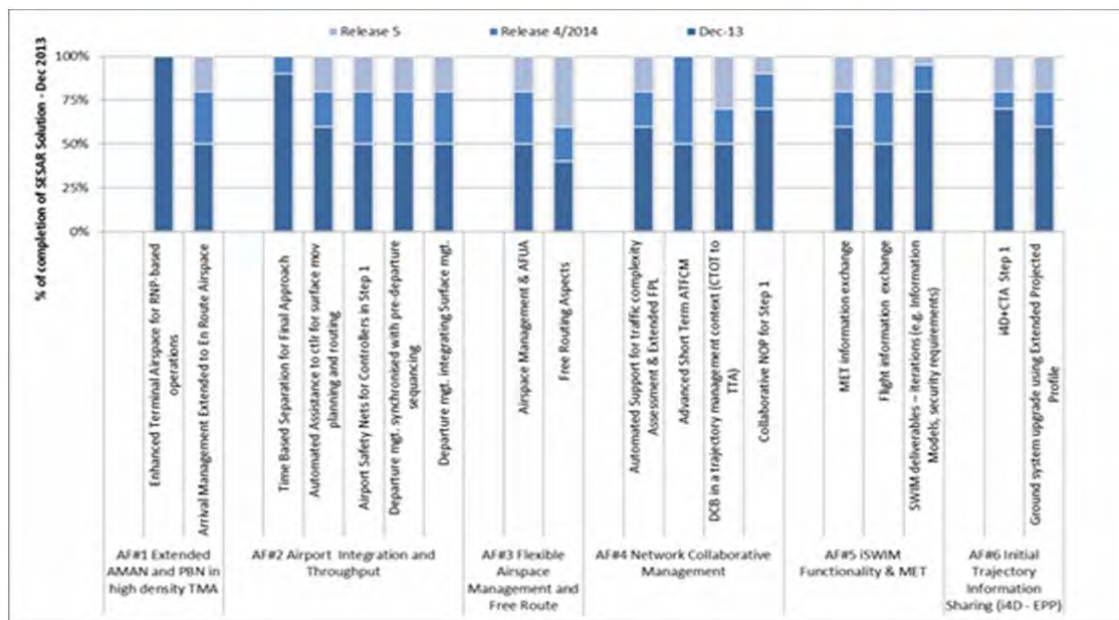
3.1.3 Release exercises' description

The following section presents the high level scope of Release 5 per Priority Strategic Business Needs, describing the results of the validation exercises to be conducted, as well as the link between the exercises and the Operational Improvements (OIs).



3.1.3.1 Release 5 PCP Coverage in 2015

In 2015 efforts will be focused on those exercises which contain PCP related deliverables. The exercises should reach a required level of maturity to allow the coverage of all PCP related aspects. Progress will be achieved in 2015 in all the six ATM functionalities of the PCP; it should be noted however that Release 5 will continue in 2016. A summary of the already achieved progress with Releases 3 and 4 and those to be achieved with Release 5 is shown in the figure below.



3.1.3.2 Priority Business Need: Traffic Synchronisation

Traffic synchronization covers all aspects related to improve arrival/departure management and sequence building in en-route and Terminal Manoeuvring Area (TMA) environments in order to achieve an optimum traffic sequence resulting in significantly less need for Air Traffic Controller (ATC) tactical intervention, and the optimisation of climbing and descending traffic profiles. As a consequence flights are able to fly closer to their optimum trajectories bringing benefits across Predictability, Efficiency, Safety, Capacity, and Environment.

The exercises will cluster on 4 OFAs addressing 9 SESAR Solutions:

OFA 02.01.01 – Optimised 2D/3D Routes

Achievement	Gap Analysis on the use of the PBN in an En-Route phase of flight. Promoting Continuous Descent Operations in complex and constrained airspace of Orly Airport.			V3
SESAR Solutions	#09	Enhanced terminal operations with automatic RNP transition to ILS/GLS and LPV	AOM-0605	
	#10	Optimised Route Network using advanced RNP	AOM-0404	
	#11	Continuous Descent Operations (CDO) and Continuous Climb Operations (CCO)	AOM-0702-A, AOM-0705-A	

OFA 03.02.01 – ASAS Spacing

Achievement	This OFA contains 1 R5 SESAR Solution #16 “ASAS Spacing applications: Remain behind and Merge Behind” which is validated by 1 Exercise (EXE-05.03-VP-805) allocated to OFA04.01.02			V3
SESAR Solution	#16	ASAS Spacing applications: Remain behind and Merge Behind	TS-0105-A	

OFA 04.01.01 – Integrated Arrival/Departure Management at Airports

Achievement	Validation of Advanced AMAN-DMAN-Routing Step2 V3: to obtain arrival-departure integrated sequence in crossed runways situation based on the coordinated pre-departure management and arrival metering, calculate an integrated arrival and departure sequence to maximise runway throughput.			V3
SESAR Solutions	#14	Departure Management integrating Surface Management Constraints	TS-0203	
	#15	Integrated and throughput-optimised sequence of arrivals and departures	TS-0309	

OFA 04.01.02 – Enhanced Arrival & Departure Management in TMA and En Route

Achievement	Initial assessment of i4D+CTA in a cross border environment, using the Flight Object mechanisms between MUAC and LVNL. Technical feasibility and operability of the Controlled Time of Arrival (CTA) concept in the Extended TMA/ En-Route environment			V3
SESAR Solutions	#5	Extended AMAN horizon	TS-0305-A	
	#6	CTA in medium density / medium complexity environments	TS-0103	
	#8	Arrival management in multiple airports	TS-0303	

3.1.3.3 Priority Business Need: Airport Integration and Throughput

Integrated Airport Management aims at achieving a full integration of airports into the ATM network as nodes in the system, ensuring a seamless process through Collaborative Decision Making (CDM). Airports will contribute to achieve SESAR performance goals through the Increase of runway throughput and improved surface movement management in combination with Trajectory Management, Airborne Spacing tools and Precision navigation techniques e.g. reducing air and ground holding leading to reduced noise and

environmental emissions per flight.

The exercises will cluster on 3 OFAs addressing 11 SESAR solutions:

OFA 01.02.01 – Airport Safety Nets

Achievement	Evaluate the use of RWSL (RunWay Status Lights) system based on A-SMGCS surveillance to prevent runway incursions. The information on runway usage is directly made available to the vehicle drivers and flight crews through new airfield lights; Integration of Airport safety support tools, HMI, DMAN, FDP, in particular between Route function and DMAN on the basis of the exchange of Departure runway, Total Taxi Time, TSAT and TTOT. Resulting improvement in Surface routing of the calculation of taxi time, improvement of CMAC (Conformance Monitoring Alerts for Controllers) related to taxi, and possibility of giving clearances to portion of taxi route; Validate enhanced situational awareness and safety nets elements linked to vehicle's driver; Validate safety nets (conformance monitoring and conflicting ATC clearances) in a cross runway environment together with the routing and planning function that takes into account inputs from ATCos, other movements and known constraints. Routing information and clearances will be provided to the aircraft using datalink; Validate the integration of A-CWP and A-SMGCS Level IV functions (advanced routing, safety nets, guidance) in an airport environment with crossing runways.			V3
SESAR Solutions	#1	Runway status light	AO-0209	
	#2	Airport safety nets for controllers: conformance monitoring alerts and detection of conflicting ATC clearances	AO-0104-A	
	#3	Airport safety nets for the Flight Crew: traffic alerts	AUO-0605-A	
	#4	Enhanced Traffic Situational Awareness and Airport Safety Nets for the vehicle drivers	AO-0204	

OFA 04.02.01 – Integrated Surface Management

Achievement	Validate the value of the manual taxi route and the traffic display on three representative airport platforms To improve the pilot situation awareness, two additional sources of information are added on top on the aircraft moving map: Traffic situation awareness around the airport vicinity (ATSA-SURF) and Graphical display of the taxi route in the cockpit entered by the pilots to ease the taxiing phase; Validate advanced A-SMGCS Guidance function and alerts related to vehicle drivers in a representative environments, with the provision of ground related instructions & information via data link to both flight crew (D-TAXI service) and vehicle drivers, integrated with both ground lighting system (AGL) and Virtual Stop Bars.			V3
SESAR Solutions	#22	Automated Assistance to controller for Surface movement Planning and Routing	AO-0205	
	#23	D-TAXI service for CPDLC application	AUO-0308	
	#24	Improved vehicle guidance	AO-0206 AO-0215	
	#26	Manual Taxi routing function	AUO-0603-A	
	#47	Guidance assistance through Airfield Ground Lighting	AO-0222	
	#48	Virtual Block Control in LVPs	AO-0223	

OFA 05.01.01 – Airports Operations Management

Achievement	Validate real time operations (Set a new TOBT and wait to delayed passengers or Start up at planned TOBT without some passengers) with connection of landside information with the AOP and therefore impact assessment on ATVs, Demonstrate fully integrated Airport Performance Monitoring, DCB Management and MET Service through SWIM (Integrated Validation of Aerodrome MET related Information & Alerting in the Management of Adverse Weather Conditions and Impact of MET information on DCB Management Processes and Airport Performance Monitoring). Validated operational benefits resulting from APOC implementation, validated interfaces (roles and responsibilities) between the APOC and the individual stakeholder operational units and validated information requirements within an APOC covering performance and alerting as well as decision support; Validate the use of a De-icing Management Tool in an A-CDM environment, creating awareness of de-icing activities among airport stakeholders by feeding the airport database (i.e. Airport Operations Plan) with up-to-date information about planned and ongoing de-icing activities.			V3
SESAR Solutions	21	Airport Operations Plan and AOP-NOP seamless integration	AO-0801 AO-0803 AO-0804 DCB-0309	

3.1.3.4 Priority Business Need: Moving from Airspace to 4D Trajectory Management

Moving from Airspace to Trajectory Management entails the systematic sharing of aircraft trajectories between various participants in the ATM process to ensure that all partners have a common view of a flight and have access to the most up to date data available to perform their tasks. It enables the dynamic adjustment of airspace characteristics to meet predicted demand with distortions to the business/mission trajectories kept to a minimum. Whenever possible, the necessary tactical interventions are considered at the gate to gate (from departing Gate to Arrival Gate) trajectory level and not only at sector level, taking into consideration the wider impact on the trajectories concerned as well as on the Network. The exercises will cluster on 2 OFAs addressing 3 SESAR Solutions:

OFA 03.01.03 - Free Routing

Achievement	Validated procedures and tools (e.g. conflict detection, traffic complexity assessment, extended ATC planner) enabling flights to operate into Free Route environment across ACC borders.			V3
SESAR Solutions	#32	Free Route through the use of Direct Routing for flights both in cruise and vertically evolving for cross ACC borders and in high & very high complexity environments.	AOM-0500	
	#33	Free Route through Free Routing for flights both in cruise and vertically evolving within low to medium complexity environments	AOM-0501	

OFA 03.01.04 – Business and Mission Trajectory

Achievement	Validate the EFPL submission through B2B services, its impact on Flight Planning validation and distribution, on traffic predictability and possibly on ATC systems and operations.			V3
SESAR Solutions	#37	Extended Flight Plan	AUO-0203-A	

3.1.3.5 Priority Business Need: Network Collaborative Management & Dynamic Capacity Balancing

Throughout the lifecycle of a flight, a layered and collaborative planning consists of successive planning phases from long term to medium and short term, involving all ATM stakeholders in Collaborative Decision Making (A-CDM) processes to progressively build the Network Operation Plan (NOP) through the sharing of more and more up to date and precise data once the day of operations approaches.

As the day of operation approaches, the Aircraft Operator's plans and the details regarding airspace

management become richer in detail and less subject to variation. For military flights, if a specific airspace structure is needed, it is fully integrated into the trajectory description.

A collaborative planning process is applied to the trajectory in a number of iterations, refining it with constraints arising from new and more accurate information. If ATM constraints have to be applied, the preferred way to integrate them is through a collaborative process with the Airspace Users in order to achieve the best business or mission outcome.

Enhanced Network Management through a dynamic, on-line, collaborative NOP fully integrated with AOP (considering all relevant actor's planning aspects including airports, airspace users, decision makers, etc.) allows the Network Manager to assess the evolution of traffic and airspace demand, to identify capacity/traffic imbalances, to develop ATFCM scenarios for capacity shortfalls (through a A-CDM process involving all concerned actors) and to record the agreed scenarios in the NOP. When necessary it proposes modified routes to the Aircraft Operators based on the published alternative routes. The Aircraft Operators submit the revised user preferred trajectories integrating the ATM constraints.

The Network Manager monitors the demand capacity imbalances, identifies and coordinates issues with Local Traffic Manager, TWR/ACC Supervisor and Airport Operation Centres (APOC) to take appropriate actions for demand capacity balancing. NOP and AOP are then updated accordingly.

This linking of AOP/NOP parameters (Actual Block Time (ABT) and User Preferred Trajectory) optimise the network and airport management by timely and simultaneously updating AOP and NOP via SWIM, providing Network and Airport Managers with a commonly updated, consistent and accurate Plan. The NOP becomes the Information Delivery Service Unit for all planning units in the Network: Airport Operators, ANSP, Airspace Users and Network Manager. The exercises will cluster on 3 OFAs addressing 5 SESAR Solutions:

OFA 05.03.01 – Airspace Management and AFUA

Achievement	Validate an enhanced real-time civil military coordination for airspace use based on real-time data exchange between ASM support system, NM systems and ATC system.			V3
SESAR Solutions	#31	Variable profile military reserved areas and enhanced (further automated) civil-military collaboration	AOM-0202-A AOM-0206-A	

OFA – 05.03.04 – Enhanced ATFCM processes

Achievement	Validate enlarged STAM tool set (hotspot, coordination tool, occupancy traffic monitoring values (OTMV)) complemented with local DCB tools connected via B2B services, for improved predictability of operations, including traffic occupancy counts and complexity prediction, using integrated MET forecast functions, airport operations (departure sequences, ground handling, gate management, runway usage, etc), What-if function and network view capabilities; Validate the full package of DCB time-based measures (CASA, STAM time-based (MDI, MIT, TONB,) and adherence to TTO & TTA DCB constraints for en-route and arrival congested areas.			V3
SESAR Solutions	#17	Advanced Short ATFCM Measures (STAM)	DCB-0308	
	#18	CTOT and TTA	DCB-0208	
	#19	Automated support for Traffic Complexity Detection and Resolution	CM-0103-A, CM-0104-A	

OFA 05.03.07 – Network Operations Planning

Achievement	Enhancement of NOP performance and monitoring and integration of NOP and MET in support, as well, to the NOP monitoring role. AOP-NOP Integration Include in the NOP Extended Flight Plan information, addressing the following aspects: continuous sharing of latest demand network performance improvement (through use traffic demand with higher predictability) collaborative process of trajectory definition (AU, NM, ATC) Update the real airspace status automatically into the NM systems			V3
SESAR Solutions	#20	Collaborative NOP for Step 1	DCB-0103-A	

3.1.3.6 Priority Business Need: Conflict Management & Automation

Conflict Management and Automation aims at substantially reducing controller task load per flight, while meeting safety and environmental SESAR goals and without incurring in a significant increase in Air Navigation Service Provider (ANSP) costs, through an intense enhancement of integrated automation support. However, human operators will remain at the core of the system (overall system managers) using automated systems with the required degree of integrity and redundancy. The exercises will cluster on 1 OFA addressing 2 SESAR Solutions:

OFA 03.03.01 - Ground Based Separation Provision in En Route

Achievement	Validate the conflict detection and resolution (CD/R) service, and the associated MONA, for the Tactical Controller and Automated Flight Conformance Monitoring in an environment with many evolutive flights (FIR/TMA interface); Validate the aid (full risk module providing improved primary and contextual interactions, conformance monitoring and intra-team communications and graphical display) to the PC and TC services for multi-sector planner and TMA concepts			V3
SESAR solutions	#27	MTCD and conformance monitoring tools	CM-0205, CM-0207-A	
	#28	Automated Assistance to Controller for Seamless Coordination, Transfer and Dialogue through improved trajectory data sharing	CM-0201-A	

3.1.3.7 Complementary Activities:

Albeit not directly linked to the Priority Strategic Business Needs these validation exercises should be seen as an important complement in the overall programme perspective. The exercises will cluster on 1 OFA and 2 Enablers addressing 5 SESAR Solutions:

ENB 02.01.01 - SWIM

Achievement	Collection of SWIM elements being validated within the set of exercises contributing to other SESAR Solutions.			V3
SESAR Solutions	#46	SWIM	IS-0901-A	

ENB 02.01.02 – AIM/MET

Achievement	Validate that graphical presentation of the information, better filtering and a more logical organization of the pre-flight information bulletins, via Digital NOTAM, can improve the pilot/dispatcher awareness, improve the briefing times and reduce the risk of information being misunderstood or missed.			V3
SESAR Solutions	#34	Digital Integrated Briefing	IS-0201-A	
	#35	MET Information Exchange	MET-0101	

OFA 06.03.01 – Remote Tower

Achievement	Validate the Remote Tower Concept for a medium sized airport.			V3
SESAR Solutions	#12	Single Remote Tower operations for medium traffic volumes	SDM-0201	
	#13	Remotely Provided Air Traffic Service for Contingency Situations at Aerodromes	SDM-0204	

The experience gathered in ‘Release Management’ shows a high risk of delay, in particular due to the availability of operational resources (platforms and operators). This will be monitored very closely by the SJU, since it also has an impact on external actors (Airspace Users, Staff, Military) who have specific operational constraints.

Moreover, a particular focus has been placed in the Release 5 definition on the expected outcomes of exercises, in terms of performance improvement. The SJU will insist on getting meaningful results, as soon as possible after the exercises, in order to be able to draw conclusions and trends on the most promising options.

3.1.3.8 Long Term and Innovative Research

The SESAR1 programme includes a number of projects looking specifically at long-term and innovative research ideas in the field of ATM. These projects, bundled into Work Package E (WPE) within the programme structure, encompassing projects, research networks and individual PhD research, explore novel and unconventional areas that involve new technologies, concepts or ideas that have the potential to add significant value to the ATM domain. Any results stemming from WPE will continue to be communicated and shared across the SESAR programme. In 2015 it is foreseen that funding for high-potential research projects will continue, as will other forms of cooperation with relevant research networks involving academia, research centres and industry currently established within SESAR1.

2015 WPE Budgetary Summary

Budget 2015	Commitment	Payment
Chapter 3.1- EUR Mio	4.7	6.6

Additionally, two Research Networks, HALA and ComplexWorld (CW) were extended in 2014 to continue their coordination role in 2015. The research networks will continue to build upon the research knowledge acquired to date, as well as the competencies and capabilities that should serve the industry in the long term, through the consolidation of their common expertise and interests in a relevant air traffic management or transportation domain.

The Research Networks will during 2015 continue to provide academic expert guidance to a number of projects as well as their vision beyond the SESAR 2020 timeframe, encouraging the strong flow of innovation and research.

A critical element of the Research Networks, are the 20 funded PhD studies which bring together Universities and their members from European academia, research centres and industry. These studies are managed within the context of the Research Networks.

A small number of high-potential Research Projects were extended in 2014 as they were considered to bring significant research value to the ATM research community. In 2015 over 20 Research Projects will continue to explore new ideas focused on the long term but which may also result in innovation solutions applicable in short- and mid-terms. Furthermore strong emphasis will be applied on interdisciplinary approaches as they have demonstrated potential to develop innovative solutions and the communication of research results to the wider community.

The Annual SESAR Innovation Days event, is the place and time for sharing the SESAR Innovative Research results with students, universities, researchers, Research organizations and industries and most importantly facilitates the interaction with the wider ATM research community and industry representatives. “The SESAR Young Scientist” award, recognizing outstanding talent and potential contribution from young scientist to any

SESAR activity, is also announced during this event.

3.1.3.9 Associate Partners of the SJU and their Involvement

The category of stakeholders “Associate Partner of the SJU” was created under SESAR 1 to answer the need to complement and complete the expertise brought by the SJU Members to the SESAR 1 Programme in specific ATM fields and from the specific categories of SMEs, Research Organisations, Universities and Institutes of higher education.

Ten (10) entities, assigned to 5 Lots (two for each lot) were appointed.

The lots awarded are as follows:

- Lot 1: Information Management;
- Lot 2: Network & Airport Collaboration;
- Lot 4: Airborne & CNS Systems;
- Lot 5: Modelling Support to Validation;
- Lot 6: UAV/UAS integration in SESAR.

The SJU has an ongoing contractual relationship with these parties for the duration of SESAR1.

During the course of 2014, 3 Specific Agreements were let increasing the engagement of the Associates in activities across the Programme, providing complementary support to the project 07.05.04 - Dynamic Airspace Configuration. The objective of these agreements is the provision of the modelling support to the SJU Members involved in Project 07.05.04 for performance of the validation activities to be carried out in Step1 and Step2 of the European ATM Master Plan and more specifically: support for one real time simulation planned in Release 5, known as VP710, to be run in 2015, across various locations within Europe; support to Step2 V2 validation activities, planned in 2014 and known as VP531. This exercise will be a gaming exercise, covering Step 2 V1 maturity level.

Other two Agreements were let for WPB – European ATM Architecture to provide support in a number of activities related to the on-going development and maintenance of the European ATM Architecture (EATMA). The EATMA is an architectural model which brings the material produced within the SESAR Programme together in order to identify where there is inconsistency and incoherency in the output of the programme and ultimately provides a comprehensive reference source of programme material for the programme participants.

Three further requests for a Specific Agreement, engaging the Associate Partners are already foreseen in 2015, with a possibility of other two.

2015 ‘Associate Partners of the SJU’ Budgetary Summary

Budget 2015	Commitment³	Payment
Chapter 3.1 - EUR Mio	0	3.8

³ No new commitments foreseen in 2015. The payments on this concept will be done against commitments from previous years carried forward.

3.1.3.10 Demonstration Activities

Demonstration activities are pulling together stakeholders from airlines, air navigation service providers, the manufacturing industry and airports to show in a real life environment the benefits of SESAR solutions. Demonstrations are seen as a very powerful tool to engage operational users in SESAR, and continue to identify technical and operational issues which can be obstacles to wider scale implementation.

In 2014, the activities will be completed for 17 of the 18 contracts that were awarded in the 2012 call for proposals on green flight trials and technological demonstration activities. Final results of these projects are expected to be delivered before the end of 2014. A new call for proposals was also launched in the first quarter of 2014, to complement the demonstration activities in the following areas:

- Support to the preparation of the deployment in line with the Pilot Common Project: these projects focus on solutions that are paving the way for the implementation of the Pilot Common Project, the first set of Air Traffic Management (ATM) functionalities that have been identified for wide scale coordinated deployment.
- Solutions focussed on small and medium size airports: these projects focus on solutions targeting, but not necessarily limited to, small and medium-sized airports and with that business and general aviation, including rotorcraft. Remote Tower Services and satellite-based navigation procedures are the main solutions addressed by these projects.

As a result of this call 15 contracts were awarded. In 2015 and 2016 the projects will unite the skills and innovative capabilities of a wide range of ATM stakeholders from across Europe in order to test SESAR solutions in a variety of real operational environment. The high level description of the 15 projects is in Annex V. The successful achievement of this activity in 2015 will be measured against successful transition from initiation to execution of all new projects awarded in 2014.

Additionally, nine “Remotely Piloted Air System (RPAS) Demonstration Activities” projects related to safety, capacity and efficiency, airport integration & airspace throughput, as well as security, have been initiated and the final results are expected by November 2015.

RPAS Demonstration activities, which include integrated pre-operational flight trials activities, aim to:

- Demonstrate how to integrate RPAS into non-segregated airspace in a multi-aircraft and manned flight environment, in order to explore the feasibility of integration with the wider aviation community by 2016;
- Focus on concrete results filling the operational and technical gaps identified for RPAS integration into non-segregated airspace; and
- Capitalise on the SESAR delivery approach by providing synergies, risk and opportunities, with the overall SESAR Programme.

The successful achievement of this activity in 2015 will be assessed against the approval of the SJU based on the different proposed final outcomes of the RPAS simulation and flight trials.

The first tangible outcome expected in 2015 based on the demonstration activities using RPAS should not only capture best practices, but also experience and data through demonstration activities either at flight test centres or centres of excellence with access to the required relevant airspace. Whereby bringing together RPAS operators, manufacturers, air navigation service providers and regulatory authorities to assess the state of the art of the integration of unmanned systems in non-segregated airspace. This will likewise allow channelling the future resources of the R&D phases on the priority aspects.

2015 Demonstration Activities Budgetary Summary

Budget 2015	Commitment	Payment
Chapter 3.1 - EUR Mio	0	14.9

3.2 SESAR 2020

3.2.1 Selection of New SJU Members & Definition of their Contributions to SESAR2020:

During 2015, the SJU will continue working on renewing its membership in SJU and on the definition of the extended Programme activities in order to be able to launch the first wave of SESAR 2020 Industrial Research and Very Large Scale Demonstration (VLD) projects to enable transition from SESAR 1 to SESAR 2020 during 2016.

As described in the Call for expressions of interest to become Candidate Member of the SESAR Joint Undertaking – SESAR Research and Innovation Programme 2020 (SESAR 2020) Ref. SJU/LC/0110-CEI (“the CEI”) and detailed during Administrative Board meeting of 23 October 2014, the SJU Membership Accession Process is broken down into three consecutive phases:

- Phase 1 – Pre-selection
- Phase 2 – Dialogue
- Phase 3 - Selection

Annex X attached hereto details the conditions of participation in and the management of Phase 2 of the SJU Membership Accession Process (“Dialogue Phase”) as well as general rules and principles with regard to Phase 3 (“Call for Final Membership Applications”).

At the time of drafting of the present document the full Phase 1 and Phase 2 of the Membership Accession Process have been completed. This has confirmed nineteen (19) candidate Members in addition to Eurocontrol and concluded a managed dialogue involving the twenty (20) entities. Phase 3 shall be launched and managed upon decision of the Administrative Board regarding the documentation submitted for ADB approval.

3.2.2 SESAR2020 Preparatory Work for Award of Industrial Research and VLD activities to Members

The SJU has published its approved Multi-annual Work Programme Edition 1.0 dated 1 July 2015. This document corresponds to the “global work programme of the Joint Undertaking” as per Articles 7(5)(d) and 16 of the SJU statutes annexed to SJU Founding Regulation No 219/2007.

As such this document:

- is based on the financial framework referred to in Article 4(2) of the SJU Regulation,
- is divided into periods of thirty-six months,
- sets out clear deliverables and milestones, and
- includes an estimate on programme costs.

Consequently the SJU multi-annual work programme (MAWP) covers the period 2016-2019 and has a further outlook to 2021; this latter period is in less detail as it largely depends upon the results from the first period.

The MAWP has been developed on the basis of certain assumptions regarding the staff and financial resources that will be available to SJU in 2016-2021 based on data available as of June 2015. The document contains the context, objectives, budget and high-level description of the SESAR 2020 Research and Innovation (R&I) Programme and will be supplemented by a SJU annual work programmes that will further detail and/or supplement this document as necessary.

In parallel, the SJU will proceed with a thorough review of the Programme Management Plan to adapt it to the SESAR 2020 Programme improvements taking stock of the lessons learnt from the current Programme, to provide the SJU with an effective reference document to manage, monitor, execute and control the SESAR 2020 projects. It will be maintained according to the Programme needs during its life time and be referenced from the agreement established to renew the SJU membership.

In preparation for renewing the SJU membership, the SJU is required by the EC to move from its existing Multi-lateral Framework Agreement to a new Membership Agreement to ensure compliance with its new Grant Agreement awards and project execution requirements coming from Horizon 2020.

Projected to start in Q2 2016, SESAR 2020 first wave projects will be progressively started following an agreed ramp up in planning. Effective synchronisation will allow the resources allocation to SESAR 2020 projects as these are made free by the projects closing under the SESAR 1 Programme.

With two years of SESAR 1 execution remaining, and with the start of the SESAR 2020 programme under preparation, the SJU will work with the members to analyse and where necessary adjust the schedule of completing the SESAR 1 projects up to the end of 2016. This will address the need to complete the SESAR 1

activities, in particular the PCP, within the timeframe set by the Regulation, while at the same time assuring a synchronisation of the hand-over of material that will need further work in SESAR 2020, to the relevant new projects. The result will be reflected in a “SESAR 1 programme closure and hand-over plan” that will be ready by the end of Q1 2015 in line with Release 5 final definition.

3.2.3 SESAR2020 Exploratory Research

The objective of the SESAR 2020 Exploratory Research Programme is to address where possible the known yet unsolved problems across the ATM Research domain, taking on board these new or continuous challenges using traditional methods or new techniques, or transferring the results of past research and applying it to new applications and/or novel technologies in search of innovative and ground breaking results. SESAR 2020 Exploratory Research will build upon the results developed under WP-E (see para: 4.5.1) As well as from FP7 funded projects.

In 2015 the Exploratory Research Programme, fully funded under Horizon 2020 for an amount of EUR 20.6 million will be launched to enable continued work on conducting and consolidating innovative activities striving to achieve tangible results under the scope of:

- ATM Excellent Science & Outreach aims at bridging ATM research with the wider research community and will provide the necessary scientific support to ATM change either directly or through connection to other funded research areas in other disciplines or sectors, under the following:
 - Automation, Robotics and Autonomy
 - Complexity, Data Science and Information Management
 - Environment and Meteorology for ATM
 - Economics, Legal and Regulation
- ATM application-oriented research will help mature new concepts for ATM beyond those identified in the European ATM Master Plan as well as help mature emerging technologies and methods to the level of maturity required to feed the applied research conducted in the SESAR JU.

The research activities under ATM Operations, Architecture, Performance & Validation will directly contribute to the SESAR 2020 transversal activities of ATM Design & Integration Performance Management, Validation, Verification & Demo infrastructure and European ATM Master Plan maintenance.

- Transversal exploratory activities, linked to developing a network for knowledge transfer relating to communication of research results and research network activities that will apply to both ATM Excellent Science & Outreach and ATM applications research:
 - Future ATM Skilled Force
 - Knowledge transfer Network (KNT)

3.3 Wide Stakeholder Engagement by the SJU

A full integration of 3rd Party contributions into the established 3rd Party Resource Management process has been achieved in 2014. This enables more accurate planning with realistic allocation of resources to the benefit of both the Programme and the 3rd Party stakeholders themselves. This full integration has further cemented the valuable buy-in from all 3rd parties, strengthening their commitment and full endorsement of the SJU vision whereby providing valuable and qualitative input across the programme.

2015 will be a very challenging year for all 3rd Party resources with a clear emphasis on content and in particular on their contribution in support of Release 5 and the PCP set objectives and priorities, whilst at the same time setting the scene to meet the requirements of SESAR2020. A short summary of the expected engagement of each main stakeholder group is outlined below:

The Airspace Users (AU) are now fully integrated within SESAR and their expertise recognised as a key element and fundamentally linked to the overall success of SESAR.

During the course of 2014, particular emphasis of AU involvement was placed on Release 4 execution and the alignment with the proposed set of operational/technical improvements (mature for deployment) and the expected outcome in terms of performance needs as expressed by the European ATM Master Plan. Furthermore, there was strong AU input in all the other activities addressing the maturing and validation of the SESAR concept.

2015 will be the most challenging year to date with clear prioritization on the PCP objectives in alignment with the Release 5 definition. Furthermore, AU support will be expected in relation to the SESAR2020 activities in order to prepare

the way forward.

The AUs are also expected to maintain their key role in the Administrative Board and in the Programme Committee. They will also maintain their strategic participation to the SPP (see below) as well as their involvement in other high level meetings as defined by the SJU.

In accordance with the Framework Agreement, 12 of the original 14 AU contracts have been extended by a further period of two years guaranteeing their participation up until 30th September 2016; during 2015 a further extension will be requested such that the contract ends 31st December 2016 to align with the end date of the current SESAR Programme. Despite the reduction in number of contracts it should be noted that the number of experts available under these contracts is increasing.

2015 'Airspace Users' Budgetary Summary

Budget 2015	Commitment	Payment
Chapter 3.1 - EUR Mio	3.5	3.5

During 2015 the National Supervisory Authorities (NSAs) through their Memorandum of Understanding will be required to review a number of deliverables, progressively addressing the results of SESAR, including the SESAR Solutions and Deliverables at OFA level. They will participate in a many of the validation exercises relating to Release 5 where their views are considered valuable. As in previous years the outcome of this work will be reviewed and assessed with the participating NSAs in order to make sure that the recommendation loop is closed with the appropriate actions. In particular, the conclusions covering all the SESAR Programme OFAs will be issued.

The Aviation Authorities will on behalf of the SJU be required to validate a number of the Large Scale Demonstration solutions as put forward by these projects.

The close coordination with EASA and their experts will be further elaborated in 2015, within the regulatory domain.

In order to broaden the range of expertise and involvement from Member States, in 2015 the SJU will aim at incorporating 1 expert from a Scandinavian and/or Baltic regions.

2015 'Aviation Authorities' Budgetary Summary

Budget 2014	Commitment	Payment
Chapter 3.1	0	0.2

The framework Contract between the SJU and the Professional Staff Organisation (PSO) consisting of IFATSEA, IFATCA, ATCEUC, ECA and the ETF is a contract procured through Eurocontrol on behalf of the SJU. Their participation across SESAR 1 has strongly evolved and for 2015 there is an even greater interest to participate in SESAR 2020 as it evolves and delivers results. The operational expertise brought in by the Professional Staff Organisation experts and buy-in is crucial for validating new procedures and technical and system solutions applicability.

It is expected that the International Validation Team (IVT), created in 2011 and currently comprising of 65 members, will again participate in the 2015 Release 5 validation activities. In this respect, it is expected that the involvement of experts in Release 5 will be in the order of 240 man-days. The programme also launched a new set of demonstration activities which the professional staff will also review under the IVT framework.

Given the evolution of the SESAR1 programme, the increasing interest of staff to be associated to the SESAR work packages, the IVT activities, the demonstration activities and the incumbent coordination between the Staff organisations, a rethink of the approach and organisation for further years may have to be foreseen in 2015. This rethink is also a consequence of the budget constraints and the priorities set therein, and as such it is anticipated that the PSO involvement in activities beyond IVT and demonstration will be minimal throughout 2015.

The Current PSO contracts will run until the end of the programme in 2016 and the SJU will extend the expert

contract for the IVT liaison officer to the SJU through to 2016.

2015 'PSO' Budgetary Summary

Budget 2015	Commitment	Payment
Chapter 3.1- EUR Mio	0.4	0.4

Military engagement is vital for SESAR and is currently being provided through two mechanisms, the first being a framework agreement with Military Engagement Plans (MEPs), managed through Eurocontrol and the second under a specific working arrangement with EDA (see section 5.9) ensuring the full Military engagement and commitment across the programme. Through the SJU action, more visibility on the MEPS' outcomes will be provided to EDA as well as to EC to facilitate the military coordination within the deployment programme and the identification of areas of military interest in next Common Projects.

Under the Military Engagement Plan it is foreseen to continue participation across the programme with continued emphasis on Release 5 where Military support has been requested and, in addition to this, engagement on strategic matters throughout the year.

The European Defence Agency (EDA) will continue to act as focal point ensuring a larger contribution by States and military organisations in order to achieve participation of military authorities in all the relevant aspects across the Programme.

2015 'Military Users' Budgetary Summary

Budget 2015	Commitment	Payment
Chapter 3.1 - EUR Mio	0.2	0.2

The SJU extended the framework contract with Airports Council International (ACI) until June 2015, and a third work order has been planned, foreseen to finish on the 31 December 2015. Included in this work order is the activity of an SJU/ACI Liaison officer, who has been seconded to ACI Brussels for 2 days a week from ANA, Portugal. This Liaison officer will endeavour to enhance the SJU's network within ACI's 451 airports, as well as facilitate the refinement of the airports contribution to SESAR 2020. He will also organise 3 SESAR roadshows and review deliverables relevant to the airports (e.g. Validation plans, European ATM Master Plan, WP16), follow the SEAC developments as well as the evolution of the PCP and also observe on the airports ramp up of the deployment manager work.

2015 'ACI' Budgetary Summary

Budget 2015	Commitment	Payment
Chapter 3.1 - EUR Mio	0	0.3

The Scientific Committee will continue in its role to provide advice to the Executive Director, and where requested conduct specific tasks in support of the SJU in order to reinforce its innovative and scientific approach to building the future Air Traffic Management systems and procedures.

Four meetings of the Scientific Committee are foreseen in 2015 to address the technical and organisational challenges and scientific findings of the programme. For WPE the Committee will have a steering role in providing scientific advice on the content, the results and the management aspects. In particular the involvement of academics will be given a strong focus to foster cross-fertilisation between ATM and other domains. During 2015 planning of the necessary ER governance will trigger the need for new terms of reference and a new call for membership for a Scientific Committee suitable to undertake this new role.

Budget 2015	Commitment	Payment
Chapter 3.1 - EUR Mio	0	0.1

3.4 Other SESAR Joint Undertaking Activities

3.4.1 The European ATM Master Plan

A full update of the European ATM Master Plan will be performed in early 2015 for a submission to the ADB in June for approval by the end of 2015. The timing of the next European ATM Master Plan campaign (known as 'Master Plan Campaign 2015') was chosen so that the European ATM Master Plan 2015 can incorporate key developments up to 2015.

These include in particular the results of the work on the performance needs, on Step 2, the evolution of the SES framework, the decision on the SJU extension, the Pilot Common Project and results from Releases 2, 3 and 4.

The following were agreed to constitute the success criteria of the 2015 campaign:

- Ensure the necessary alignment with SESAR 2020
- Strengthen performance driven approach towards "performance needs" in predetermined time horizons and take into account related priorities
- Identify perimeter of future CPs
- Provide high-level view of architecture evolution options and impact on business models
- Provide greater levels of predictability & confidence with regards to deployment dates (taking into account in particular industrialization phase)
- Include RPAS integration and stronger focus on cybersecurity aspects
- Emphasize SESAR achievements to further build momentum

The European ATM Master Plan is a strong tool for Europe to promote and ensure interoperability at global level, in particular in the context of ICAO. The material provided by SESAR and NextGen are used by ICAO for the development of the Aviation System Block Upgrades (ASBUs) which contribute to the Global Air Navigation Plan (GANP) presently designed to guide complementarity and sector-wide air transport progress over 2013- 2028 and is endorsed triennially by the ICAO Assembly. The GANP represents a rolling, 15-year strategic plan which leverages existing technologies and anticipates future developments based on State/industry agreed operational objectives. From a SESAR perspective, mapping ICAO's ASBU initiative is important to achieve global interoperability and synchronisation where and when necessary. Global interoperability would be achieved by ensuring the operational achievements in the MP are consistent with the elements in the ASBUs.

The timing of the next European ATM Master Plan update is therefore also aligned with the GANP update process which is expected to run in parallel to the European ATM Master Plan campaign.

A "Campaign Steering Group" (new compared to previous campaign) with PC (including EC and AUs) and a SPP representatives will be established to steer activities from a "top down perspective" against expectations, ensuring stakeholders' engagement with the overall objective to "de-risk" the outcomes for the broader ATM community to the greatest extent possible. In addition, the Campaign Steering Group will monitor that the Master Planning Group draft output goes in the direction of the expected results and ensure the implementation of the Tiger Team recommendations for Edition 2015. The supporting Master Planning Group (already in place in previous campaign) composed of WPC, B and 16 project/task leaders and key stakeholder representatives will be maintained however with a formal mandate of the members to their representatives on the ownership of the draft outcome.

3.4.2 SESAR Performance Partnership (SPP)

During 2015 the primary focus of the SPP will be on supporting the SJU Executive Director in its decision making process related to the European ATM Master Plan update campaign. In 2014, SPP members already supported the recommendations formulated by the PC Tiger Team with regards to the "Success Criteria" of Edition 2015. The group will also continue to focus on cross-checking the results of R&D activities with regards to delivering the PCP which is foreseen to be completed within the framework of Release 5.

In order to secure the buy-in of the broader operational stakeholder community for the activities of the European ATM Master Plan, it was agreed to double the number of SPP meetings and organize regular briefing sessions to provide the maximum level of transparency and “de-risk” the Master Planning activities.

3.4.3 Support to the EC

The SJU shall assist the Commission on all subjects relating to the contribution of the SES technological pillar to the other areas of the SES. This includes continued assistance to the SESAR Policy Level in support to its specific tasks as mentioned in the Regulation (EU)409/2013 (e.g. support to the Commission for the definition of Common Projects).

The launch of the Deployment Manager in 2015 is expected to require specific coordination to be established based in particular on the PCP, deliverables required and supporting standardisation needs.

It is also expected that in 2015 a new approach to the coordination and provision of standards in support of SESAR deployment will be required and the SJU will play an active role in the development and management of this process; in coordination with the Deployment Manager.

In the context of the revision of Implementing Regulation (EU) No 1207/2011 on surveillance performance and interoperability, the EC requested the SJU to prepare, by first quarter 2015, a preliminary report on the needed re-assessment of the scope and technical content of a possible new regulatory framework for surveillance. Additional complementary work on this revision of the surveillance implementing rule, or on other potential reviews of other interoperability regulations may be required in 2015.

As regards SESAR 2020 all activities should demonstrate a level of close interdependency with ATM and therefore complement the overall objectives of ATM, aviation and air transport as a whole. In 2015, the SJU will continue to provide independent support to the European Commission to ensure that proposals are not duplicated and area well aligned to the requirements of SESAR2020.

3.4.3.1 Data Link Services:

The Single European Sky Data Link Services Implementing Rules of 2009 specifies European implementation of data link; however, performance issues of VDL/2 raised concern on the usability of the system. EASA conducted an investigation, under the mandate of EC, into the performance issues of VDL/2 and published a report identifying a10-points Action Plan which the SJU has been asked by the EC to progress.

In June 2014 a study into the sustainability of VDL/2 in the SESAR context addressing a subset of the EASA actions including multi-frequency VDL/2 capacity versus future data load needs, was launched and will continue into 2015.

A second call for tender was launched in 2014 for further VDL/2 ATN datalink work including further validations, equipment testing and flight campaigns addressing RF load, avionics performance, ground system topology and multi-frequency options investigations. The kick-off is expected in early 2015, as mentioned in objective number 4 (see paragraph 2.3). The steering and monitoring of these 2 activities along with a wider European ATM stakeholder activity on VDL/2 and the datalink issue will require significant direct involvement from the SJU along with continuing support to the European Commission towards the review of the DLS mandate.

Further in support of this and in parallel with the studies mentioned above an update of the SESAR mobile communications strategy will be required during the course of 2015/2016.

Budget 2015	Commitment	Payment
Chapter 3.1 - EUR Mio	0	1.2

3.4.3.2 Cyber-Security:

The future European ATM System must be secure, resilient and trustworthy to support EU goals of modernisation of the ATM sector in line with the perspectives of growth of the European air traffic.

A “SESAR Strategy and Management framework study for Information Cyber-Security” was awarded early 2014 in order to detail a holistic approach to ATM information cyber-security, taking into consideration guiding frameworks and the experience of various industry domains and leading edge consultancy, as well as the cyber-security strategy of the European Union and the delivered outlined actions. The final results of the study, which are

expected in the first quarter of 2015, will be applied to support the developments in the SESAR 2020 Programme in particular on SWIM.

Based on the aforementioned study results and on initial experience to further correct the approach, consideration must be given to the fact that cyber-security will consist of governance, infrastructure and standards. As such it will make it easier to adopt an EU cyber-security policy in the harmonised environment created by SWIM and to figure out good cyber-security governance that enables improved security through the sharing of risk assessments, vulnerabilities and through coordinated incident response. In parallel, the development of hardened and standardised interfaces for services must be considered.

These considerations are in line with the recommendations given in the SJU Cyber-Security report endorsed by the SJU Administrative Board in July 2013 to contribute to the effective deployment of the new ATM systems and to their interoperability.

In order to broaden the range of the cyber-security in 2015, the SJU will initially aim to implement the outcomes of the study and will introduce further studies if appropriated.

Budget 2014	Commitment	Payment
Chapter 3.1 - EUR Mio	0	0.3

3.4.3.3 Remotely Piloted Aircraft Systems (RPAS):

The European RPAS (Remotely Piloted Aircraft Systems) Roadmap, handed over by RPAS stakeholders to the European Commission on 20 June 2013, paves the way for the safe integration of RPAS into the non-segregated ATM environments in Europe from 2016. Since not all the key technologies required for RPAS to fly in non-segregated ATM environments are sufficiently mature and standardized, it was agreed that the integration of RPAS into ATM needs to be gradual and evolutionary, while technology as well as regulation and societal acceptance would progress.

Launched during the second half of 2014, the SJU led SESAR 2020 RPAS Definition Phase has established the work breakdown structure, the activities to be performed and the resources required. This will subsequently define the execution phase of the R&D activities in the context of the SESAR 2020 Programme and will allow the eventual integration of RPAS in controlled airspace. This work will provide a significant contribution to the European ATM Master Plan during the 2015 update.

To achieve the comprehensive RPAS Definition Phase by Q3 of 2015, as specified in objective number 4, there is a need to complement the work being performed in the definition phase and complementary demonstration activities by developing the overall RPAS framework and supporting role of the ATM (regulatory and business framework) upon which to satisfy the future operations in the European Aviation System. The scene shall be set up by establishing the market, the industry approach and the institutional framework for the RPAS insertion in non-segregated airspace, and by developing an in-depth understanding of the RPAS value chain. The understanding of high level strategic and business objectives translated into a performance based organisation and objective driven methodology, metrics and tools, providing a systemic view of safety, economic efficiency, capacity, human performance, security, environmental impact sustainability and timely service to the users, will assist in the development and use of tools to enable the identification of trade-offs amongst these.

The amount of resources to complement the Definition Phase of the RPAS integration in the non-segregated airspace is estimated at maximum EUR 0.4 million. It is expected that the SJU outsources a study to an appropriate leading edge consultancy supported by the industry which should deliver the final outcome during the course of 2015.

The study shall address EU economic impact for all sizes of RPAS, for both manufacturing and services sectors, with detailed figures in particular for civil market.

Budget 2015	Commitment	Payment
Chapter 3.1 - EUR Mio	0	1.0

3.5 SESAR2020 Call for Proposals in 2015 (Wave 1)

The needs of the European ATM Master Plan have been fully reflected in the scope of SESAR 2020, as described in its multi-annual work programme. The SESAR 2020 multi-annual work programme is split into two waves: Wave 1 (2016 – 2019) and Wave 2 (2019 – 2021). The overall estimated budget for the IR and VLD for the members is €398,000,000 of which €260,075,000 is allocated to Wave 1, and is the subject of the first IR/VLD call in 2015¹².

The Wave 1 call will cover 28 interdependent projects delivering SESAR Solutions and secured using one grant per project. The funding from the EC is made available to the SJU on an annual basis; therefore all grant agreements will have to be amended when this funding becomes available. The SJU will introduce a significant change in the budget of each grant and will require the Beneficiary to confirm the technical scope to be provided for the available budget, in order to best meet the SESAR 2020 programme needs and deliverables.

This approach will provide a mechanism to secure the grants required in support of Wave 1 of SESAR2020, thus covering the needs of Wave 1 (and later also applicable to Wave 2) without triggering consecutive annual calls for proposals.

Consequently, the SJU shall proceed as follows:

1. In 2015, the SJU will launch a call for proposals for Wave 1 (with 1 grant being awarded per project) with an end date in 2019, covering the entirety of Wave 1;
2. This call will contain:
 - a. the description of work for each project, as described in the SESAR Multi-annual Work Programme, covering the full period 2015-2019 (Wave 1);
 - b. a clear indication of the available budget at launch for all Wave 1 projects being limited
 - c. a requirement for the Beneficiaries of an awarded grant to provide to the SJU details on the use of the wave 1 budget (up to €260 million) with review points in the project to enable an update to the grant agreement to award budget beyond an initial allocation limited to €50 million in the first instance.
 - d. a request for proposals to provide detailed information on how the available SJU funding will be allocated and spent in order to deliver identified elements within the respective proposal (one per project);
3. The proposals received by the SJU for each project will be evaluated on the basis of the information they provide on their proposed contribution to Wave 1 objectives (SESAR Solutions), as well as the information on the proposed use of a part of the available €50 million total budget in performing a clearly identified part of the Wave 1 scope.
4. Once the budget for a following tranche of annual funding has been made available to the SJU, the SJU will trigger the following process to amend grants:
 - a. analyse the financial and technical results of the work undertaken with the first €50 million tranche of funding. This analysis will likely take place as part of the project's annual gate exercise (described in a common Project Execution Guidance document); As a result, it will be possible to confirm the technical descriptions/detail of the next tranche from the remaining work in the proposal, then
 - b. invite the beneficiaries to provide a grant amendment request with detailed information on the use of the next available funding tranche to perform the subsequent part of the work of their proposal, and
 - c. SJU to amend the grant agreement, as required in accordance with the H2020 grant amendment procedure described in the H2020 annotated model grant agreement.
5. The SJU will then formalise an amendment of the grant, in accordance with H2020 rules and procedures with

¹² For further details of the topics identified under the call and indicative budget breakdown, please see section 1.5 of the SESAR 2020 Multi-Annual Work Programme, adopted in June 2015.

a change to the budget.

6. This process will be repeated as many times as necessary until the scope of the wave 1, as described in the grants, has been completed and the full €260 million budget has been committed to the grants and SESAR Solutions delivered.

3.5.1 Conditions for the SESAR 2020 Transversal Activities, Industrial Research & Validation, and Very Large Scale Demonstrations Call

- (a) Call identifier:

Unknown at the time of drafting the Annual Work Programme 2015

- (b) Publication date: Q4

2015.

- (c) Deadline: Q1

2016.

- (d) Indicative Budget: EUR

260 075 000

Year	Budget line	Commitment	Payment
2015	B03300 'Studies/Development Conducted by Members	EUR 50 000 000	EUR 25 036 000

- (e) Activities covered by this call (Wave 1)

The activities covered by this call are gathered in 3 (three) respective Work Areas:

- Work Area A - SESAR 2020 Transversal Activities
- Work Area B - Industrial Research & Validation Activities
- Work Area C - Very Large Scale Demonstrations Activities

For the purpose of structuring Work Areas Industrial Research & Validation, and Very Large Scale Demonstrations, 4 (four) Key Features have been identified:

- Key Feature 1 - High Performing Airport Operations
- Key Feature 2 - Optimized ATM Network Services
- Key Feature 3 - Advanced Air Traffic Services
- Key Feature 4 - Enabling Aviation Infrastructure

The four new Key Features have been identified to capture the operational improvements and technical enablers required to answer the needs of the Air Transport evolution and meet the SESAR Performance contribution to the SES Strategic performance Objectives.

Each Work Area is therefore broken down into topics, each topic being subject of a Multi-Beneficiary Grant Agreement. Work Areas of Industrial Research & Validation, and Very Large Scale Demonstrations, are respectively structured into Key Features.

This call covers a total of 3 (three) Work Areas, 4 (four) Key Features and 28 (twenty-eight) topics as follows:

Topics called	Type of action	Indicative Budget (EUR)	Total Indicative (EUR)
Work Area A - Transversal Activities			260.075.000
Topic 1 - Content Integration	Coordination and Support Actions ¹³	8.320.000	
Topic 2 - European ATM Master Plan Maintenance	Coordination and Support Actions	3.510.000	
Topic 3 - Validation and Demonstration Engineering	Coordination and Support Actions	4.940.000	
Work Area B - Industrial Research & Validation			
Key Feature 1 - High Performing Airport Operations			
Topic 4 - Increased Runway and Airport Throughput	Research and Innovation Actions ¹⁴	13.845.000	

¹³ Coordination and Support Actions (CSAs) are actions consisting primarily of accompanying measures such as standardisation, dissemination, awareness-raising and communication, networking, coordination or support services, policy dialogues and mutual learning exercises and studies, including design studies for new infrastructure and may also include complementary activities of strategic planning, networking and coordination between programmes in different countries.

¹⁴ Research and innovation actions (RIAs) are actions primarily consisting of activities aiming to establish new knowledge and/or to explore the feasibility of a new or improved technology, product, process, service or solution. For this purpose they may include basic and applied research, technology development and integration, testing and validation on a small-scale prototype in a laboratory or simulated environment. Projects may contain closely connected but limited demonstration or pilot activities aiming to show technical feasibility in a near to operational environment.

Topics called	Type of action	Indicative Budget (EUR)	Total Indicative (EUR)
Topic 5 - Integrated Surface Management	Research and Innovation Actions	12.220.000	
Topic 6 - Airport Safety Nets	Research and Innovation Actions	8.125.000	
Topic 7 - Total Airport Management	Research and Innovation Actions	10.465.000	
Topic 8 - Remote Tower for Multiple Airports	Research and Innovation Actions	6.630.000	
<u>Key Feature 2 - Optimized ATM Network Services</u>			
Topic 9 - Optimised Airspace Users Operations	Research and Innovation Actions	3.640.000	
Topic 10 - Advanced Airspace Management	Research and Innovation Actions	2.730.000	
Topic 11 - Advanced DCB	Research and Innovation Actions	7.020.000	
<u>Key Feature 3 - Advanced Air Traffic Services</u>			
Topic 12 - Enhanced Arrivals and Departures	Research and Innovation Actions	17.680.000	
Topic 13 - Trajectory Based Free Routing	Research and Innovation Actions	6.045.000	
Topic 14 - Separation Management En-Route and TMA	Research and Innovation Actions	25.935.000	
Topic 15 - Enhanced Air and Ground Safety Nets	Research and Innovation Actions	5.265.000	
<u>Key Feature 4 - Enabling Aviation Infrastructure</u>			
Topic 16 - Air Vehicle Systems	Research and Innovation Actions	10.140.000	
Topic 17 - CNS	Research and Innovation Actions	22.880.000	
Topic 18 - Common Services	Research and Innovation Actions	6.435.000	
Topic 19 - CWP - HMI	Research and Innovation Actions	11.635.000	
Topic 20 - SWIM Infrastructures	Research and Innovation Actions	9.490.000	
Topic 21 - 4D Trajectory Management	Research and Innovation Actions	21.125.000	
Work Area C - Very Large Scale Demonstrations			
<u>Key Feature 1 - High Performing Airport Operations</u>			

Topic 22 - Integrated Operations (incl. TBS)	Airport	Innovation Actions ¹⁵	4.300.000
<i>Key Feature 2 - Optimized ATM Network Management</i>			
Topic 23 - Network Management	Collaborative	Innovation Actions	3.600.000
<i>Key Feature 3 - Advanced Air Traffic Services</i>			
Topic 24 - Flexible Management and Free Route	Airspace	Innovation Actions	4.400.000

Topics called	Type of action	Indicative Budget (EUR)	Total Indicative (EUR)
Topic 25 - Arrival Management extended to en-route Airspace	Innovation Actions	4.000.000	
Topic 26 - Enhanced Terminal Airspace using RNP-Based Operations	Innovation Actions	2.400.000	
<i>Key Feature 4 - Enabling Aviation Infrastructure</i>			
Topic 27 - Flight Information Exchange	Innovation Actions	6.100.000	
Topic 28 - Initial Trajectory Information Sharing	Innovation Actions	17.200.000	

A maximum of one grant per topic will be awarded as a result of the call for proposal. Each awarded grant will be complementary of each other.

(a) Indicative timetable for the evaluation and grant agreements

Information on the outcome of the evaluation	Indicative date for the signing of the grant agreements
Maximum 5 months from the final date for submission	Maximum 8 months from the final date for submission

(b) Admissibility conditions for grant proposals and related requirements

Part B of the General Annexes to the EC Work Programme shall apply mutatis mutandis for the actions covered by this Annual Work Programme.

All proposals must conform to the conditions set out in the Rules of Participation¹⁶. Furthermore, a proposal will only be considered eligible if it:

- 1) Corresponds wholly to the **topic description** of one of the 28 topics described in section 3.5.1.1(e) above;
- 2) Contains a **plan detailing the added value of expected outcome and results** (a draft plan for the

¹⁵ Action primarily consisting of activities directly aiming at producing plans and arrangements or designs for new, altered or improved products, processes or services. For this purpose they may include prototyping, testing, demonstrating, piloting, large-scale product validation and market replication. A 'demonstration or pilot' aims to validate the technical and economic viability of a new or improved technology, product, process, service or solution in an operational (or near to operational) environment, whether industrial or otherwise, involving where appropriate a larger scale prototype or demonstrator in order to ensure a maturity of TRL 6 to 7.

A 'market replication' aims to support the first application/deployment in the market of an innovation that has already been demonstrated but not yet applied/deployed in the market due to market failures/barriers to uptake. 'Market replication' does not cover multiple applications in the market of an innovation¹⁸ that has already been applied successfully once in the market. 'First' means new at least to Europe or new at least to the application sector in question. Often such projects involve a validation of technical and economic performance at system level in real life operating conditions provided by the market. Projects may include limited research and development activities.

¹⁶ Regulation (EU) No 1290/2013 of the European Parliament and of the Council of 11 December 2013 laying down the rules for participation and dissemination in "Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)" and repealing Regulation (EC) No 1906/2006

exploitation and dissemination of the results, in accordance with Article 13 (1) of the Rules for Participation) of the topic concerned for the purpose of dissemination and SESAR deployment preparation.

3) Complies with the **submission requirements**:

- each proposal must be submitted and received by the SJU no later than the call deadline in accordance with the timetable defined above, and
- using the application form and/or electronic submission system available.

(c) Eligibility criteria

Part C of the General Annexes to the EC Work Programme shall apply mutatis mutandis for the actions covered by this Annual Work Programme.

a. Conditions for participation

- For CSAs - at least one applicant candidate member established in a Member State or associated country shall participate in the activity;
- For RIAs and IAs - at least three applicant candidate members shall participate in the activity. Each of the three shall be established in a different Member State or associated country. All three legal entities shall be independent of each other.
- Due to the existence of other partnering arrangements at the SJU Membership level, applicant candidate members shall submit a **coordinated proposal** but **are not required** to conclude a Consortium Agreement, in accordance with Article 24 (2) of the Rules of Participation.

b. List of eligible entities

As a result of Administrative Board decision ref. ADB(D)13-2014 dated 04/11/2014 (attached hereto as Annex IX), the following entities are eligible under this restricted Call for Proposals, as a result of the Call for Expression of Interests ref. SJU/LC/0110-CEI constituting the first phase of the SJU Membership Accession Process published on 9 July 2014:

- The European Organisation for the Safety of Air Navigation (Eurocontrol)⁸, as defined in Article 1 of the Statutes of the SJU.
- The 19 (nineteen) entities pre-selected as SJU Candidate Members ("candidate members") as a result of Phase 1 of the Membership Accession Process -the CEI-, namely:

1. Airbus SAS	11. Thales Air Systems SAS
2. Alenia Aermacchi SpA	12. B4 Consortium
3. AT-One	13. Coopans
4. Dassault Aviation SA	14. Frequentis SESAR Partners
5. Deutsche Flugsicherung GmbH (DFS)	15. Honeywell International Inc
6. Direction des Services de la Navigation Aérienne	16. North European ATM Industry Group (NATMIG AS)
7. Entidad Publica Empresarial (ENAIRE)	17. SEAC - SESAR European Airports Consortium
8. Ente Nazionale Assistenza al Volo (ENAV)	18. Selex ES Spa
9. INDRA Sistemas S.A	19. Skyguide, Swiss Civil and Military Air Navigation Services Ltd
10. NATS (En Route) Plc	

c. List of countries and applicable rules for funding

- As per Part A of the General Annexes to the EC Work Programme, Legal entities established in the following countries and territories will be eligible to receive funding through Horizon 2020:

- 1.1. The Member States of the European Union, including their overseas departments;
 - 1.2. The Overseas Countries and Territories (OCT) linked to the Member States⁹: Anguilla, Aruba, Bermuda, Bonaire, British Virgin Islands, Cayman Islands, Curaçao, Falkland Islands, French Polynesia, Greenland, Montserrat, New Caledonia, Pitcairn Islands, Saba, Saint Barthélemy, Saint Helena, Saint Pierre and Miquelon, Sint Eustatius, Sint Maarten, Turks and Caicos Islands, Wallis and Futuna.
 - 1.3. The Countries Associated to Horizon 2020¹⁰: the latest information on which countries are associated, or in the process of association to Horizon 2020 can be found in the online manual¹¹, which includes the accession process of Switzerland.
2. The following countries, except where this is explicitly excluded in the call text,: Afghanistan, Albania, Algeria, American Samoa, Angola, Argentina, Armenia, Azerbaijan, Bangladesh, Belarus, Belize, Benin, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, Central African Republic, Chad, Chile, Colombia, Comoros, Congo (Democratic People's Republic), Congo (Republic), Costa Rica, Côte d'Ivoire, Cuba, Djibouti, Dominica, Dominican Republic, Ecuador, Egypt, El Salvador, Eritrea, Ethiopia, Fiji, Gabon, Gambia, Georgia, Ghana, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Indonesia, Iran, Iraq, Jamaica, Jordan, Kazakhstan, Kenya, Kiribati, Korea (Democratic Republic), Kosovo, Kyrgyz Republic, Lao, Lebanon, Lesotho, Liberia, Libya, former Yugoslav Republic of Macedonia, Madagascar, Malawi, Malaysia, Maldives, Mali, Marshall Islands, Mauritania, Mauritius, Micronesia, Moldova, Mongolia, Montenegro, Morocco, Mozambique, Myanmar, Namibia, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Palau, Palestine, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Rwanda, Samoa, Sao Tome and Principe, Senegal, Serbia, Seychelles, Sierra Leone, Solomon Islands, Somalia, South Africa, South Sudan, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Sudan, Suriname, Swaziland, Syrian Arab Republic, Tajikistan, Tanzania, Thailand, Timor-Leste, Togo, Tonga, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, Uzbekistan, Vanuatu, Uruguay, Venezuela, Vietnam, Yemen, Zambia, Zimbabwe.
 3. International European interest organisations¹² will also be eligible to receive funding from Horizon 2020.
 4. Legal entities established in countries not listed above will be eligible for funding when such funding is explicitly foreseen in the relevant call text.

⁸ In particular, including EUROCONTROL's Maastricht Upper Area Control Centre (MUAC)

⁹ Entities from Overseas Countries and Territories (OCT) are eligible for funding under the same conditions as entities from the Member States to which the OCT in question is linked.

¹⁰ Signed an agreement with the Union as identified in Article 7 of the Horizon 2020 Regulation.

¹¹ http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/international-cooperation_en.htm.

5. In addition, legal entities established in countries not listed above and international organisations will be eligible for funding:
- A) When funding for such participants is provided for under a bilateral scientific and technological agreement or any other arrangement between the Union and an international organisation or a third country,
- or:**
- B) When the SJU deems participation of the entity essential for carrying out the action funded through Horizon 2020. This means in particular for SESAR when:
- (a) The non-EU country concerned has signed at least one aviation agreement with the European Union;
 - (b) The participation of the entity concerned adds value to SESAR 2020 and to the European Union actions. Such added value shall be assessed on the basis of the following elements:
 - Operational and technical continuity of the European airspace (in particular, but not limited to, in the context of the Functional Airspace Blocks – FABs): this concerns in particular countries which have signed the ECAA Agreement and Iceland, Norway, Morocco, Switzerland. These countries are part of the Single European Sky and therefore they should be fully part of SESAR;
 - Technological partnerships: this concerns in particular countries participating in Research Framework Programmes, which are natural technological partners of Europe; Organisations or undertakings around the world which have a technological partnership with European industry should also be considered in this category, in order to promote global interoperability;
 - Market access: For emerging countries which will need to invest into new technologies; These countries represent considerable market opportunities for European aviation industry;
 - Competence/expertise of the third country entity;
 - Access to research infrastructure, to particular geographical environments and to data.
 - (c) An equivalent programme to SESAR exists in the non-EU country; reciprocity in terms of access for European industry to equivalent funding possibilities is an absolute necessity.
 - (d) The transfer of technological know-how should benefit the European society in terms of building European technological competence and creating jobs in Europe. Transfers of know-how to third country members should be managed by the European members.

(d) Selection criteria

a. Financial capacity

In line with the SJU Financial Rules and the H2020 Rules for Participation, at the proposal stage, coordinators will be invited to complete a self-assessment using an on-line tool.

b. Operational capacity

As a distinct operation carried out during the evaluation of the award criterion '*Quality and efficiency of the implementation*', experts will indicate whether the participants meet the selection criterion related to operational capacity, to carry out the proposed work, based on the competence and experience of the individual applicant(s).

¹² These are international organisations, the majority of whose members are Member States or associated countries, and whose principal objective is to promote scientific and technological cooperation in Europe.

(e) Evaluation - Award criteria

Experts will evaluate eligible proposals on the basis of the award criteria 'Excellence', 'Impact' and 'Quality and Efficiency of the Implementation'.

The aspects to be considered in each case depend on the types of action (i.e., respectively defined for SESAR 2020 Transversal Activities, Industrial Research & Validation Activities and Very Large Scale Demonstrations Activities) as set out in tables 1, 2 and 3 below.

a. Table 1 - SESAR 2020 Transversal Activities

Type of Actions	Excellence <i>The following aspects will be taken into account, to the extent that the proposed work corresponds to the topic description</i>	Impact <i>The extent to which the outputs of the project should contribute at the European and/or International level to the expected impacts listed under the relevant topic</i>	Quality & efficiency of the implementation <i>The following aspects will be taken into account:</i>
Coordination and Support Actions (CSAs)	1. Clarity and pertinence of the proposal: objectives, scope, problem statement and requirements defined in the Description of Work are well understood and fully addressed. 2. Clarity and pertinence of the Concept and proposed approach. The project will build upon results from transversal activities undertaken in SESAR 1. Applicants have explained their assumptions, and how they will ensure the use of previous results,	1. The expected impact on the Programme and on the Solution Projects is clearly described. 2. Effectiveness of the proposed communication activities for promoting the projects and its outcome.	1. Coherence and effectiveness of the work plan considering in particular its integration within the overall Programme lifecycle (Compliance with SESAR 2020 Programme Executive Guidance is required) 2. Appropriateness of the management structure and procedures including complementarity of the participants within the Project (Compliance with SESAR 2020 Programme Executive Guidance is required). 3. Relevant technical expertise in the area related to the project and quality of the proposed Transversal Activity Coordinators CVs 4. Consistency between the expected project results and the estimated budget.
	Weight: 100 %	Weight: 100 %	Weight: 100 %
	Maximum Scoring: 40/100	Maximum Scoring: 20/100	Maximum Scoring: 40/100
	Threshold: 20/40	Threshold: 10/20	Threshold: 20/40

b. Table 2 - Industrial Research & Validation Activities

Type of Actions	Excellence <i>The following aspects will be taken into account, to the extent that the proposed work corresponds to the topic description</i>	Impact <i>The extent to which the outputs of the project should contribute at the European and/or International level to the expected impacts listed under the relevant topic</i>	Quality & efficiency of implementation <i>The following aspects will be taken into account:</i>
Research Innovation Actions (RIAs)	1. Clarity and pertinence of the proposal: objectives, scope, problem statement and requirements defined in the Description of Work are well understood and fully addressed. 2. Clarity and pertinence of the concept and proposed approach 3. The project will build upon results from previous research, including SESAR 1 projects. Applicants have explained their assumptions, and how they will ensure the use of previous results.	1. The expected impact on SESAR performance benefits as outlined in the European ATM Master Plan is clearly described. 2. The proposal clearly explains to what extent the project contributes to the related standardization activities (when relevant). 3. The proposal clearly explains Effectiveness of the proposed communication activities for promoting the projects and its outcome.	1. Coherence and effectiveness of the work plan considering in particular its integration within the overall Programme lifecycle (Compliance with SESAR 2020 Programme Executive Guidance is required) 2. Appropriateness of the proposed management structure and procedures, including complementarity of the participants within the Project (Compliance with SESAR 2020 Programme Executive Guidance is required). 3. Relevant technical expertise in the area related to the project, quality of the proposed Project Manager CV. 4. Consistency between the expected project results and the estimated budget.
	Weight: 100 %	Weight: 100 %	Weight: 100 %
	Maximum Scoring: 40/100	Maximum Scoring: 20/100	Maximum Scoring: 40/100
	Threshold: 20/40	Threshold: 10/20	Threshold: 20/40

c. Table 3 - Very Large Scale Demonstration Activities

Type of Actions	Excellence <i>The following aspects will be taken into account, to the extent that the proposed work corresponds to the topic description</i>	Impact <i>The extent to which the outputs of the project should contribute at the European and/or International level to the expected impacts listed under the relevant topic</i>	Quality & efficiency of the implementation <i>The following aspects will be taken into account:</i>
Innovation Actions (IAs)	1. Clarity and pertinence of the proposal: objectives, scope and requirements defined in the Description of Work are well understood and fully addressed in the Proposal. 2. Clarity and pertinence of the Concept and proposed	1. The expected impact on the Programme in terms of generating buy-in and bringing SESAR performance benefits as outlined in the European ATM Master Plan is clearly described. 2. The proposal clearly	1. Coherence and effectiveness of the work plan considering in particular its integration within the overall Programme lifecycle (Compliance with SESAR 2020 Programme Executive Guidance is required)

Type of Actions	Excellence <i>The following aspects will be taken into account, to the extent that the proposed work corresponds to the topic description</i>	Impact <i>The extent to which the outputs of the project should contribute at the European and/or International level to the expected impacts listed under the relevant topic</i>	Quality & efficiency of the implementation <i>The following aspects will be taken into account:</i>
	approach 3. Added value to the SESAR Programme and benefits in bridging R&I towards deployment are clearly described (ambition)..	explains to what extent the project contributes to the related standardization activities (when relevant). 3. Effectiveness of the proposed communication activities for promoting the projects and its outcome.	2. Appropriateness of the proposed management structure and procedures, including complementarity of the participants within the Project (Compliance with SESAR 2020 Programme Executive Guidance is required). 3. Relevant technical expertise in the area related to the project, quality of the proposed Project Manager CV 4. Consistency between the expected project results and the estimated budget.
	Weight: 100 %	Weight: 100 %	Weight: 100 %
	Maximum Scoring: 40/100	Maximum Scoring: 20/100	Maximum Scoring: 40/100
	Threshold: 20/40	Threshold: 10/20	Threshold: 20/40

(f) Types of action: specific provisions and funding rates

a. Research and Innovation Actions

Under its extended Development Phase, a number of research and innovation activities will be performed. These activities are aiming at researching developing technological innovation in the area of the Air Traffic Management. Therefore, Industrial Research & Validation are considered to be Research and Innovation Actions.

In accordance with preamble (24) and Article 28 (3) of the H2020 Rules for Participation, eligible costs of Research and Innovation (RIAs) will be reimbursed according to a single reimbursement rate of 70%.

This single co-financing rate will also apply to non-profit entities.

In accordance with Article 29 (1) of the H2020 Rules for Participation Indirect costs are subject to a flat-rate of 25 % of the direct eligible costs.

b. Innovation Actions

Under its extended Development Phase, a number of innovation activities will be performed. These activities are aiming at demonstrating technological innovation in the area of the Air Traffic Management. Therefore, Very Large Scale Demonstrations are considered to be Innovation Actions.

In accordance with preamble (24) and Article 28 (3) of the H2020 Rules for Participation, eligible costs of Innovation (IAs) will be reimbursed according to a single reimbursement rate of 70%.

This single co-financing rate will also apply to non-profit entities.

In accordance with Article 29 (1) of the H2020 Rules for Participation Indirect costs are subject to a flat-rate of 25 % of the direct eligible costs.

c. Coordination and Support Actions

In order to provide for coordination and guidance to the whole SESAR programme, integrate ideas from SESAR Exploratory Research results and provide an integration role across phases and key features a number of transversal activities are foreseen. These actions mainly cover activities related to:

- the maintenance of the European ATM Master Plan,
- design and integration of new operational and technical infrastructure into a modernised European ATM system,
- coordination and support to validation and demonstration activities,
- coordination and support to standardisation definition, etc.

Therefore, Transversal Activities are considered to be Coordination and Support Actions.

In accordance with preamble (24) and Article 28 (3) of the H2020 Rules for Participation, eligible costs of Coordination and Support Actions (CSAs) will be reimbursed according to a single reimbursement rate of 70%.

This single co-financing rate will also apply to non-profit entities.

In accordance with Article 29 (1) of the H2020 Rules for Participation Indirect costs are subject to a flat-rate of 25 % of the direct eligible costs.

(g) Implementation

The IR/VLD CFP will be managed by the SESAR Joint Undertaking under direct management.

a. IPR

All members of the SJU as beneficiaries of the complementary grants awarded by the SJU shall commit to the SJU mission and vision detailed in the SESAR 2020 Multi-Annual Work Programme, within the wider context of the Single European Sky (SES) policy. Both development and deployment elements of the EU's SESAR Project are integral to the wider implementation of SES. The SJU will secure the necessary commitment from its members for the development phase.

To enable continuity from SESAR 1 to SESAR 2020 and to meet the objectives of coordinating and concentrating research in ATM there must therefore be an understanding and commitment between the Members and with other third parties involved for the performance of the grant actions (SESAR Actions) that access rights to results generated under the SESAR Actions and to the background technically essential to their use should be granted for at least the following purposes:

- To enable a seamless flow of relevant information between SESAR Actions identified in SJU's annual and multi-annual work programmes for the benefit of the wider SESAR Project objectives;
- To ensure their usage in the context of the obligations of the SJU with regard to the execution and maintenance of the European ATM Master Plan;
- To facilitate their proper channeling through the SJU to the relevant standardisation and/or deployment activities.

In order to achieve this, and comply with its founding regulation, the SJU will put in place, within the framework of the PPP and model grant agreements, specific mechanisms covering exploitation (additional exploitation rights may be detailed in each technical Annex of each relevant grant agreement) and access rights to results generated under SESAR Actions and to the background technically essential to their use under the SESAR Project. These mechanisms shall comply with Title 3 of Regulation 1290/2013, Article 18 of the SJU Statutes that stipulate that the SJU shall own all the tangible and intangible assets created by the Joint Undertaking or transferred to it for the development phase of SESAR and aim to guarantee that:

- the intellectual property generated during the SESAR Development phase by the SJU and its Members is protected,
- the resulting knowledge is used and disseminated, and that
- adequate access rights are given to the SJU, its Members and any third party involved for the performance of the SESAR Actions including achievement of the objectives set out in the European ATM Master Plan, standardisation roadmaps and SJU participation to standardisation process.

The SJU shall receive in particular access rights for:

1. technical specifications (documents approved by the SJU upon recommendation of the Programme Committee which provides the necessary details about a specific operational and technical requirement for repeated or continuous application, with which compliance is not compulsory),
2. validation reports (i.e. deliverables which contributes to the validation of operational threads ensuring overall consistency with the Programme) as well as on
3. standards and norms proposals: i.e. documents which define, amongst other, uniform technical and/or operational Specifications for engineering or technical criteria, configurations, materials, equipment, methods, procedures and practices, and aim ultimately at ensuring interoperability of air traffic management systems in Europe and at enhancing Air Traffic Management capabilities in Europe, such as safety, capacity, security, environment, which may become compulsory upon approval and adoption of the duly empowered authority.

The SJU Members and beneficiaries of grants awarded by the SJU shall give each other access on a royalty free basis the declared background and results needed to implement their own tasks under an SJU Action for the full duration of the SESAR Project. The SJU shall also anticipate and allow for coordination with the Deployment phase activities taking into account the role of the Deployment Manager.

The required elements of this arrangement will be explicitly added to the Multi-beneficiary Grant Agreement.

3.5.2 Conditions for the SESAR 2020 Exploratory Research Call

(a) Call identifier:

H2020-SESAR-2015-1

(b) Publication date:

19/03/2015

(c) Deadline:

25/06/2015 at 17:00:00 (Brussels local time) – (single stage call)

(d) Indicative Budget:

EUR 20 600 000¹³

Budget 2015	Commitment	Payment
B03100 'Studies/Development Conducted by the SJU	EUR 20,600,000	EUR 10,000,000

(e) Activities covered by this call

Please refer to Administrative Board Decision ref. ADB(D)02-2015 adopted on 20 March 2015 attached hereto as Annex VIII

(h) Indicative timetable for the evaluation and grant agreements

Information on the outcome of the evaluation	Indicative date for the signing of the grant agreements
Maximum 5 months from the final date for submission	Maximum 8 months from the final date for submission

(f) Admissibility conditions for grant proposals and related requirements

Please refer to Administrative Board Decision ref. ADB(D)02-2015 adopted on 20 March 2015 attached hereto as Annex VIII

(g) Eligibility criteria

Please refer to Administrative Board Decision ref. ADB(D)02-2015 adopted on 20 March 2015 attached hereto as Annex VIII

(h) Selection criteria

Please refer to Administrative Board Decision ref. ADB(D)02-2015 adopted on 20 March 2015 attached hereto as Annex VIII

(i) Evaluation - Award criteria

Please refer to Administrative Board Decision ref. ADB(D)02-2015 adopted on 20 March 2015 attached hereto as Annex VIII

(j) Types of action: specific provisions and funding rates

Please refer to Administrative Board Decision ref. ADB(D)02-2015 adopted on 20 March 2015 attached hereto as Annex VIII

(k) Implementation

Please refer to Administrative Board Decision ref. ADB(D)02-2015 adopted on 20 March 2015 attached hereto as Annex VIII

¹³ This figure refers to the EU funding only.

4. HORIZONTAL AND SUPPORT ACTIVITIES

4.1 Communication

In order to ensure the necessary buy-in from a wide range of stakeholders, the SJU believes that communication must be truly integrated into the overall framework of SESAR. The success of the Programme, and the achievement of the Programme's results, relies heavily on a strong communications plan to ensure that key messages are disseminated to the right audiences, at the right time using the right vehicles.

2015 is a critical year for the SJU, which will launch SESAR 2020, while also ensuring that the work continues according to plan within the current programme until 2016. A Deployment Manager (section 5.10) was set up in 2014 to deploy the ATM functionalities identified in the Pilot Common Project (PCP). Mindful of these developments, SJU communications will implement a revised communications plan in 2015 to ensure a smooth transition of SESAR from the current programme to SESAR 2020, acknowledging the changes recommendations provided from a stakeholder perception assessment.

The SJU will implement the revised communications plan, developing several activities:

- Illustrate and showcase the solutions that the SESAR Research and Innovation Programme is already delivering and the tangible benefits that they bring to the aviation industry and society as a whole.
 - Organisation of SESAR solutions workshop (topic/location to be decided), building upon the lessons learned from the Remote Tower Services workshop in Dublin in 2014.
 - Further development of the SESAR Solutions portal on the SJU website, enhancing search and content.
 - Development of communications guidelines and criteria for SESAR projects.
- Extend awareness-raising and outreach on SESAR Research and Innovation Programme in order to secure stakeholders commitment and bring SESAR solutions to the next level of capability
 - Organisation of joint activities with the Deployment Manager and SESAR members at key events, such as at the 2015 World ATM Congress.
 - Development of online and printed communications material targeting specific ATM stakeholders.
 - Ensure SESAR visibility at high level events, such as the World ATM Congress and ATC Global.
 - Promotion of the launch of the SESAR large scale demonstration projects.
- Promote SESAR Research and Innovation Programme as an integral part of the day-to-day aviation world, leveraging on its role in making the Single European Sky a reality.
 - Organisation of event to kick-start review of the European ATM Master Plan (16 December 2014), building a communications package of videos and literature about the Plan.
 - Organisation of regular information sessions with staff of the Directorate General for Transport and Mobility (DG MOVE), offering introduction to SESAR, updates on latest solutions and opportunities to meet with ATM experts.
- Enhance the partnership spirit of the SJU through communications activities with SJU staff and SESAR experts.
 - Organisation of monthly SJU staff informal meeting and team building activities, inviting SESAR ATM experts to speak where possible.
 - Enhancement of the SJU intranet and extranet to ensure efficiency and consistency of messaging among SJU staff and SESAR ATM experts.

Budget 2013	Commitment	Payment
Chapter 2.3 – EUR Mio	0.3	0.3

4.2 Coordination with Other Programmes

During the reporting period the SJU will continue to engage with the Commission as a technical enabler in matters relating to international relations within the context of the EU's external aviation policy framework. As such, SJU will continue to strengthen partnerships with stakeholders in policy areas of mutual interest, seeking to coordinate and exchange experience and knowledge with identified partners and to formalise such relationships through the signature of appropriate Memoranda of Cooperation (MoC) with relevant bodies. In particular, in 2016 it will continue to establish and develop relations with public and private sector organisations, coordinating with other ATM actors and states in other International Civil Aviation Organisation (ICAO) regions to prepare and validate interoperability standards and other relevant technical agreements.

Particular importance will be given, like in past years, to Eurocontrol non EU countries, in order to ensure an appropriate level of engagement from these countries. During 2015 the issues of global interoperability standards are of increased interest in the light of the ICAO Global Air Navigation Capacity and Efficiency Plan with the Aviation System Block Upgrades. For this reason particular importance will be given to States in other ICAO regions to set up bilateral discussions in order to prepare, coordinate and demonstrate/validate interoperability standards inputs to ICAO and Industry standardisation bodies. Key programmes and stakeholders that will play a large part in developing this policy framework are outlined below.

The SJU has coordinated the European ATM Master Plan and Programme view with the FAA in areas and topics where it is essential to harmonise towards industry and ICAO standards provisions to support both the development and deployment of SESAR Solutions to progress overall global interoperability.

The principal agreement with the FAA is to have clear and concrete harmonised, supporting or joint positions on standards and their implementation timelines. There are areas of the harmonisation that through the MoC work has proven more imminent than others because of the global interoperability issue. The working method in 2015 will therefore be to give the appropriate focus to areas with issues that need to be resolved in a time-synchronised manner to avoid unnecessary delays in the respective programmes and at ICAO or Industry Standardisation bodies. In this context we have agreed with the US to look into reaching agreements and to support one another in particular in the areas of:

- ATM Architecture
- Re-categorisation of wake turbulence separation criteria
- Cyber security issues in ATM
- RPAS integration
- Data communications in the 4D Trajectory based concept
- SWIM information and services
- Collaborative projects relating to SWIM and i4D

Clean Sky includes within its current scope two aspects of key interest for SESAR: the airborne flight management and trajectory as well as environmental modelling to demonstrate the improvement that is expected from the Clean Sky vehicle technology developments. SESAR currently has a complementary operations-focused environmental programme of work and develops environmental modelling in Work Package 16 as well as Airborne trajectory management and communications improvements in Work Packages 9 and 15.

During 2015 and the launch of the SESAR2020 Programme it will be essential to find a way to introduce effective coordination between the two programmes, in particular, avoiding overlaps where technologies to be developed are similar and facilitating information flows to communicate requirements as some systems developed by Clean Sky 2 (e.g. cockpit and avionics) can be based on SESAR developments.

The SJU is an active member of ACARE and this participation will continue in 2015 with contributions to the General Assembly, Strategy & Integration Board, Implementation Monitoring Group as well as Working Group 1. The SJU shall during 2015 prioritise its on-going participation to ensure ACARE can provide advice and a coordination platform for the SJU, aligned with the EC role and participation. The results and documentation developed in the context of ACARE (SRIA) have been used to inform and influence the content proposed to be included as part of the SESAR2020 programme.

EUROCAE: the clear importance of a close link between SESAR and standardisation bodies has been particularly highlighted in the PCP experience. Consequently, the SJU will continue to coordinate closely with EUROCAE through membership of the Technical Committee and Council. Direct liaison with the EUROCAE secretariat is also expected in order to coordinate the anticipated SESAR programme contributions towards active and planned EUROCAE standardisation groups and activities. Some direct participation to working groups is anticipated on subjects of specific importance (e.g. Remote towers, ACAS X, Datacom, etc.). The SJU shall support EUROCAE in its new coordination function for standards, replacing the previous ATMSCG coordination.

During 2015, ICAO will prepare an update of the ICAO Global Air Navigation Capacity and Efficiency Plan (GANP) and alignment with the update campaign of the European ATM Master Plan will have to be ensured. The SJU will therefore continuously work with global partners on pushing and supporting on key topics and their priorities to gain the most value of the SESAR work into ICAO. This will safeguard SESAR solutions and European industry products and procedures as globally interoperable means of compliance to standards and enablers at the global level. The SJU will also have a focus on global demonstration activities dedicated to global interoperability as described in the European Working Paper to the ICAO GA38.

Furthermore, the specifically tailored multidisciplinary work group initiated by ICAO for the establishment of operational and economic incentive principles will in early 2015 present their result of possible ICAO amendments or guidelines needed to which the SJU together with the EC, Eurocontrol and the FAA have made substantial inputs as a result of the initiative of Most-Capable-Best-Served as launched by the SJU already in 2010, then coordinated with the FAA and presented to ICAO at ANC/12 and ATConf/6. During 2015 the SJU will continue to pursue this issue in coordination with the EC for use in the SESAR2020 work programme and deliverable activities as well as for embedding as necessary in the European ATM Master Plan business views.

European Aviation Safety Agency (EASA): EASA will have an increasing role in the contribution to SESAR on the regulatory domain. During 2015, it is foreseen to involve EASA participation in a range of activities spanning from analyses of deliverables to involvement in SESAR high level activities such as:

- Regulatory and standardisation aspects
- Datalink regulatory and technical issues
- Future areas of research for ATM Safety
- RPAS
- Certification and approval of new concepts such as Remote Towers, SWIM, GNSS operations and GBAS related activities
- Demonstrations and Large Scale Demonstration

It is expected to agree on an updated Letter of Agreement to provide a basis for all of those activities during 2015.

European Space Agency: In the context of the SESAR Programme, in particular some of the Work Package 15 projects (SatCom datalink) and the previous OPTMI and SAT-OPTIMI initiatives, there are technical (requirements and solution development), financial (operating costs estimation) and organisational (respective mandate) reasons to maintain a strong on-going relationship with the European Space Agency (ESA).

The SJU and ESA, through the IRIS programme, have already established a productive working arrangement where ESA staff and their contractors have actively participated in SJU Projects relevant to them, and SJU staff and project participants meet to exchange relevant information. The SJU also participates directly to the Joint Iris Advisory Committee.

In support of the approach to investigate Inmarsat options for SatCom to support ATM datalink for i4D services, the SJU has launched during 2014 a new Project to complement the work funded by ESA on the subject, thus enabling the integration of the i4D over SatCom capability with other i4D developments in SESAR and a validation assessment to be made, leading to later demonstrations. This work will continue in 2015 and provides a possible alternative or complementary datalink capability to the AEROMACS and VDL2 airport and terrestrial datalink capabilities.

European Defence Agency: under the Working arrangements SJU/EDA (April 2012), EDA is playing an increasing role in the contribution to SESAR on matters related to military aspects or domains in the SESAR programme. In order to ensure the adequate military input, EDA provides the commitment of its participating Member States and the Military international organisations, as well as relevant political level(s) to buy-in the results of the

SESAR Programme. Furthermore, in addition to the Military ATM Board (MAB) focused contribution, EDA may provide its expertise or organise the necessary fora where to gather the necessary results on specific areas, in coordination with the SESAR JU.

Additionally, during 2015, appropriate cooperative arrangements with the Deployment Manager will be established recognizing that some members and/or contributing partners of SJU are most likely to be also partners in the deployment manager as consortium members. These dual roles and responsibilities will be duly considered. The cooperative arrangements will aim at:

- ensuring alignment between the Deployment Programme and the European ATM Master Plan; in particular the Deployment Manager shall coordinate with the SJU in developing and maintaining the Deployment Programme;
- putting in place the necessary arrangements to handle a possible transition process for SESAR Deployment reporting mechanisms (ESSIP/LSSIP vs. SESAR Deployment reporting through the Deployment Manager). This possible transition should be sound and effective and should avoid any duplication of reporting effort.
- coordinating on the preparation or amendments of the European ATM Master Plan and Common Projects, based on the lessons learnt and best practices resulting from the deployment management;
- coordinating on the follow-up of critical standardisation activities;
- taking into account in developing and maintaining the Deployment Programme the European ATM Architecture as developed by SJU;
- exchanging information on the reference and supporting material in particular in view of de-risking the industrialisation phase (e.g. access to the documents referenced, collection of additional information, improvement of the content of future SESAR releases based on lessons learnt, etc.);
- exchanging information with regards to emerging Research & Innovation needs in particular to ensure an effective bridging of the R&D and deployment activities;
- providing information on interoperability, in particular in relation to NextGen.
- coordinating on SESAR communication opportunities.

Add sub-section in international agreements with Japan, UAE, Singapore and Mexico

4.3 Other Support Activities

4.3.1 Finance and Administration

Administration & Finance will continue to support the Programme implementation by ensuring the timely availability of the necessary resources, human and financial, and by providing the necessary internal control aiming at the respect of the principle of sound financial management and the legality of the underlying transactions.

In particular the SESAR 1 Programme closing at the end of 2016 will entail already in 2015 actions in strict cooperation with the operations to ensure proper and effective projects closing.

Furthermore Administration & Finance will participate to the preparation and launch of the SESAR 2020 BAFO (see section 3.2.2) which include the review and update of the Multilateral Framework Agreement and the Membership Agreement, based on the current contractual /financial framework of operations, to align with the general principles of Horizon 2020.

In 2015 actions will be implemented to prepare for the financial management of the two programmes clearly separating the respective data in the financial system and aiming at exploiting possible efficiency gains in term of administration resources use.

4.3.2 Programme Implementation Support

By the end of 2014 the SJU will have pre-financed all the Programme projects with an overall disbursement of about EUR 6.6 million (EUR 3.5 million already disbursed and 3.1 million estimated before year end) in 2014 for a cumulative amount of EUR 94.8 million since 2009. No Pre-financing is planned in respect of the current Programme, however, it should be noted that the Draft Budget 2015 includes EUR 35 million of payment

appropriations which could be disbursed EUR 25 million as Pre-financing to SESAR 2020 projects during the ramp-up phase and EUR 10 million for Exploratory Research.

Within the Interim Financial Statements process, SJU Members will provide the requested documentation in May 2015, including eligible costs incurred by the Members during 2014. Internal procedures ensure that the operational and financial requirements are satisfied in respect of the acceptance of contractual deliverables.

According to the provision of the MFA, the projects co-financing is granted to the Members on the basis of the Certified Interim Financial Statements referring to the incurred costs related to accepted deliverables and work in progress. In this respect and on the basis of the Certified Interim Financial Statements, the SJU estimates to disburse by the end 2014 EUR 73.4 million to the Members as co-financing which brings the total co-financing since 2010 up to EUR 270.3 million.

Furthermore the SJU plans to disburse EUR 46.7 million in 2015 (this amount includes the effect of the Pre-financing disbursed which together with the co-financing cannot exceed the limitation of 80% of the Member maximum co-financing (MFA schedule 14) until the presentation of the Programme Certified Final Financial Statement).

The processes for the deliverables acceptance and payment authorisation are described in the Financial Circuits and have been further refined on the basis of the experience matured; they ensure full compliance with the terms of the Financial Rules necessary to receive financing from the European Union budget. The level of quality of the Interim Financial Statements and timely submission of documentation are a conditions to speed up the verification and control by SJU administration; the progress made both by the Members in this respect and the improvement led by experience by the SJU in managing the internal process have made the objective to finalise all the co-financing requests by the end of 2014 achievable.

Financial Initiation and Verification functions are performed respecting the four eyes principle with a clear separation of responsibilities. The process is supported by the use of the ABAC system. The delegation of authority for budget implementation and the assignment of Initiating and Verifying functions to staff ensure the necessary resources to implement the processes providing adequate segregation of functions and accountability of the actors involved.

Administration/IT will provide coordination to the improvement of the SJU's Document Management System, within the EU framework contract, to support the management of the SESAR R&I Programme 2020. It complements and facilitates the use of the tools made available by the European Commission Services, aiming at increasing efficiency through an extensive review and upgrade including system's governance, policy, staff training and tools.

5. PROGRAMME REPORTING AND CONTROL

5.1 Annual Activity Report

The Annual Activity Report (AAR) will present the progress made by the SJU JU in each calendar year, in particular in relation to the Annual Work Programme for that year.

This AAR has several purposes. It seeks to evidence progress toward achieving the SJU's key objectives as defined in its annual work programme, taking into account resources used during the reporting period. It also seeks to outline management and oversight systems in place at the Agency, including defining progress toward implementation of the European Commission's Internal Control Standards.

Lastly, the AAR also includes a declaration of assurance in which the Executive Director, in his role as Authorising Officer, provides assurance as regards the true and fair view given by the report and pertaining to the legality and regularity and the sound financial management of all financial transactions under his responsibility.

The 2015 AAR, together with the annual accounts and balance sheets, will be presented in early 2016 to the Administrative Board by the Executive Director. Once approved by the Governing Board, it will be published.

5.2 Management and Internal Control Procedures

5.2.1 Project Audit Assurance

The Project Audit Sector supports SJU Members to achieve the overarching result of maximising the benefit of the resources available for the Programme by raising awareness of best practice, guiding in the better implementation of the SJU Rules, MA, MFA and contributing to the proper, economic, efficient use of the resources.

In strict cooperation with operational functions, the Project Auditors are responsible for checking the compliance with the principle of sound financial management. In line with the Ex-Post Project Audit Strategy, approved by the ADB in December 2010 as revised in December 2013 and the Project Audit Annual Plan, 15 audits were planned for 2014, out of which 12 were performed by the first half of 2014, 1 was shifted to desk review and was launched in June, 1 can only be performed by the National Authority of the audited company, and the request was launched in June and 1 will be cancelled from the current Work Order.

The SJU started the activities necessary to design, develop and implement Performance Audits to assess the effectiveness, efficiency and economy of the SESAR Project results. These activities are part of the Project Audit Strategy. The results of the first pilot Performance Audit concerning Remote Towers are expected by the end of the year.

The Project Audit Annual Plan will be established and submitted for approval to the Executive Director before 2015, so that some of the audits can be already finalised at the beginning of 2015 as a result of discussions with the ECA. The Plan will contain:

- The completion of the audits of Batch 4
- The selection for the audits of Batch 5 concerning the IFS2013 in late 2014
- The completion of the Performance Audit on projects 06.09.03 and 12.04.07 which was launched during the second semester of 2013
- Audits of contracts for Demonstration Activities
- Supervision of the audits of Eurocontrol on WPE and WP11.

As the current Framework Contract for Auditing Services expired in April 2014, a new call for a Framework Contract for Auditing Services is currently under way.

5.2.2 Implementation of Internal Control Standards

The SJU applies Internal Control Standards for effective management derived from the Communication of the European Commission "Revision of the Internal Control Standards and Underlying Framework Strengthening

Control Effectiveness” SEC (2007) 1341. This provides the SJU’s management and staff with a clear set of standards to comply with in performing their activity. The SJU management and staff are effectively implementing the standards, by developing and applying internal control processes and procedures. During 2015 the SJU will continue to assess the level of compliance with ICS and identify areas for improvements.

5.2.3 Risk Management

SJU’s risk management system developed is organised on different levels, from projects to program with a recurring process of risk identification, mitigating actions definition and results assessment. The related activities will continue in 2015 in line with the requirements of the European Commission concerning risk management contained in the Communication SEC (2005) 1327.

5.2.4 Internal Audit and audit co-ordination

Following the Administrative Board Decisions taken in 2010¹³ the European Commission’s internal auditor (IAS) undertakes the overall responsibility of being the SJU Internal Auditor. An Internal Audit Capability (IAC) has been established under the authority of the Executive Director to undertake audits planned in co-ordination with the Internal Audit Service of the European Commission.

The Internal Audit Work Programme of 2015 will be based on a risk assessment that will be carried out jointly by the IAS and the IAC in November 2014 (it was not finalized at the time of this report). The outcome of this risk assessment will be a Coordinated IAS-IAC Strategic Audit Plan for a four year period 2015-2018. This plan will be presented to the Administrative Board for adoption.

5.2.5 Co-ordination and oversight of public audit functions

The SJU Permanent Audit Panel established by the Administrative Board in 2008¹⁴ co-ordinates the activities of the audit and control functions of the SJU’s Founding Members and advises the Administrative Board on audit related matters. The SJU IAC also participates in the Auditnet for Agencies established by the IAS to share tools and methodology and to co-ordinate the work of IACs in implementing the Coordinated IAS Strategic Plan.

The SJU has recruited one full-time internal auditor in 2012 to fulfil the Internal Audit Capability (IAC) function. The IAS provides audit tools and guidance on methodology through its Auditnet for Agencies. The costs of the internal auditors from the IAS are borne by the General Budget of the European Union and not the SJU. Therefore resource requirements in 2015 are expected to be maintained at the level of previous years.

Projects in Execution Phase - 2015 Planned Delivery

03.00

Mgt

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Global Co-ordination and Management	D01-005	WP3 Coordination Meeting Report	27/08/2015
Global Co-ordination and Management	D02-005	WP3 Management and Communication Plan	03/02/2015
Global Co-ordination and Management	D07-004	WP3 Dissemination Material	31/12/2015
Global Co-ordination and Management	D09-003	WP3 Deliverable Review Report	29/01/2015
Global Co-ordination and Management	D11-006	WP3 IMS quarterly dump for Q2-2015	30/06/2015
Global Co-ordination and Management	D11-007	WP3 IMS quarterly dump for Q4-2015	31/12/2015
Global Co-ordination and Management	D13-003	Release 5 SE#2 Review Report	31/12/2015

03.01

Mgt

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Validation Infrastructure Requirements Definition	D06-003	WP3.1 Deliverable Review Report	15/01/2015

03.01.01

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Validation and Verification Needs	D02	Project Close-Out Report	03/12/2015
Validation and Verification Needs	D14-001	2015 V&V User Requirements Document - Q1	31/03/2015
Validation and Verification Needs	D14-002	2015 V&V User Requirements Document - Q2	30/06/2015
Validation and Verification Needs	D14-003	2015 V&V User Requirements Document - Q3	30/09/2015
Validation and Verification Needs	D14-004	2015 V&V User Requirements Document - Q4	16/12/2015
Validation and Verification Needs	D15	2015 In Service Support Report	16/12/2015

03.01.03

R&D

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Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
V&V Platform System Requirements	D17	V&VP Engineering Data Management Report 2014	16/01/2015
V&V Platform System Requirements	D20-004	V&VP System Requirements Document Q4-2014	16/01/2015
V&V Platform System Requirements	D23-002	V&VP Technical Acceptance Test Plan Q3&Q4-2014	16/01/2015
V&V Platform System Requirements	D60	AIRBUS support to P03.03.01 Activity Report 2014	16/01/2015
V&V Platform System Requirements	D63	V&VP System Requirements Document Q1-2015	17/04/2015
V&V Platform System Requirements	D64	V&VP System Requirements Document Q2-2015	17/07/2015
V&V Platform System Requirements	D65	V&VP System Requirements Document Q3-2015	11/09/2015
V&V Platform System Requirements	D69	V&VP Technical Acceptance Test Plan Q1&Q2-2015	17/07/2015

03.02

Mgt

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Validation Infrastructure Analysis	D06-003	WP3.2 Deliverable Review Report	15/01/2015

03.02.02

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
IBPs Use Planning	D09-002	2014 Golbal Optimization Final report	01/01/2015
IBPs Use Planning	D10-001	2015 Evolution Plan 1st draft	15/07/2015
IBPs Use Planning	D10-002	2015 Evolution Plan Final	31/12/2015
IBPs Use Planning	D12-001	2015 Global Optimization report 1st draft	15/07/2015
IBPs Use Planning	D12-002	2015 Golbal Optimization Final report	31/12/2015
IBPs Use Planning	D16-002	Information Management Report (operational_management view) for 2015	31/12/2015
IBPs Use Planning	D17-001	Report on ENAV support to P03.03.01-Activity 2014	16/01/2015
IBPs Use Planning	D17-002	Report on ENAV support to P03.03.01-Activity 2015	31/12/2015

03.03

Mgt

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Tools Development and Acceptance	D06-003	SWP03.03 Deliverable Review report	15/01/2015

03.03.01

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
V&V Platform architecture and specifications	D15-004	V&VP Architecture Description & Tool Specification - 2014 Q4	15/01/2015
V&V Platform architecture and specifications	D17-004	V&VP Integration Plan - 2014 Q4	15/01/2015
V&V Platform architecture and specifications	D18-001	V&VP Architecture Description & Tool Specification - 2015 Q1	15/04/2015
V&V Platform architecture and specifications	D18-002	V&VP Architecture Description & Tool Specification - 2015 Q2	15/07/2015
V&V Platform architecture and specifications	D18-003	V&VP Architecture Description & Tool Specification - 2015 Q3	15/10/2015
V&V Platform architecture and specifications	D20-001	V&VP Integration Plan - 2015 Q1	15/04/2015
V&V Platform architecture and specifications	D20-002	V&VP Integration Plan - 2015 Q2	15/07/2015
V&V Platform architecture and specifications	D20-003	V&VP Integration Plan - 2015 Q3	15/10/2015
V&V Platform architecture and specifications	D23	Support to Project 03.01.03 Report 2014	15/01/2015

03.03.02

R&D

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Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
V&V Platform Development	D15-003	V&VI Software Material for Q1-2015	30/03/2015
V&V Platform Development	D15-004	V&VI Software Material for Q4-2015	30/12/2015
V&V Platform Development	D16-003	Integration Report for Q1-2015	30/03/2015

V&V Platform Development	D16-004	Integration Report for Q4-2015	30/12/2015
V&V Platform Development	D17-003	Maintenance Report for S1-2015	30/06/2015
V&V Platform Development	D17-004	Maintenance Report for S2-2015	31/12/2015
03.03.03	R&D	Green - Approved	
	Project Name	V&V Platform acceptance and support	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
V&V Platform acceptance and support	D446	In Service Support, Configuration Control and Problem Management Official Deliverable 2014	15/01/2015
V&V Platform acceptance and support	D482	IBP V&VP Technical Acceptance 4Q2014	15/01/2015
V&V Platform acceptance and support	D484	IBP V&VP Operational Acceptance Review 4Q2014	15/01/2015
V&V Platform acceptance and support	D485	IBP V&VP Technical Acceptance 1Q2015	15/04/2015
V&V Platform acceptance and support	D487	IBP V&VP Operational Acceptance Review 1Q2015	15/04/2015
04.00	Mgt	Green - Approved	
	Project Name	Global co-ordination & management	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Global co-ordination & management	D05	Work Package Management Plan -final update	07/09/2015
04.02	R&D	Green - Approved	
	Project Name	Consolidation of operational concept definition and validation including operating mode and air-ground task sharing.	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Consolidation of operational concept definition and validation including operating mode and air-ground task sharing.	D101	04.02-D101-En Route Detailed Operational Description Step1_update	31/12/2015
Consolidation of operational concept definition and validation including operating mode and air-ground task sharing.	D60	04.02-D60-En Route Concept Validation Strategy Step2	31/12/2015
04.03	R&D	Green - Approved	
	Project Name	Integrated and pre-operational validation & cross validation	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Integrated and pre-operational validation & cross validation	D77	Validation report EXE-04.03-VP-711	07/08/2015
Integrated and pre-operational validation & cross validation	D78	Validation Exercise Plan EXE-04.03-VP-799	09/01/2015
Integrated and pre-operational validation & cross validation	D80	Validation Exercise Plan EXE-04.03-VP-797	09/01/2015
04.05	R&D	Green - Approved	
	Project Name	Trajectory management framework in En route	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Trajectory management framework in En route	D820	VP-771 Validation Report (4.5 Deliverable)	16/01/2015
04.07.01	R&D	Green - Approved	
	Project Name	Complexity Management in En Route	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Complexity Management in En Route	D02	STEP 1 Assessment of Benefits and Costs	17/09/2015
Complexity Management in En Route	D14	STEP 1 Final Validation Report-2	31/01/2015
Complexity Management in En Route	D26	STEP 2 Preliminary OSED	29/08/2015
Complexity Management in En Route	D28	STEP 2 Safety and Performance Requirements (SPR)	15/07/2015
Complexity Management in En Route	D29	STEP 2 Preliminary Interoperability Requirements (INTEROP)	15/07/2015
Complexity Management in En Route	D37	STEP 2 Integrated Validation Report	15/05/2015
Complexity Management in En Route	D62	Step1 Final OSED (Final version edition 2)	28/02/2015
Complexity Management in En Route	D63	Step1 Final Safety and Performance Requirements (SPR) (final version edition 2)	28/02/2015
Complexity Management in En Route	D64	Step1 Final Interoperability Requirements (INTEROP) (final version)	28/02/2015
04.07.02	R&D	Green - Approved	
	Project Name	Separation Task in En Route Trajectory based environment	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Separation Task in En Route Trajectory based environment	D09	Validation Report_3 (M9 of VP 175 & 499)	02/07/2015
Separation Task in En Route Trajectory based environment	D22	Preliminary OSED_4	30/09/2015
Separation Task in En Route Trajectory based environment	D27	Development and validation plan_3	03/01/2015
Separation Task in En Route Trajectory based environment	D30	Preliminary Safety and Performance Requirements_4	02/10/2015
Separation Task in En Route Trajectory based environment	D31	VP-500 Validation Report	02/04/2015
Separation Task in En Route Trajectory based environment	D37	Free Route OSED_2	28/08/2015
04.07.03	R&D	Green - Approved	
	Project Name	Use of Performance Based Navigation (PBN) for En Route Separation Purposes	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Use of Performance Based Navigation (PBN) for En Route Separation Purposes	D01	Management Closure Report	30/10/2015
Use of Performance Based Navigation (PBN) for En Route Separation Purposes	D27	Gap analysis of OFA02.01.01 PBN functionality	27/02/2015

Use of Performance Based Navigation (PBN) for En Route Separation Purposes	D29	Step 1 (AOM-0404_V3) VALP	28/02/2015
04.07.04.b	R&D	Red - Suspended	
Project Name	ASAS-ASEP Oceanic Applications		
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
ASAS-ASEP Oceanic Applications	D05	OSD for ASEP Functions v 1.0	29/12/2015
ASAS-ASEP Oceanic Applications	D23	Statement of Readiness	04/06/2015
ASAS-ASEP Oceanic Applications	D26	Safety Assessment of ASEP-ITF	14/06/2015
ASAS-ASEP Oceanic Applications	D27	Safety Assessment of ASEP-ITM	04/06/2015
04.07.06	R&D	Red - Suspended	
Project Name	En Route Trajectory and Separation Management - ASAS Separation (Cooperative Separation)		
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
En Route Trajectory and Separation Management - ASAS Separation (Cooperative Separation)	D01	Management closeout report	15/09/2015
En Route Trajectory and Separation Management - ASAS Separation (Cooperative Separation)	D03	Preliminary OSD	03/08/2015
En Route Trajectory and Separation Management - ASAS Separation (Cooperative Separation)	D04	SPR	03/08/2015
En Route Trajectory and Separation Management - ASAS Separation (Cooperative Separation)	D05	INTEROP	03/08/2015
En Route Trajectory and Separation Management - ASAS Separation (Cooperative Separation)	D12	V2 - HITL Experiments Validation Report	23/04/2015
04.07.08	R&D	Green - Approved	
Project Name	Controller Team Organisation, roles and responsibilities in a trajectory based operation within En-route airspace (including multi-sector planner)		
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Controller Team Organisation, roles and responsibilities in a trajectory based operation within En-route airspace (including multi-sector planner)	D42	Step 1 V3 Preliminary OSD (Extended ATC Planner)	31/10/2015
Controller Team Organisation, roles and responsibilities in a trajectory based operation within En-route airspace (including multi-sector planner)	D44	Step 1 V3 Preliminary SPRs (Extended ATC Planner)	06/09/2015
Controller Team Organisation, roles and responsibilities in a trajectory based operation within En-route airspace (including multi-sector planner)	D57	Step 1 V3 Preliminary Validation Plan (Extended ATC Planner) VP-586	25/04/2015
Controller Team Organisation, roles and responsibilities in a trajectory based operation within En-route airspace (including multi-sector planner)	D58	Step 1 V3 Final Validation Plan (Extended ATC Planner) VP-586	20/10/2015
Controller Team Organisation, roles and responsibilities in a trajectory based operation within En-route airspace (including multi-sector planner)	D68	Step 1 V2 Initial OSD (Collaborative Control)	17/06/2015
Controller Team Organisation, roles and responsibilities in a trajectory based operation within En-route airspace (including multi-sector planner)	D70	Step 1 V3 Final Validation Plan (Co-ordinated Boundaries) VP-271	07/06/2015
04.08.01	R&D	Green - Approved	
Project Name	Enhanced safety nets for en-route TMA operations		
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Enhanced safety nets for en-route TMA operations	D100	Final Step 2 Technical Note: Input for Global Concept of Operation for Collision Avoidance	31/12/2015
Enhanced safety nets for en-route TMA operations	D86	VALR-RADL-V3 Final validation report on proposed display and use of ACAS RA downlinked information by the controller	03/03/2015
Enhanced safety nets for en-route TMA operations	D87	OSD-RADL-V3 ATC operations including the display of ACAS RA downlinked information to the controller	01/06/2015
Enhanced safety nets for en-route TMA operations	D90	SPR-ACASX-OPT1 Requirements of an optimized ACAS Xa logic for current European operations	01/03/2015
Enhanced safety nets for en-route TMA operations	D92	VALR-ACASX-OPT1 Validation report for the evaluation of ACAS Xa optimized for Europe	30/10/2015
Enhanced safety nets for en-route TMA operations	D93	SPR-ACASX-OPT2 Requirements of an optimized ACAS Xa logic for future European operations	30/09/2015
Enhanced safety nets for en-route TMA operations	D94	VALP-ACASX-HP Validation plan for the assessment of performance aspects of ACAS Xa	30/10/2015
Enhanced safety nets for en-route TMA operations	D98	Final Step 2 Technical Note: Roadmap for European (or Global) Encounter Models	31/12/2015
04.10	R&D	Green - Approved	
Project Name	GA and Rotorcraft Operations		
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
GA and Rotorcraft Operations	D04	First iteration validation activities - Operational Services and Environment Description	15/01/2015

GA and Rotorcraft Operations	D05	First Iteration validation activities - Validation Plan	27/03/2015
GA and Rotorcraft Operations	D06	First Iteration validation activities - Validation Report	25/09/2015
05.02	R&D	Green - Approved	
	Project Name	Consolidation of Operational Concept Definition and Validation	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Consolidation of Operational Concept Definition and Validation	D84	Step 1 DOD Report - Fifth update	03/02/2015
05.03	R&D	Green - Approved	
	Project Name	Integrated and Pre-Operational Validation & Cross Validation	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Integrated and Pre-Operational Validation & Cross Validation	D100	Validation Exercise Plan EXE-05.03-VP-805	30/09/2015
Integrated and Pre-Operational Validation & Cross Validation	D80	Effort placeholder for 2015 activities	20/12/2015
Integrated and Pre-Operational Validation & Cross Validation	D92	Validation report EXE-05-03-VP-708	28/02/2015
Integrated and Pre-Operational Validation & Cross Validation	D98	Validation Exercise Plan EXE-05.03-VP-804	30/09/2015
05.04.02	R&D	Green - Approved	
	Project Name	TMA-2 Co-Operative Planning Requirements and Validation	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
TMA-2 Co-Operative Planning Requirements and Validation	D06	Step 2 Initial OSED	30/01/2015
TMA-2 Co-Operative Planning Requirements and Validation	D07	Step 2 V2 VAL-Plan TS-0307	30/03/2015
TMA-2 Co-Operative Planning Requirements and Validation	D33	Step 1 V3 VAL-Plan TS-0303	30/01/2015
TMA-2 Co-Operative Planning Requirements and Validation	D35	Step 1 V3 VAL-Plan TS-0302A	26/06/2015
TMA-2 Co-Operative Planning Requirements and Validation	D37	Step 2 V2 VAL-Plan TS-0302B	26/06/2015
05.05.01	R&D	Green - Approved	
	Project Name	Trajectory Management Framework in TMA	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Trajectory Management Framework in TMA	D838	Dxx TMF-IOP Co-ordination with OFA Report 2014	08/06/2015
Trajectory Management Framework in TMA	D841	Dxx TMF IOP V&V Needs for 2015 (5.5.1 Deliverable-4.5 Contribution)	31/03/2015
Trajectory Management Framework in TMA	D842	Dxx Internal Validation Exercise VP777	30/04/2015
05.06.02	R&D	Green - Approved	
	Project Name	QM-2 - Improving Vertical Profile	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
QM-2 - Improving Vertical Profile	D05	Step 2 Advanced Concept of Operations	18/05/2015
QM-2 - Improving Vertical Profile	D23	Validation Plan Step 2 V2	26/10/2015
QM-2 - Improving Vertical Profile	D45	Validation Plan CDO at Orly Live Trials	13/04/2015
05.06.03	R&D	Green - Approved	
	Project Name	QM-3 - Approach Procedure with Vertical Guidance (APV)	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
QM-3 - Approach Procedure with Vertical Guidance (APV)	D000	Closeout report	01/07/2015
QM-3 - Approach Procedure with Vertical Guidance (APV)	D38	V3 SPR	30/06/2015
QM-3 - Approach Procedure with Vertical Guidance (APV)	D43	Advanced Procedure Validation Report - EXE-05.06.03-VP-792 VALR ATC RTS of RNP in high density TMA	02/03/2015
QM-3 - Approach Procedure with Vertical Guidance (APV)	D44	ATC Procedures Validation Report - EXE-05.06.03-VP-793 (VALR)	01/02/2015
05.06.07	R&D	Green - Approved	
	Project Name	QM-7 - Integrated Sequence Building/Optimisation of Queues	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
QM-7 - Integrated Sequence Building/Optimisation of Queues	D12	Technical Note Safety to 5.6.4	28/02/2015
QM-7 - Integrated Sequence Building/Optimisation of Queues	D15	Update of 5.6.4 OSED - Step 1	30/04/2015
QM-7 - Integrated Sequence Building/Optimisation of Queues	D16	Update of 5.6.4 SPR-INTEROP - Step 1	30/04/2015
QM-7 - Integrated Sequence Building/Optimisation of Queues	D21	V2 Validation Plan - Step 2	14/01/2015
QM-7 - Integrated Sequence Building/Optimisation of Queues	D22	V2 R&D Needs - Step 2	15/07/2015
QM-7 - Integrated Sequence Building/Optimisation of Queues	D26	Preliminary Operational Concept REVIEW and preliminary OSED part 1 - Step 2	29/03/2015
QM-7 - Integrated Sequence Building/Optimisation of Queues	D49	Validation Report EXE-5.6.7-VP-695	28/02/2015
05.07.02	R&D	Green - Approved	
	Project Name	Development of 4D Trajectory-Based Operations for separation management using RNAV/PRNAV	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date

Development of 4D Trajectory-Based Operations for separation management using RNAV/PRNAV	D68	MD MC Multi Airport TMA V2 Validation Plan	16/01/2015
Development of 4D Trajectory-Based Operations for separation management using RNAV/PRNAV	D69	MD MC Multi Airport TMA: V2 Validation Report	28/05/2015
Development of 4D Trajectory-Based Operations for separation management using RNAV/PRNAV	D71	HD HC Multi Airport TMA V2 Validation Report	28/05/2015
Development of 4D Trajectory-Based Operations for separation management using RNAV/PRNAV	D72	Preliminary (V2) SPR for Step 1	13/07/2015
Development of 4D Trajectory-Based Operations for separation management using RNAV/PRNAV	D73	Preliminary (V2) INTEROP for Step 1	13/07/2015

05.09

R&D

Green - Approved

Project Name Usability Requirements and Human Factors Aspects for the Controller Working Position

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Usability Requirements and Human Factors Aspects for the Controller Working Position	D102	2015 HMI Operational Styleguide	15/12/2015
Usability Requirements and Human Factors Aspects for the Controller Working Position	D104	2014 Technical Note	04/01/2015
Usability Requirements and Human Factors Aspects for the Controller Working Position	D105	2015 Technical Note	15/12/2015
Usability Requirements and Human Factors Aspects for the Controller Working Position	D108	Report of Performed Supporting Activities in 2014	27/02/2015
Usability Requirements and Human Factors Aspects for the Controller Working Position	D113	Report of Performed HMI Forum Activities in 2015	15/12/2015

06.02

R&D

Green - Approved

Project Name Coordination and consolidation of operational concept definition and validation

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Coordination and consolidation of operational concept definition and validation	D105	Step 1 Airport Validation Strategy 2014 Update	31/03/2015
Coordination and consolidation of operational concept definition and validation	D108	Step 2 Airport Validation Strategy 2014 Update	31/03/2015
Coordination and consolidation of operational concept definition and validation	D124	Step 1 Airport DOD 2015 Update	31/12/2015
Coordination and consolidation of operational concept definition and validation	D125	Step 2 Airport DOD 2015 Update	31/12/2015
Coordination and consolidation of operational concept definition and validation	D25	D03-02-02 Step 2 Airport (INTEROP) (SPR) Consistency Check Results	31/12/2015

06.03.01

R&D

Green - Approved

Project Name The Airport in the ATM environment

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
The Airport in the ATM environment	D09	Step 2 - V2 validation plan for activity X	07/12/2015
The Airport in the ATM environment	D15	Step 2 - V3 validation plan for activity X	07/12/2015
The Airport in the ATM environment	D27	Step 3 - V3 validation plan for activity X	07/12/2015

06.03.03

R&D

Green - Approved

Project Name Full integration of airport planning and execution

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Full integration of airport planning and execution	D04	Release R5 Validation Report	31/12/2015
Full integration of airport planning and execution	D05	Release R6 Validation Plan	31/12/2015

06.05.03

R&D

Green - Approved

Project Name Airport Capacity and Flow Management

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Airport Capacity and Flow Management	D06-002	6.5.3.D06 DCB-Validation Report for V2 (late)	28/02/2015

06.05.04

R&D

Green - Approved

Project Name AirPort Operations Centre (APOC) definition

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
AirPort Operations Centre (APOC) definition	D19	OFA 05.01.01 Consolidated SPR edition 2 Document	30/01/2015
AirPort Operations Centre (APOC) definition	D20	OFA 05.01.01 consolidated INTEROP Edition 2 Document	27/02/2015

06.06.01

R&D

Green - Approved

Project Name Operations in adverse weather and/or exceptional operating conditions/recovery management

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Operations in adverse weather and/or exceptional operating conditions/recovery management	D09	D09 - Preliminary Validation Report (V2)	08/11/2015

06.06.02

R&D

Green - Approved

		Project Name	Integration of airport - airline/ground handlers - ATC processes (incl. turnaround) in ATM	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date	
Integration of airport - airline/ground handlers - ATC processes (incl. turnaround) in ATM	D10	Delivery Note supporting OFA SPR Ed 3.0	30/01/2015	
Integration of airport - airline/ground handlers - ATC processes (incl. turnaround) in ATM	D14	Written Note supporting OFA SPR Ed 3.0	30/01/2015	
Integration of airport - airline/ground handlers - ATC processes (incl. turnaround) in ATM	D15	Delivery Note supporting OFA INTEROP Ed 3.0	27/02/2015	
Integration of airport - airline/ground handlers - ATC processes (incl. turnaround) in ATM	D21	De-icing Step1 V3 Validation Report	30/06/2015	
Integration of airport - airline/ground handlers - ATC processes (incl. turnaround) in ATM	D25	Performance Monitoring Service Step2 V3 Validation report	17/03/2015	
Integration of airport - airline/ground handlers - ATC processes (incl. turnaround) in ATM	D31	6.6.2 Project Close-Out Report	27/02/2015	

06.07.01

R&D

Green - Approved

		Project Name	Airport safety support tools for pilots, vehicle drivers and controllers	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date	
Airport safety support tools for pilots, vehicle drivers and controllers	D05	Operational concept for the integration of the safety support tools: updated OCD (third year)	03/06/2015	
Airport safety support tools for pilots, vehicle drivers and controllers	D44	Updated OSED for "Alerts for vehicle drivers" following second V2 trials	21/01/2015	
Airport safety support tools for pilots, vehicle drivers and controllers	D45	Updated SPR for "Alerts for vehicle drivers" following second V2 trials	25/02/2015	
Airport safety support tools for pilots, vehicle drivers and controllers	D46	Updated INTEROP for "Alerts for vehicle drivers" following second V2 trials	08/03/2015	
Airport safety support tools for pilots, vehicle drivers and controllers	D75	V3 Validation Plan for "Alerts for vehicle drivers" Report	06/05/2015	

06.07.02

R&D

Green - Approved

		Project Name	A-SMGCS Routing and planning functions	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date	
A-SMGCS Routing and planning functions	D43	Assessment of 6.3.2 Release 5 Validation Plan	01/07/2015	
A-SMGCS Routing and planning functions	D76	Second OFA04.02.01 (Integrated Surface Management) Interim OSED	14/02/2015	
A-SMGCS Routing and planning functions	D77	OFA04.02.01 (Integrated Surface Management) Interim SPR	31/01/2015	
A-SMGCS Routing and planning functions	D79	Preliminary INTEROP for advanced surface routing	31/01/2015	

06.07.03

R&D

Green - Approved

		Project Name	A-SMGCS Guidance Function	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date	
A-SMGCS Guidance Function	D19	Preliminary Validation Plan Phase 2 (VSB - ENAV)	20/03/2015	
A-SMGCS Guidance Function	D25	Final Validation Plan Phase 2 (D-TAXI AGL- ENAV)	25/09/2015	
A-SMGCS Guidance Function	D27	Preliminary Validation exercises Phase 2 (VSB - ENAV)	25/09/2015	
A-SMGCS Guidance Function	D63	Preliminary Validation Plan Phase 2 (D-TAXI-ECTL- NATMIG)	20/02/2015	
A-SMGCS Guidance Function	D64	Preliminary Validation exercises Phase 2 (D-TAXI - ECTL- NATMIG)	26/06/2015	
A-SMGCS Guidance Function	D65	Update of Preliminary INTEROP for advanced surface guidance	31/01/2015	

06.08.01

R&D

Green - Approved

		Project Name	Flexible and Dynamic Use of Wake Vortex Separations	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date	
Flexible and Dynamic Use of Wake Vortex Separations	D35	Transversal Assessments – Safety Human Performance and Cost-Benefit Assessment Reports	30/03/2015	
Flexible and Dynamic Use of Wake Vortex Separations	D36	Safety and Performance Analysis for TBS PW separation and ORD Report (local implementation)	30/03/2015	
Flexible and Dynamic Use of Wake Vortex Separations	D38	RECAT 2 - Final ICAO Formated Deliverable	26/06/2015	
Flexible and Dynamic Use of Wake Vortex Separations	D40	EXE 690 IBP acceptance tests	28/02/2015	
Flexible and Dynamic Use of Wake Vortex Separations	D41	EXE 690 Exercise results - VALR	28/05/2015	
Flexible and Dynamic Use of Wake Vortex Separations	D44	EXE 688 Exercise report - VALR	30/03/2015	
Flexible and Dynamic Use of Wake Vortex Separations	D47	EXE 691 Validation plan -VALP	30/08/2015	
Flexible and Dynamic Use of Wake Vortex Separations	D50	EXE 689 Validation plan -VALP	31/07/2015	
Flexible and Dynamic Use of Wake Vortex Separations	D53	EXE 735 Validation plan -VALP	26/06/2015	
Flexible and Dynamic Use of Wake Vortex Separations	D54	EXE 735 Exercise report - VALR	28/09/2015	

06.08.04

R&D

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Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Coupled AMAN-DMAN	D100	6.8.4 Multiple Remote Advanced - Human Performance Consolidated DEL 12.04.07 T012	30/09/2015
Coupled AMAN-DMAN	D101	6.8.4 Multiple Remote Advanced - VALP VP-750	30/12/2015
Coupled AMAN-DMAN	D104	6.8.4 Contingency Tower V2 - VALP VP-751	30/01/2015
Coupled AMAN-DMAN	D105	6.8.4 Contingency Tower V2 - VALR VP-751 - Consolidated Del 12.04.08 T039	30/05/2015
Coupled AMAN-DMAN	D106	6.8.4 Contingency Tower V3 - VALP VP-752	30/03/2015
Coupled AMAN-DMAN	D17	6.8.4-S01V3 Final OSED	15/05/2015
Coupled AMAN-DMAN	D18	6.8.4-S01V3 Final SPR	15/05/2015
Coupled AMAN-DMAN	D24	6.8.4-S02V2 Validation Report Advanced AMAN-DMAN- Routing	28/02/2015
Coupled AMAN-DMAN	D25	6.8.4-S02V2 Preliminary OSED	12/05/2015
Coupled AMAN-DMAN	D26	6.8.4-S02V2 Preliminary SPR	27/05/2015
Coupled AMAN-DMAN	D27	6.8.4-S02V3 Validation Plan for V3	30/07/2015
Coupled AMAN-DMAN	D82	6.8.4-S01V3 Final INTEROP	15/05/2015
Coupled AMAN-DMAN	D89	6.8.4 VALR - Single Remote TWR Ph1 V3	28/06/2015
Coupled AMAN-DMAN	D92	6.8.4 VALP - Single Remote TWR Ph2	01/09/2015

06.08.05

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Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
GBAS operational implementation	D000	Closeout report	17/05/2015
GBAS operational implementation	D14	GBAS CAT II-III Proposals for Standardization Report	31/03/2015
GBAS operational implementation	D15	Proposals for Standardizations Report	16/05/2015
GBAS operational implementation	D47	GBAS CAT II-III Functional Descriptions Update Report- update for V3	31/03/2015
GBAS operational implementation	D49	Concept Validation Report for GBAS CAT II-III for V3	30/01/2015

06.08.08

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Enhanced arrival procedures to reduce occupancy time using GBAS	D03	Enhanced Arrival Procedures Enabled by GBAS - OSED Initial	30/01/2015
Enhanced arrival procedures to reduce occupancy time using GBAS	D08	Enhanced Arrival Procedure Enabled by GBAS - VALP - V2	30/04/2015
Enhanced arrival procedures to reduce occupancy time using GBAS	D09	Enhanced Arrival Procedure Enabled by GBAS - VALR - V2	30/09/2015
Enhanced arrival procedures to reduce occupancy time using GBAS	D13	INTERIM Version - Enhanced Arrival Procedures Enabled by GBAS - SPR Updating - V2	30/10/2015
Enhanced arrival procedures to reduce occupancy time using GBAS	D14	INTERIM Version - Enhanced Arrival Procedures Enabled by GBAS - INTEROP Updating - V2	30/10/2015

06.09.02

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Advanced integrated CWP (A-CWP)	D117	Dxy - Support from P6.9.2 to EXE- 06.03.02- VP-425 VALR S2V3 (DSNA)	01/01/2015
Advanced integrated CWP (A-CWP)	D118	Dxy - EXE- 06.09.02- VP-XXX VALR S2V3 (FREQ - ECTL - SEAC)	01/01/2015
Advanced integrated CWP (A-CWP)	D119	Dxy - OSED S2V3 (consolidation)	05/03/2015
Advanced integrated CWP (A-CWP)	D120	Dxy - OSED S3V2	06/08/2015
Advanced integrated CWP (A-CWP)	D121	Dxy - OSED S3V3	30/06/2015
Advanced integrated CWP (A-CWP)	D123	Dxy - SPR S3V2	06/08/2015
Advanced integrated CWP (A-CWP)	D124	Dxy - SPR S3V3	30/06/2015
Advanced integrated CWP (A-CWP)	D125	Dxy - INTEROP S3V2	06/08/2015
Advanced integrated CWP (A-CWP)	D126	Dxy - INTEROP S3V3	30/06/2015
Advanced integrated CWP (A-CWP)	D127	Dxy - VALP S3V2	02/09/2015
Advanced integrated CWP (A-CWP)	D128	Dxy - VALP S3V3	28/12/2015

06.09.03

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Remote & virtual TWR	D12	Contingency TWR trial 2 validation report	30/04/2015
Remote & virtual TWR	D13	Multiple AFIS trial validation report	15/03/2015
Remote & virtual TWR	D17	Project final result and analysis report	01/10/2015
Remote & virtual TWR	D27	HF case-report for Contingency TWR applications	30/05/2015
Remote & virtual TWR	D28	HF case-report for Multiple TWR & AFIS applications	30/05/2015
Remote & virtual TWR	D31	Safety Assessment Report Contingency TWR	31/05/2015
Remote & virtual TWR	D32	Safety Assessment Report Multiple TWR	01/06/2015
Remote & virtual TWR	D34	Updated platform	10/01/2015
Remote & virtual TWR	D35	Final OSED	30/06/2015

07.02

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Network Federating View	D28	Step 1 Release 4 DOD	30/04/2015
Network Federating View	D34	Step 2 Release 6 VALS	15/12/2015
Network Federating View	D40	R5 Platform Release Notes	08/10/2015

07.05.04

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Flexible Airspace Management	D48	Validation Plan V3 Step 1-V3 v2.0 delivery	16/01/2015
Flexible Airspace Management	D50	Prototype Availability note Step 1-V3 v1.0 delivery	16/01/2015
Flexible Airspace Management	D51	Validation Report Step 1-V3 v2.0 delivery	28/02/2015

Flexible Airspace Management	D53	OSD Step2 V2 v 2.0 delivery	04/09/2015
Flexible Airspace Management	D54	OSD Step2 V2 v 3.0 delivery	28/09/2015
Flexible Airspace Management	D56	SPR Step2-V2 v1.0 delivery	31/07/2015
Flexible Airspace Management	D62	Technical specification Step 2-V2 v2.0 delivery	05/01/2015
Flexible Airspace Management	D63	Prototype Availability note Step 2-V2 v1.0 delivery	15/03/2015
Flexible Airspace Management	D64	Prototype Availability note Step 2-V2 v2.0 delivery	06/03/2015
Flexible Airspace Management	D65	AFUA Validation activities & Report Step 2-V1 v1.0 delivery	20/02/2015
Flexible Airspace Management	D66	13.02.01 merge into 07.05.04 - INDRA 2013 Technical WIP	28/09/2015

07.06.01 R&D Green - Approved

Project Name NOP

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
NOP	D08	Step 2 First Validation Report	25/09/2015
NOP	D09	Step 2 OSD 2015	27/11/2015
NOP	D44	Step 2 Second Validation Plan	02/10/2015
NOP	D45	Final Step 1 OSD	25/09/2015

07.06.02 R&D Green - Approved

Project Name Optimised Airspace User Operations

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Optimised Airspace User Operations	D11	Step 2 V1 Business trajectory validation plan for VP745	29/09/2015
Optimised Airspace User Operations	D17	Step 2 V1 Business trajectory VALR	31/03/2015
Optimised Airspace User Operations	D42	Step 1 Technical Specs for EFPL V3 prototype	31/08/2015
Optimised Airspace User Operations	D43	Step 1 Availability Note for EFPL V3 prototype	15/10/2015
Optimised Airspace User Operations	D44	Step 1 Availability Note for FOS PRO2 prototype	30/01/2015
Optimised Airspace User Operations	D45	Step 1 Business trajectory Final OSD 2015 update	14/06/2015
Optimised Airspace User Operations	D46	Step 1 Business trajectory validation report for VP714	14/07/2015
Optimised Airspace User Operations	D49	Step 1 Availability Note for OAT prototype	14/02/2015
Optimised Airspace User Operations	D50	Step 1 Mission trajectory VALR update for OAT	14/05/2015
Optimised Airspace User Operations	D51	Step 1 Mission trajectory OSD 2015 update	15/08/2015
Optimised Airspace User Operations	D52	Step 1 Business trajectory validation plan for VP732	14/09/2015
Optimised Airspace User Operations	D53	Step 1 Technical Specs for FOS PRO3 prototype	14/12/2015
Optimised Airspace User Operations	D66	Step 1 V3 UDPP final OSD	15/04/2015
Optimised Airspace User Operations	D67	Step 1 V3 UDPP Validation Report	31/03/2015
Optimised Airspace User Operations	D68	Step 1 V3 UDPP SPR	01/04/2015
Optimised Airspace User Operations	D74	Step 2 V2 UDPP interim OSD	14/05/2015
Optimised Airspace User Operations	D75	Step 2 V2 UDPP VALP	30/04/2015
Optimised Airspace User Operations	D83	07 06 02 delivery of contribution to 4D Trajectory Architecture Study	16/05/2015
Optimised Airspace User Operations	D86	07 06 02 delivery of contribution to ATMRPP document production (SARPs, ...)	31/08/2015
Optimised Airspace User Operations	D87	Step 1 Business trajectory SPR update for iRBT	30/06/2015
Optimised Airspace User Operations	D88	Step 1 Business trajectory VALP update for VP713	28/02/2015

08.01.01 R&D Green - Approved

Project Name Operational Requirements & Demands concerning organisation of the ATM information Management within the Scope of the European ATM Enterprise Architecture

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Operational Requirements & Demands concerning organisation of the ATM information Management within the Scope of the European ATM Enterprise Architecture	D46	SWIM Governance Structure and IM functions v1	02/02/2015
Operational Requirements & Demands concerning organisation of the ATM information Management within the Scope of the European ATM Enterprise Architecture	D47	SWIM Governance Structure and IM functions V2	02/11/2015
Operational Requirements & Demands concerning organisation of the ATM information Management within the Scope of the European ATM Enterprise Architecture	D48	SWIM Compliance Criteria for R5	02/02/2015
Operational Requirements & Demands concerning organisation of the ATM information Management within the Scope of the European ATM Enterprise Architecture	D51	SWIM Foundation v1	02/02/2015
Operational Requirements & Demands concerning organisation of the ATM information Management within the Scope of the European ATM Enterprise Architecture	D54	Registry Design-Time Requirements v2	02/02/2015
Operational Requirements & Demands concerning organisation of the ATM information Management within the Scope of the European ATM Enterprise Architecture	D57	Validation Report – Design-Time Registry v1	01/02/2015

08.01.03 R&D Green - Approved

Project Name AIRM Deliverable

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
AIRM Deliverable	D30-003	Activity Report	01/06/2015

AIRM Deliverable	D30-004	Activity Report	30/11/2015
AIRM Deliverable	D40-002	Report	30/04/2015
AIRM Deliverable	D43	AIRM v3.3.0	31/03/2015
AIRM Deliverable	D44	AIRM Fondation Rulebook V3.3.0	31/03/2015
AIRM Deliverable	D45	AIRM v4.0.0	30/09/2015
AIRM Deliverable	D46	AIRM Fondation Rulebook V4.0.0	30/09/2015
08.03.10	R&D	Green - Approved	
	Project Name	Information Service Modelling deliverables	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Information Service Modelling deliverables	D10-002	Activity Report	11/12/2015
Information Service Modelling deliverables	D20-002	Activity Report 2	11/12/2015
Information Service Modelling deliverables	D30-002	Activity Report 2	11/12/2015
Information Service Modelling deliverables	D43	ISRM Foundation v00.06.00	19/06/2015
Information Service Modelling deliverables	D44	ISRM Foundation v00.07.00	18/12/2015
Information Service Modelling deliverables	D63	ISRM v00.01.03	31/05/2015
Information Service Modelling deliverables	D64	ISRM v00.01.04	30/11/2015
09.00	Mgt	Green - Approved	
	Project Name	Global Co-ordination and Management	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Global Co-ordination and Management	D14	WP09 Management Report 2015	10/04/2015
09.01	R&D	Green - Approved	
	Project Name	Airborne Initial 4D Trajectory Management	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Airborne Initial 4D Trajectory Management	D52	Yearly synthesis of standardisation contributions 2015 (WA1)	28/02/2015
Airborne Initial 4D Trajectory Management	D54	2015 Report	29/05/2015
09.02	R&D	Green - Approved	
	Project Name	Airborne Full 4D Trajectory Management & 4D contract capability	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Airborne Full 4D Trajectory Management & 4D contract capability	D01	High Level Functional Requirement Document & Operational Assumptions Issue 1	31/01/2015
09.03	R&D	Green - Approved	
	Project Name	Interoperability of Business Trajectory and Mission Trajectory	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Interoperability of Business Trajectory and Mission Trajectory	D11	WA2 .1- Phase #1 - HMI Software Delivery Note	15/04/2015
Interoperability of Business Trajectory and Mission Trajectory	D13	Flight simulator modification completed and TCA computer integrated (with adapters)	30/07/2015
Interoperability of Business Trajectory and Mission Trajectory	D15	WA2.3 Phase #1 -Scenario Technical Validation Plan	29/03/2015
Interoperability of Business Trajectory and Mission Trajectory	D17	WA2.3 Phase #1 -Key-4D and ASAS Functions Techical Validation Report (at simulation level)	08/09/2015
Interoperability of Business Trajectory and Mission Trajectory	D18	WA2.4 Phase #2 - Key-4D Functions Integration Report	07/11/2015
Interoperability of Business Trajectory and Mission Trajectory	D19	WA2.4 Phase #2 - Ground Test Report	07/11/2015
Interoperability of Business Trajectory and Mission Trajectory	D21	Algorithm validation Report	01/08/2015
Interoperability of Business Trajectory and Mission Trajectory	D22	Validation report on test performed on Link 16 and ADS-B SW interfaces integrated with TCA computer and ATN	30/07/2015
09.05	R&D	Green - Approved	
	Project Name	ASA-ASPA	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
ASA-ASPA	D25	High level architecture and system specification document issue 3	28/03/2015
ASA-ASPA	D27	Functional requirement definition of ASPA S&M - stream2 (1) (Stream2 definition)	15/08/2015
ASA-ASPA	D29	Phase III Aircraft Integration Simulator availability note	30/08/2015
09.11	R&D	Green - Approved	
	Project Name	Aircraft Systems for Wake Encounter Alleviation	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Aircraft Systems for Wake Encounter Alleviation	D26	WEPS Concept of Operations and Requirements	31/12/2015
Aircraft Systems for Wake Encounter Alleviation	D30	WEPS-P High-level Functional Architecture	31/12/2015
Aircraft Systems for Wake Encounter Alleviation	D31	WEPS-P Final Validation and Verification Report	31/07/2015
Aircraft Systems for Wake Encounter Alleviation	D35-005	Yearly synthesis of standardisation contributions	31/12/2015
Aircraft Systems for Wake Encounter Alleviation	D36	WEPS Functional Hazard Assessment (former 9.30D28)	30/07/2015

Aircraft Systems for Wake Encounter Alleviation	D37	WEPS-C High-level Functional Architecture (former 9.30D027)	31/12/2015
Aircraft Systems for Wake Encounter Alleviation	D38	WEPS-C Final Validation and Verification Report (former 9.30D29)	18/05/2015
09.12	R&D	Green - Approved	
	Project Name	GBAS Cat II/III	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
GBAS Cat II/III	D31-004	Yearly synthesis of standardization activities	15/06/2015
GBAS Cat II/III	D37	Technical Note – GBAS function limited to CAT II	30/06/2015
GBAS Cat II/III	D38	Study and Analysis Results Report	03/06/2015
GBAS Cat II/III	D40	Verification plan - Activities schedule needed to verify MC MF GBAS Cat II-III airborne component design requirements	31/08/2015
09.13	R&D	Green - Approved	
	Project Name	Airport Surface Taxi Clearances	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Airport Surface Taxi Clearances	D33	WA2.3 Regional Mock-up delivery form (advanced package)	09/07/2015
Airport Surface Taxi Clearances	D36	WA 2.3 Technical Verification Plan for Advanced Package	23/09/2015
09.14	R&D	Green - Approved	
	Project Name	Airport Surface Alerts (ownership and traffic)	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Airport Surface Alerts (ownership and traffic)	D10	'WA2.1 V2 Validation Plan for "Conformance Monitoring" for pilots'	29/05/2015
Airport Surface Alerts (ownership and traffic)	D11	'WA2.1 V3 Validation trials & Report for "Traffic alerts for pilots" EXE-9.14-VP-673	30/06/2015
Airport Surface Alerts (ownership and traffic)	D16	WA2.3 Technical Validation Report (TVR)	15/05/2015
Airport Surface Alerts (ownership and traffic)	D21	'WA2.1 V2 Validation trials & Report for "Conformance Monitoring for pilots"'	30/09/2015
Airport Surface Alerts (ownership and traffic)	D36	Final OSED for "Traffic Alerts for pilots" following V3 trials	31/07/2015
Airport Surface Alerts (ownership and traffic)	D37	Consolidated Final SPR for "Traffic Alerts for pilots" following V3 trials	15/10/2015
Airport Surface Alerts (ownership and traffic)	D38	Consolidated Final INTEROP for "Traffic Alerts for pilots" following V3 trials	02/11/2015
Airport Surface Alerts (ownership and traffic)	D39	Updated OSED for "Conformance Monitoring for pilots" following V2 trials	30/11/2015
Airport Surface Alerts (ownership and traffic)	D42	Validation Report for Non-conformance Alerts (phase 3)	30/04/2015
Airport Surface Alerts (ownership and traffic)	D44	Verification Plan for traffic alerts using V3 prototype	30/06/2015
Airport Surface Alerts (ownership and traffic)	D45	Verification Report for traffic alerts using V3 prototype	30/11/2015
09.16	R&D	Green - Approved	
	Project Name	New Communication Technology at Airport	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
New Communication Technology at Airport	D11	Aero Wimax System Final Validation Report	14/03/2015
09.19	R&D	Green - Approved	
	Project Name	SWIM Air-Ground Capability	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
SWIM Air-Ground Capability	D09	D 9.19 - 04: WA2.2 û SWIM A-G Mainline Aircraft Concept and Airborne System Architecture - version 2	28/06/2015
SWIM Air-Ground Capability	D11	D 9.19 - 05: WA2.3 û SWIM A-G Regional Aircraft Concept and Airborne System Architecture - version 2	29/05/2015
SWIM Air-Ground Capability	D13	D 9.19 - 06: WA3.1 û SWIM A-G Mainline Aircraft Prototype Development Report - version 2	29/07/2015
SWIM Air-Ground Capability	D15	D 9.19 - 07: WA3.2 û SWIM A-G Regional Aircraft Prototype Development Report - version 2	30/09/2015
SWIM Air-Ground Capability	D17	D 9.19 - 08: WA4.1 û SWIM A-G Technical Verification Plan - version 2	31/10/2015
09.22	R&D	Green - Approved	
	Project Name	Mid & Full ADS-B Capability - Research	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Mid & Full ADS-B Capability - Research	D04	Modeling and simulation - ADS-B Evolution	02/03/2015
09.27	R&D	Green - Approved	
	Project Name	Multi-constellation GNSS Airborne navigation Systems	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Multi-constellation GNSS Airborne navigation Systems	D20	D3.4-1 Final test report of MCR prototype for business / general aviation v1.0	18/02/2015
Multi-constellation GNSS Airborne navigation Systems	D22	D3.6-1 Final test report of the Receiver Simulation Platform v1.0	08/01/2015
Multi-constellation GNSS Airborne navigation Systems	D23	D3.4-2 Final test report of MCR prototype for business / General Aviation v2.0	31/12/2015
Multi-constellation GNSS Airborne navigation Systems	D27	D2.2-2 Report on Low cost INS for future GNSS/INS hybrid systems v2.0	27/02/2015
Multi-constellation GNSS Airborne navigation Systems	D28	Report on MCR GNSS based heading/attitude estimation v1.0	31/12/2015
09.29	R&D	Green - Approved	

	Project Name	Enhanced & Synthetic Vision	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Enhanced & Synthetic Vision	D13	Updated Technical specification	28/02/2015
Enhanced & Synthetic Vision	D14	Integration and Validation Phase 2 Plan	31/07/2015
Enhanced & Synthetic Vision	D15	Integration and Validation Phase 2 Report	31/12/2015
Enhanced & Synthetic Vision	D16	Mock-up development Phase 2 Report	30/09/2015
09.31	R&D	Green - Approved	
	Project Name	Aeronautical databases	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Aeronautical databases	D00-002	Standardisation Report	30/09/2015
09.33	R&D	Green - Approved	
	Project Name	ATS Datalink Operational Improvements	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
ATS Datalink Operational Improvements	D22	Technical note on Standard 3 activities and additional activities	29/05/2015
ATS Datalink Operational Improvements	D25	Update : Standard 2 - Technical Note on Avionics System Definition (Honeywell part)	31/03/2015
09.39	R&D	Green - Approved	
	Project Name	Continuous Climbing Cruise	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Continuous Climbing Cruise	D10	D9.39 Aircraft Safety Analysis - Advanced solution	17/04/2015
09.40	R&D	Red - Suspended	
	Project Name	Long-term CDA & Steeper Approach Airborne Architecture	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Long-term CDA & Steeper Approach Airborne Architecture	D02	Advanced CDA functions performance assessment	28/03/2015
Long-term CDA & Steeper Approach Airborne Architecture	D03	Aircraft & System functional requirements for Advanced CDA and compatibility of these functions with steeper approach concept	28/03/2015
09.44	R&D	Green - Approved	
	Project Name	Flexible Communication Avionics	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Flexible Communication Avionics	D15	D3.5: Initial proposal for a technical aeronautical SDR standard	12/01/2015
Flexible Communication Avionics	D16	D3.6: draft elements for SDR development and certification guidance	12/01/2015
Flexible Communication Avionics	D18	D3.8: Report on how the use of SDR technologies can impact existing Airframer or community standards	01/10/2015
Flexible Communication Avionics	D25	D1.3: Prototype v1 CDR [SRR v3 ADR v2]	19/02/2015
Flexible Communication Avionics	D33	D2.2: Updated Report on Selex Demonstrator Design	26/06/2015
Flexible Communication Avionics	D34	D2.3: Updated Report on Selex Demonstrator Design	26/06/2015
Flexible Communication Avionics	D35	D2.4: Report on demonstrator integration and test.	16/12/2015
09.47	R&D	Green - Approved	
	Project Name	TCAS Evolution	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
TCAS Evolution	D13	Report on improved hybrid surveillance validation	23/01/2015
TCAS Evolution	D15	Comparison study of TSAA and ACAS-Xp performance	29/05/2015
TCAS Evolution	D21	VR from initial STM performance evaluation	30/01/2015
TCAS Evolution	D22	VR from integrated TRM+STM performance evaluation	19/04/2015
TCAS Evolution	D24	STM FRD - issue 2	13/08/2015
TCAS Evolution	D25	Technical lessons learned (FAA 2015 flight tests)	30/10/2015
TCAS Evolution	D26	V&V plan for 2016 validation	30/09/2015
09.48	R&D	Green - Approved	
	Project Name	AIS/MET Services & Data Distribution	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
AIS/MET Services & Data Distribution	D03	High Level Architecture: Initial Release	27/02/2015
AIS/MET Services & Data Distribution	D05	Validation Report	02/02/2015
AIS/MET Services & Data Distribution	D06	Coordination activities report	17/02/2015
AIS/MET Services & Data Distribution	D07	Management report	16/05/2015
AIS/MET Services & Data Distribution	D08	Functional Requirements Document: Final Release	22/05/2015
AIS/MET Services & Data Distribution	D09	High Level Architecture: Final Release	22/05/2015
09.49	R&D	Green - Approved	
	Project Name	Global Interoperability - Airborne Architecture and Avionics Interoperability Roadmap	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Global Interoperability - Airborne Architecture and Avionics Interoperability Roadmap	D04	Batch 1, 2 & 3 - Consolidated functional airborne architecture	16/07/2015
Global Interoperability - Airborne Architecture and Avionics Interoperability Roadmap	D08	Batch 3 - Aircraft capabilities evolution assessment report	15/11/2015
Global Interoperability - Airborne Architecture and Avionics Interoperability Roadmap	D12	Batch 3 - Interoperability risk report	16/12/2015
Global Interoperability - Airborne Architecture and Avionics Interoperability Roadmap	D16	Batch 1, 2 & 3 - Avionics interoperability roadmap	26/08/2015

Global Interoperability - Airborne Architecture and Avionics Interoperability Roadmap	D18	Batch 2 - Complementary trials	30/09/2015
Global Interoperability - Airborne Architecture and Avionics Interoperability Roadmap	D22-001	Multi-function evaluations - Cockpit integration (EXE 09.49-VP-xxx) - Lot 2 - Validation Plan	30/01/2015
Global Interoperability - Airborne Architecture and Avionics Interoperability Roadmap	D22-002	Multi-function evaluations - Cockpit integration (EXE 09.49-VP-xxx) - Lot 2 - Validation Report	30/09/2015
10.01.07	R&D	Green - Approved	
	Project Name	ATC System Specification	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
ATC System Specification	D115	Technical Architecture Document Cycle 4	27/02/2015
10.01.09	R&D	Green - Approved	
	Project Name	ATC System Supervision	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
ATC System Supervision	D20	Selex verification report v2.1.0	02/02/2015
ATC System Supervision	D22	THALES verification report v2.1.0	02/02/2015
ATC System Supervision	D24	Selex support to validation report v2.1.0	11/12/2015
ATC System Supervision	D26	THALES support to validation report v2.1.0	11/12/2015
ATC System Supervision	D30	System requirements and architectural design v3.1.0	01/05/2015
ATC System Supervision	D31	Safety Report S3	10/02/2015
ATC System Supervision	D34	SELEX prototype development delivery sheet V3.0.0	28/05/2015
ATC System Supervision	D35	SELEX prototype development delivery sheet v3.1.0	01/10/2015
ATC System Supervision	D36	THALES prototype development delivery sheet V3.0.0	28/05/2015
ATC System Supervision	D37	THALES prototype development delivery sheet v3.1.0	01/10/2015
ATC System Supervision	D38	Selex verification plan V3.0.0	15/02/2015
ATC System Supervision	D39	Selex verification plan v3.1.0	30/05/2015
ATC System Supervision	D41	THALES verification plan v3.1.0	30/06/2015
ATC System Supervision	D42	User Requirements Development Report v3.1.0	01/02/2015
ATC System Supervision	D43	Selex verification report V3.0.0	17/04/2015
ATC System Supervision	D44	Selex verification report v3.1.0	05/11/2015
ATC System Supervision	D45	THALES verification report V3.0.0	21/01/2015
ATC System Supervision	D46	THALES verification report v3.1.0	05/11/2015
ATC System Supervision	D48	Selex support to validation report v3.1.0	10/12/2015
ATC System Supervision	D50	THALES support to validation report v3.1.0	10/12/2015
ATC System Supervision	D52	Standardisation issues report	10/12/2015
10.02.01	R&D	Green - Approved	
	Project Name	ATC Trajectory Management Design	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
ATC Trajectory Management Design	D12-001	High Level Trajectory Management Design step2	31/03/2015
ATC Trajectory Management Design	D13-001	Trajectory Management Roadmap step2	31/03/2015
ATC Trajectory Management Design	D14-001	ATC TM System Requirements step2	30/06/2015
ATC Trajectory Management Design	D87	Updated Step 1 ATC TM System Requirements - Cycle 2	30/06/2015
ATC Trajectory Management Design	D89	Prototype 3 Availability Note	30/07/2015
ATC Trajectory Management Design	D91	Report on Step 1 Activities 2014-2015	31/03/2015
10.02.02	R&D	Green - Approved	
	Project Name	Trajectory Management Exchange Formats Definition	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Trajectory Management Exchange Formats Definition	D09	Assessment of needs and feasibility study for step 2	30/06/2015
Trajectory Management Exchange Formats Definition	D10	Consolidated Specification of SESAR Trajectory Management Exchange Formats and TM process modelling and design for step 2	30/09/2015
Trajectory Management Exchange Formats Definition	D77	Report on Step 1 Activities 2014-2015	31/03/2015
10.02.05	R&D	Green - Approved	
	Project Name	Flight Object IOP System Requirement & Validation	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Flight Object IOP System Requirement & Validation	D33	Verification Exercise Report	03/03/2015
Flight Object IOP System Requirement & Validation	D42	(VP-711) Verification test Report	08/02/2015
Flight Object IOP System Requirement & Validation	D43	(VP-711) IOP ATC System Requirements (IOP-TS) post-exercise	12/07/2015
Flight Object IOP System Requirement & Validation	D44	(VP-711) Support Operational Validation Report	09/11/2015
Flight Object IOP System Requirement & Validation	D47	(VP-030) Integrated Itec& MUAC Platforms (Availability Notes)	02/07/2015
Flight Object IOP System Requirement & Validation	D49	(VP-030) Verification Test Report	17/09/2015
Flight Object IOP System Requirement & Validation	D52	(VP-711) (Iteration Two) IOP ATC System Requirements (IOP-TS)	16/03/2015
Flight Object IOP System Requirement & Validation	D53	(VP-711) Availability Notes	15/11/2015
Flight Object IOP System Requirement & Validation	D54	(VP-711) Verification Report	15/11/2015
Flight Object IOP System Requirement & Validation	D57	(VP-711-T-ENAV-DSNA) Verification Exercise Report	16/03/2015

10.03.01

R&D

Red - Suspended

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Handling free routing, new approach & departure procedures and mixed separation modes	D11	Support to Standardization Report - Phase 1	23/01/2015
Handling free routing, new approach & departure procedures and mixed separation modes	D18	INDRA Test Execution Report - Phase 2	06/03/2015
Handling free routing, new approach & departure procedures and mixed separation modes	D19	THALES Test Execution Report - Phase 2	06/03/2015
Handling free routing, new approach & departure procedures and mixed separation modes	D20	Support to Operational Validation Report - Phase 2	13/11/2015
Handling free routing, new approach & departure procedures and mixed separation modes	D25	Requirement Coverage Report - Phase 2	01/05/2015

10.03.02

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
ATC Support to ASAS sequencing and merging operations	D53	Selex Support to R4 validation report	30/01/2015
ATC Support to ASAS sequencing and merging operations	D54	Consolidated Requirements R4	30/04/2015
ATC Support to ASAS sequencing and merging operations	D55	Selex Support to R5 validation report	05/12/2015

10.03.08

R&D

Red - Suspended

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
ATC System support to Precision Trajectory Clearances	D01-001	Project Progress report	13/10/2015

10.04.01

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Enhanced Tools for Conflict Detection and Resolution	D09	Selex Prototype	30/09/2015
Enhanced Tools for Conflict Detection and Resolution	D12	SELEX Verification Plan	30/06/2015
Enhanced Tools for Conflict Detection and Resolution	D15	Selex Verification Report	30/09/2015
Enhanced Tools for Conflict Detection and Resolution	D23	Indra Prototype - Phase 2 VP501	30/10/2015
Enhanced Tools for Conflict Detection and Resolution	D26	INDRA Verification Plan - Phase 2 VP501	30/04/2015
Enhanced Tools for Conflict Detection and Resolution	D29	Indra Verification Report - Phase 2 VP501	06/10/2015
Enhanced Tools for Conflict Detection and Resolution	D33	Conflict Detection and Resolution Tools System Requirements - Phase 3	30/06/2015
Enhanced Tools for Conflict Detection and Resolution	D38	Indra Prototype - Phase 3 VP741	30/10/2015
Enhanced Tools for Conflict Detection and Resolution	D41	INDRA Verification Plan - Phase 3 VP741	30/09/2015
Enhanced Tools for Conflict Detection and Resolution	D44	Indra Verification Report - Phase 3 VP741	30/10/2015
Enhanced Tools for Conflict Detection and Resolution	D52	Thales Prototype - Phase 2	30/10/2015
Enhanced Tools for Conflict Detection and Resolution	D53	Thales Verification Plan - Phase 2	01/05/2015
Enhanced Tools for Conflict Detection and Resolution	D54	Thales Verification Report - Phase 2	15/09/2015
Enhanced Tools for Conflict Detection and Resolution	D71	Conflict Detection and Resolution Requirements Refinements - R4	31/12/2015
Enhanced Tools for Conflict Detection and Resolution	D75	Indra Prototype - Phase 2 VP591	19/07/2015
Enhanced Tools for Conflict Detection and Resolution	D76	INDRA Verification Plan - Phase 2 VP591	30/04/2015
Enhanced Tools for Conflict Detection and Resolution	D77	Indra Verification Report - Phase 2 VP591	06/10/2015
Enhanced Tools for Conflict Detection and Resolution	D79	Indra Prototype - Phase 3 VP743	30/10/2015
Enhanced Tools for Conflict Detection and Resolution	D80	INDRA Verification Plan - Phase 3 VP743	30/09/2015
Enhanced Tools for Conflict Detection and Resolution	D81	Indra Verification Report - Phase 3 VP743	30/10/2015

10.04.02

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Precision Conformance Monitoring	D07	Conformance monitoring system requirements phase 2	02/03/2015

Precision Conformance Monitoring	D08	Conformance monitoring system requirements phase 3	01/04/2015
Precision Conformance Monitoring	D16	Common verification plan phase 2	28/02/2015
Precision Conformance Monitoring	D19	Thales prototype delivery sheet phase 2	30/07/2015
Precision Conformance Monitoring	D22	Thales verification plan phase 2	31/05/2015
Precision Conformance Monitoring	D25	Thales verification report phase 2	30/07/2015
Precision Conformance Monitoring	D29	Indra verification plan phase 2	30/05/2015
Precision Conformance Monitoring	D30	Indra verification plan phase 3	30/09/2015
Precision Conformance Monitoring	D32	Indra prototype delivery sheet phase 2	19/06/2015
Precision Conformance Monitoring	D33	Indra prototype delivery sheet phase 3	30/10/2015
Precision Conformance Monitoring	D36	Indra verification report for phase 2	19/06/2015
Precision Conformance Monitoring	D37	Indra verification report for phase 3	30/10/2015
10.04.03	R&D	Green - Approved	
Project Name Safety Nets adaptation to new modes of operation			
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Safety Nets adaptation to new modes of operation	D20	Final Technical Specification for Phase 2 (Enhance Safety Nets)	30/03/2015
Safety Nets adaptation to new modes of operation	D23	Preliminary Technical Specifications for Phase 3	30/06/2015
Safety Nets adaptation to new modes of operation	D25	Test Plan and Description for Phase 3	30/06/2015
Safety Nets adaptation to new modes of operation	D30	Partner 3 Verification Tests report	31/12/2015
Safety Nets adaptation to new modes of operation	D31	Partner 3 Phase 3 : Safety Nets functions delivery sheet	31/12/2015
10.07.01	R&D	Green - Approved	
Project Name Enhanced Datalink Features for all phase of flight			
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Enhanced Datalink Features for all phase of flight	D45	D10.7.1 - Availability Note for MUAC ATC System - 2015	30/06/2015
Enhanced Datalink Features for all phase of flight	D75	D10.7.1 - AGDL System Requirements - TS 2015	23/03/2015
Enhanced Datalink Features for all phase of flight	D79	D10.7.1 - Availability note for APT prototype 1 and Platforms and tools - 2015	08/08/2015
Enhanced Datalink Features for all phase of flight	D82	D10.7.1 - Availability note for prototype 2 and Platforms and tools - 2014	07/03/2015
10.08.01	R&D	Green - Approved	
Project Name Complexity Assessment and Resolution			
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Complexity Assessment and Resolution	D15	Step 2 phase V2 prototype 1 availability notes	25/02/2015
Complexity Assessment and Resolution	D16	Step 2 phase V2 prototype 1 verification report	25/02/2015
Complexity Assessment and Resolution	D18	Step 2 final Technical Specification	01/05/2015
Complexity Assessment and Resolution	D20	Step 2 final verification strategy	15/05/2015
Complexity Assessment and Resolution	D21	Step 2 verification plan for prototype 1	08/07/2015
Complexity Assessment and Resolution	D22	Step 2 verification plan for prototype 2	08/07/2015
10.09.01	R&D	Green - Approved	
Project Name Integration of Queue Management			
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Integration of Queue Management	D09	Consolidated Step 2 TS	30/06/2015
Integration of Queue Management	D14	THALES Step 2 Prototype availability note	30/09/2015
Integration of Queue Management	D20	THALES Step 2 Verification report	30/09/2015
Integration of Queue Management	D25	INDRA Step 2 Coupled AMAN-DMAN prototype availability note	26/10/2015
Integration of Queue Management	D27	INDRA Step 2 Verification plan	03/06/2015
Integration of Queue Management	D28	Step 2 Test cases	03/06/2015
Integration of Queue Management	D29	INDRA Step 2 Verification report	26/10/2015
Integration of Queue Management	D44	DFS CMAN prototype availability note	01/05/2015
Integration of Queue Management	D45	DFS support to validation report	01/05/2015
Integration of Queue Management	D46	DFS CMAN-DMAN availability note	01/03/2015
10.09.02	R&D	Green - Approved	
Project Name Multiple airport arrival/departure management			
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Multiple airport arrival/departure management	D29	10.9.2-D29- Phase B -THALES AMAN Proto Validation Support Report	31/01/2015
Multiple airport arrival/departure management	D36	10.9.2-D36-Thales Phase C prototype availability notice	29/09/2015
Multiple airport arrival/departure management	D55	Step 1 Technical Specification	30/09/2015
Multiple airport arrival/departure management	D56	Phase B- NATMIG Airport Proto Validation Support Report	31/01/2015
Multiple airport arrival/departure management	D61	Thales P3 - Validation Support Report	28/02/2015
10.09.04	R&D	Green - Approved	
Project Name CDA and CCD in high density traffic			
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
CDA and CCD in high density traffic	D11	System requirements definition for ATC support to CDA-CCD - Phase 2 - - DEL	30/06/2015
CDA and CCD in high density traffic	D14	Verification Exercise Plan phase 2 - DEL	25/09/2015
CDA and CCD in high density traffic	D34	Thales prototype developed (for phase 2) - DEL	20/11/2015
CDA and CCD in high density traffic	D40	Thales - Specific Integration & Verification Tests Report phase 2 - DEL	04/12/2015
CDA and CCD in high density traffic	D93	Step 1 technical requirements update to close out V3 (10.9.4 phase 1) - DEL	31/03/2015
CDA and CCD in high density traffic	D99	Thales - Support to the concepts operational validation (phase 2) - Availability Note VP-TBD	04/12/2015

10.10.02

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
CWP Human Factors Design	D94	HMI & HF Guideline Document 2014	30/01/2015
CWP Human Factors Design	D95	Technical Note 2014	30/01/2015
CWP Human Factors Design	D96	Innovation Analysis Report 2014	30/01/2015

10.10.03

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
CWP Prototyping	D73	Common Verification strategy Report - Cycle 2	31/01/2015
CWP Prototyping	D74	INDRA Prototype Engineering activity report - Cycle 2	31/01/2015
CWP Prototyping	D75	SELEX Prototype Engineering activity report - Cycle 2	31/01/2015
CWP Prototyping	D76	THALES Prototype Engineering activity report - Cycle 2	31/01/2015
CWP Prototyping	D77	Synthesis Report - Cycle 2	28/02/2015

11.01.03

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
System Specification & Architecture	D09	D11.1.3-2ma-WOC - Technical Specification Step 1 & Step 2 as available for WOC system (BMT, AFUA, iOATFPL)	27/02/2015
System Specification & Architecture	D10	D11.1.3-2ca-EFPL - EFPL (FOC) Step 1 Technical Specification	31/05/2015
System Specification & Architecture	D11	D11.1.3-2ca-AIM - AIM (FOC) Step 1 Technical Specification	30/06/2015
System Specification & Architecture	D12	D11.1.3-2ca-UDPP - UDPP (FOC) Step 2 Technical Specification	30/06/2015
System Specification & Architecture	D13	D11.1.3-2ca-FR - FR (FOC) Step 1 Technical Specification	30/06/2015
System Specification & Architecture	D14	D11.1.3-2ca-IOP - IOP (FOC) Step 1 Technical Specification	30/06/2015
System Specification & Architecture	D17	D11.1.3-3ca - FOC System Interface Requirements Step 1 and Step2 (BMT, EFLP, FR and AIM, UDPP and IOP and A/G-AIM)	30/09/2015

11.01.04

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Prototype(s) Specification, Development & Verification	D15	D11.1.4-2mb-WOC - Update WOC Domain System Prototype AN Step 1 (BMT, AFUA, iOATFPL)	03/11/2015
Prototype(s) Specification, Development & Verification	D20	D11.1.4-5ca-AIM - AIM Step 1 and Step 2 as available verified FOC (sub-) system available for operational validation AN	30/06/2015
Prototype(s) Specification, Development & Verification	D21	D11.1.4-5ca-FR - Free Routing Step 1 and Step 2 as available verified FOC (sub-) system available for operational validation AN	30/06/2015
Prototype(s) Specification, Development & Verification	D22	D11.1.4-5ca-AFUA - AFUA (FOC) Step 1 verified & validated (sub-) system available for operational validation AN	30/06/2015
Prototype(s) Specification, Development & Verification	D23	D11.1.4-5ca-UDPP - UDPP Update Step 2 as available verified FOC (sub-) system available for operational validation AN	30/06/2015
Prototype(s) Specification, Development & Verification	D24	D11.1.4-5ca-IOP - IOP (FOC) Step 1 verified & validated (sub-) system available for operational validation AN	28/07/2015

11.01.05

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Pre-Operational Validation	D15	D11.1.5-1ca-MET - FOC Validation Plan - EXE-791 Step 1 V2 (BMT-MET)	21/05/2015
Pre-Operational Validation	D16	D11.1.5-1ca-EFPL - Contribution to EXE-07.06.02-VP-713 – EFPL Step 1 V3 Validation Plan	28/05/2015
Pre-Operational Validation	D17	D11.1.5-1ca-FR - Contribution to EXE-04.02.00-VP-797– Free Route Step 2 V2 Validation Plan	04/06/2015
Pre-Operational Validation	D18	D11.1.5-1cb-UDPP - Update Contribution to EXE-07.06.02-VP-730 – UDPP Step 2 V2 Validation Plan	02/07/2015
Pre-Operational Validation	D19	D11.1.5-1mb-WOC - Update WOC Validation plan Step 1 (BMT, AFUA, iOATFPL)	07/07/2015
Pre-Operational Validation	D20	D11.1.5-1cb-AIM - Update Contribution to EXE-13.02.02-VP-461 – AIM Step 1 V3 Validation Plan	17/09/2015
Pre-Operational Validation	D21	D11.1.5-1ca-IOP - Contribution to EXE-07.06.02-VP-732– IOP Step 1 V2 Validation Plan	05/11/2015
Pre-Operational Validation	D24	D11.1.5-2ma-WOC - Validation report for stand-alone WOC validation for Step 1 - (BMT, AFUA, iOATFPL)	03/03/2015
Pre-Operational Validation	D28	D11.1.5.3c-BMT - Validation Report integrated validation across WPs for Step 1 V2– EXE775 (BMT)	12/02/2015
Pre-Operational Validation	D29	D11.1.5.3c-AFUA - Contribution to EXE-07.05.04-VP-710 – AFUA Step 1 V3 Validation Report	31/07/2015

11.02.01

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Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Requirements for MET Information	D23	11.2.1-D23 MET OSED	26/06/2015

Requirements for MET Information	D24	11.2.1-D24 MET SPR	26/06/2015
Requirements for MET Information	D25	11.2.1-D25: MET INTEROP	26/06/2015
Requirements for MET Information	D26	11.2.1-D26: MET DOD	30/11/2015
Requirements for MET Information	D31	11.2.1-D31 MET TAD	28/02/2015

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R&D

Green - Approved

Project Name

MET Information System Development, Verification & Validation

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
MET Information System Development, Verification & Validation	D13	Technical Specification LOCAL prototype, in support of release 4 & release 5	31/03/2015
MET Information System Development, Verification & Validation	D14	Technical Specification SUB-REGIONAL prototype, in support of release 4 & release 5	31/03/2015
MET Information System Development, Verification & Validation	D15	Technical Specification NETWORK prototype, in support of release 4 & release 5	31/03/2015
MET Information System Development, Verification & Validation	D16	Verification Plan LOCAL prototype, in support of release 4 & release 5	30/04/2015
MET Information System Development, Verification & Validation	D17	Verification Report LOCAL prototype incl. Prototype Availability Note, in support of release 4 & release 5	30/06/2015
MET Information System Development, Verification & Validation	D18	Verification Plan SUB-REGIONAL prototype, in support of release 4 & release 5	30/04/2015
MET Information System Development, Verification & Validation	D19	Verification Report SUB-REGIONAL prototype incl. Prototype Availability Note, in support of release 4 & release 5	30/06/2015
MET Information System Development, Verification & Validation	D20	Verification Plan NETWORK prototype, in support of release 4 & release 5	30/04/2015
MET Information System Development, Verification & Validation	D21	Verification Report NETWORK prototype incl. Prototype Availability Note, in support of release 4 & release 5	30/06/2015
MET Information System Development, Verification & Validation	D26	Verification Report 4DWxCube prototype incl. Prototype Availability Note, in support of release 3 & release 4	31/03/2015
MET Information System Development, Verification & Validation	D27	Technical Specification 4DWxCube, in support of release 4 & release 5	31/03/2015
MET Information System Development, Verification & Validation	D28	Interface Requirements Specification 4DWxCube to SWIM, in support of release 4 & release 5	31/03/2015
MET Information System Development, Verification & Validation	D29	Verification Plan 4DWxCube prototype, in support of release 4 & release 5	30/04/2015
MET Information System Development, Verification & Validation	D30	Verification Report 4DWxCube prototype incl. Prototype Availability Note, in support of release 4 & release 5	30/06/2015
MET Information System Development, Verification & Validation	D34	Validation Report Contributions, in support of release 3 & release 4	30/06/2015
MET Information System Development, Verification & Validation	D35	Validation Plan Contributions, in support of release 4 & release 5	31/07/2015
MET Information System Development, Verification & Validation	D36	Validation Report Contributions, in support of release 4 & release 5	31/12/2015
MET Information System Development, Verification & Validation	D37	Project Closeout Report	15/11/2015

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Green - Approved

Project Name

Flight and Wing Operations Centres

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Flight and Wing Operations Centres	D08	D11.0.1-4e - Management Report - Gate 5	12/11/2015

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Green - Approved

Project Name

Meteorological Services (MET) Co-ordination & Management

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Meteorological Services (MET) Co-ordination & Management	D06	Gate Report	31/03/2015
Meteorological Services (MET) Co-ordination & Management	D07	Gate Report	30/11/2015

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Green - Approved

Project Name

Airport Systems Specification drafting and maintenance

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Airport Systems Specification drafting and maintenance	D23	Step1-4th Iteration- Airport Technical Architecture Description	02/12/2015
Airport Systems Specification drafting and maintenance	D25	Step2-2nd Iteration Airport Technical Architecture Description	15/12/2015

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Green - Approved

Project Name

Runway Management Tools

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Runway Management Tools	D18	P3_Initial System Requirements	26/03/2015
Runway Management Tools	D21	P3_Indra Pre-Industrial prototype	02/10/2015
Runway Management Tools	D22	P3_Selex Pre-Industrial prototype	11/12/2015
Runway Management Tools	D23	P3_Indra Verification plan	22/07/2015
Runway Management Tools	D24	P3_Selex Verification plan	07/10/2015
Runway Management Tools	D25	P3_Test cases specifications	17/05/2015
Runway Management Tools	D26	P3_Indra Test execution	07/10/2015
Runway Management Tools	D27	P3_Selex Test execution	14/12/2015

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Green - Approved

Project Name

Runway Wake Vortex Detection, Prediction and decision support tools

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Runway Wake Vortex Detection, Prediction and decision support tools	D48	Updated TS for TBS PW separation and ORD	31/12/2015

Runway Wake Vortex Detection, Prediction and decision support tools	D50	Delivery Note closing prototype development of micro-scale turbulent airflow model	30/03/2015
Runway Wake Vortex Detection, Prediction and decision support tools	D51	Technical Study report for TBS PW separation and ORD	31/03/2015
Runway Wake Vortex Detection, Prediction and decision support tools	D52	Technical study report of wake vortex micro-scale turbulent airflow interaction methodologies – including "in-ground effects"	30/03/2015
Runway Wake Vortex Detection, Prediction and decision support tools	D54	Delivery note closing support to validation exercise	30/03/2015
Runway Wake Vortex Detection, Prediction and decision support tools	D55	Delivery Note closing initial TS for TBS PW separation ORD and WDS Arrival	30/03/2015
Runway Wake Vortex Detection, Prediction and decision support tools	D57	Prototype Availability Note for TBS PW separation ORD and WDS Arrival	30/08/2015
Runway Wake Vortex Detection, Prediction and decision support tools	D61	Dedicated Verification Plan for TBS PW separation ORD and WDS Arrival Report	30/06/2015
Runway Wake Vortex Detection, Prediction and decision support tools	D62	Verification Report for TBS PW separation ORD and WDS Arrival Report	02/09/2015
Runway Wake Vortex Detection, Prediction and decision support tools	D64	Delivery note closing prototype intégration WA4	31/12/2015

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Green - Approved

Project Name

Improved Surveillance for surface management

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Improved Surveillance for surface management	D37	Phase3 -Prototype Documentation (Thales)	03/07/2015
Improved Surveillance for surface management	D38	Phase3 -Prototype Documentation (INDRA)	03/07/2015
Improved Surveillance for surface management	D39	Phase3 -Prototype Documentation (DFS)	03/07/2015
Improved Surveillance for surface management	D40	Phase3 - Specific Verification Strategy (Thales)- Deliverable	25/05/2015
Improved Surveillance for surface management	D41	Phase3- Specific Verification Strategy (INDRA)- Deliverable	25/05/2015
Improved Surveillance for surface management	D42	Phase3- Specific Verification Strategy (DFS)-Deliverable	25/05/2015
Improved Surveillance for surface management	D43	Phase3 -Specific Test Reports (Thales)	24/07/2015
Improved Surveillance for surface management	D44	Phase3 -Specific Test Reports (INDRA)	24/07/2015
Improved Surveillance for surface management	D45	Phase3 -Specific Test Reports (DFS)	24/07/2015
Improved Surveillance for surface management	D46	Phase3 -Support to Operational Validation (Thales)- Deliverable	18/12/2015
Improved Surveillance for surface management	D47	Phase3 -Support to Operational Validation (INDRA)- Deliverable	18/12/2015
Improved Surveillance for surface management	D48	Phase3 -Support to Operational Validation (DFS)- Deliverable	18/12/2015
Improved Surveillance for surface management	D49	Phase3-Common Verification startegy-Deliverable	22/02/2015
Improved Surveillance for surface management	D50	Phase3 -Consolidated verification report	19/10/2015

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Green - Approved

Project Name

Enhanced Surface Safety Nets

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Enhanced Surface Safety Nets	D32	Phase2 -Support to Operational Validation (DFS) - Report	30/01/2015
Enhanced Surface Safety Nets	D37	Phase3 - Support to Standardization - Report	18/12/2015
Enhanced Surface Safety Nets	D38	Phase3 -Prototype Documentation (Thales)	29/05/2015
Enhanced Surface Safety Nets	D39	Phase3 -Prototype Documentation (SELEX)	29/05/2015
Enhanced Surface Safety Nets	D40	Phase3 -Prototype Documentation (NATMIG)	30/01/2015
Enhanced Surface Safety Nets	D41	Phase3 -Prototype Documentation (DFS)	30/09/2015
Enhanced Surface Safety Nets	D42	Phase3 -Specific Test Reports (Thales)	30/03/2015
Enhanced Surface Safety Nets	D43	Phase3 -Specific Test Reports (SELEX)	30/04/2015
Enhanced Surface Safety Nets	D44	Phase3 -Specific Test Reports (NATMIG)	30/09/2015
Enhanced Surface Safety Nets	D45	Phase3 -Specific Test Reports (DFS)	30/09/2015
Enhanced Surface Safety Nets	D46	Phase3 -Support to Operational Validation (Thales) - Report	30/09/2015
Enhanced Surface Safety Nets	D61	Phase3 -Prototype Documentation (INDRA)	30/09/2015
Enhanced Surface Safety Nets	D62	Phase3 -Specific Test Reports (INDRA)	30/11/2015

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Project Name

Enhanced Surface Routing

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Enhanced Surface Routing	D16	Phase 3- Prototype INDRA	30/09/2015
Enhanced Surface Routing	D17	Phase 3- Test definition	30/01/2015
Enhanced Surface Routing	D19	Phase 3- Test report	18/12/2015
Enhanced Surface Routing	D35	Phase 3- Prototye NATMIG	01/04/2015

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Project Name

Enhanced Surface Guidance

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Enhanced Surface Guidance	D16	Phase 2 - Selex ES prototype Availability Note	30/01/2015
Enhanced Surface Guidance	D17	Phase 2 - NATMIG prototype Availability Note	30/01/2015
Enhanced Surface Guidance	D20	Phase 2 - Selex ES Verification Report	30/01/2015
Enhanced Surface Guidance	D21	Selex ES support to EXE-06.07.03-VP-092 delivery note	26/06/2015
Enhanced Surface Guidance	D22	Phase 3 - Technical Specification	31/03/2015
Enhanced Surface Guidance	D25	Phase 3 - Verification Plan	26/06/2015

Enhanced Surface Guidance	D26	Phase 3 - Selex ES prototype Availability Note	27/11/2015
Enhanced Surface Guidance	D27	Phase 3 - NATMIG prototype Availability Note	31/12/2015
Enhanced Surface Guidance	D30	Phase 3 - Selex ES Verification Report	27/11/2015
Enhanced Surface Guidance	D33	Phase 2 - NATMIG Verification Report	08/01/2015
Enhanced Surface Guidance	D34	NATMIG support to EXE-06.07.03-VP-720 delivery note	07/07/2015
Enhanced Surface Guidance	D35	Phase 3 - Indra prototype Availability Note	30/09/2015
Enhanced Surface Guidance	D36	Phase 3 - NATMIG Verification Report	31/12/2015
Enhanced Surface Guidance	D37	Phase 3 - Indra Verification report	31/12/2015

12.03.05 R&D Green - Approved

Project Name **Enhanced Sequencing Tools**

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Enhanced Sequencing Tools	D08-002	Phase 2 - Preliminary Technical Specification	04/07/2015
Enhanced Sequencing Tools	D16	Step 2 Technical Specification	07/10/2015
Enhanced Sequencing Tools	D19	Phase 3 - Prototype	16/11/2015
Enhanced Sequencing Tools	D20	Phase 3 - Verification Plan	30/10/2015
Enhanced Sequencing Tools	D22	Phase 3 - Verification Report	18/12/2015

12.04.03 R&D Green - Approved

Project Name **Enhanced FDPs at airports**

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Enhanced FDPs at airports	D09	Phase 3 - Technical specifications	31/01/2015
Enhanced FDPs at airports	D11	Phase 3 - Verification strategy	11/06/2015
Enhanced FDPs at airports	D13	Phase 3 - Prototype (Selex S.I.)	31/08/2015
Enhanced FDPs at airports	D14	Phase 3 - Prototype (Indra)	30/09/2015
Enhanced FDPs at airports	D15	Phase 3 - Test report	30/11/2015

12.04.04 R&D Green - Approved

Project Name **Integration of Departure Management and Surface Management**

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Integration of Departure Management and Surface Management	D14	S2V3 INDRA prototype executable and availability note	26/10/2015
Integration of Departure Management and Surface Management	D15	S2V3 SELEX prototype executable and availability note	26/10/2015
Integration of Departure Management and Surface Management	D16	S2V3 THALES prototype executable and availability note	26/10/2015
Integration of Departure Management and Surface Management	D18	System requirements definition S2V3	05/06/2015
Integration of Departure Management and Surface Management	D20	Verification Strategy S2V3	31/07/2015
Integration of Departure Management and Surface Management	D21	S2V3 INDRA prototype verification report	26/10/2015
Integration of Departure Management and Surface Management	D22	S2V3 SELEX prototype verification report	30/09/2015
Integration of Departure Management and Surface Management	D23	S2V3 THALES prototypeverification report	30/09/2015
Integration of Departure Management and Surface Management	D35	INDRA Verification S2V3	18/09/2015
Integration of Departure Management and Surface Management	D36	SELEX Verification Plan S2V3	18/09/2015
Integration of Departure Management and Surface Management	D37	THALES Verification Plan S2V3	18/09/2015

12.04.06 R&D Green - Approved

Project Name **Remotely Operated Tower Technology Enablers**

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Remotely Operated Tower Technology Enablers	D01	Project final report	31/05/2015
Remotely Operated Tower Technology Enablers	D19	Interaction technology prototype V3	28/02/2015
Remotely Operated Tower Technology Enablers	D20	Target analysis technology prototype V3	28/02/2015

12.04.07 R&D Green - Approved

Project Name **Remotely Operated Tower Multiple Controlled Airports with Integrated Working Position**

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Remotely Operated Tower Multiple Controlled Airports with Integrated Working Position	D07	Remote tower specifications - iteration 3 Consolidated DEL	28/02/2015
Remotely Operated Tower Multiple Controlled Airports with Integrated Working Position	D15	NATMIG multiple remote AFIS prototype	26/02/2015

12.04.08 R&D Green - Approved

Project Name **Remotely Operated Tower Technology used for Contingency and Enhanced Local Operations**

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Remotely Operated Tower Technology used for Contingency and Enhanced Local Operations	D21	NATMIG V3 contingency prototype	23/01/2015
Remotely Operated Tower Technology used for Contingency and Enhanced Local Operations	D36	INDRA V2 contingency prototype availability note	30/01/2015
Remotely Operated Tower Technology used for Contingency and Enhanced Local Operations	D38	INDRA V2 verification report	30/01/2015

Remotely Operated Tower Technology used for Contingency and Enhanced Local Operations	D44	INDRA V3 contingency prototype availability note	30/09/2015
Remotely Operated Tower Technology used for Contingency and Enhanced Local Operations	D45	INDRA V3 verification plan	29/05/2015
Remotely Operated Tower Technology used for Contingency and Enhanced Local Operations	D46	INDRA V3 verification report	30/09/2015

12.04.09

R&D Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
3d Modelling for remote tower operations	D10	Report on recommendations for development of 3D models for operational use	07/01/2015
3d Modelling for remote tower operations	D14	Verification report - refined software	08/02/2015
3d Modelling for remote tower operations	D19	Close-out report	01/01/2015
3d Modelling for remote tower operations	D20	Report assessing possible conceptual and technology areas subject for standardization	27/02/2015

12.05.04

R&D Green - Approved

Project Name Integrated Tower Working Position (CWP) Design, Specification Prototyping and Test/Validation

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Integrated Tower Working Position (CWP) Design, Specification Prototyping and Test/Validation	D47	Frequentis - DFS prototype availability note - Phase 3	01/07/2015
Integrated Tower Working Position (CWP) Design, Specification Prototyping and Test/Validation	D48	Indra prototype availability note - Phase 3	01/07/2015
Integrated Tower Working Position (CWP) Design, Specification Prototyping and Test/Validation	D49	Thales prototype availability note - Phase 3	01/07/2015
Integrated Tower Working Position (CWP) Design, Specification Prototyping and Test/Validation	D50	Selex prototype availability note - Phase 3	01/07/2015
Integrated Tower Working Position (CWP) Design, Specification Prototyping and Test/Validation	D51	Frequentis - DFS Verification Plan - Phase 3	23/06/2015
Integrated Tower Working Position (CWP) Design, Specification Prototyping and Test/Validation	D52	Indra Verification Plan - Phase 3	23/06/2015
Integrated Tower Working Position (CWP) Design, Specification Prototyping and Test/Validation	D53	Thales Verification Plan - Phase 3	23/06/2015
Integrated Tower Working Position (CWP) Design, Specification Prototyping and Test/Validation	D54	Selex Verification Plan - Phase 3	23/06/2015
Integrated Tower Working Position (CWP) Design, Specification Prototyping and Test/Validation	D55	Test cases specification - Phase 3	01/05/2015
Integrated Tower Working Position (CWP) Design, Specification Prototyping and Test/Validation	D56	Frequentis - DFS Verification Report - Phase 3	20/08/2015
Integrated Tower Working Position (CWP) Design, Specification Prototyping and Test/Validation	D57	Indra Verification Report - Phase 3	20/08/2015
Integrated Tower Working Position (CWP) Design, Specification Prototyping and Test/Validation	D58	Thales Verification Report - Phase 3	20/08/2015
Integrated Tower Working Position (CWP) Design, Specification Prototyping and Test/Validation	D59	Selex Verification Report - Phase 3	20/08/2015

12.06.02

R&D Green - Approved

Project Name The Airport Operations Plan (AOP), decision support tools and conflict detection tools to be integrated in APOC for managing the overall performance of the Airport

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
The Airport Operations Plan (AOP), decision support tools and conflict detection tools to be integrated in APOC for managing the overall performance of the Airport	D01-016	Management Report	06/10/2015
The Airport Operations Plan (AOP), decision support tools and conflict detection tools to be integrated in APOC for managing the overall performance of the Airport	D56	Phase 3 AOP Technical Specification	10/06/2015
The Airport Operations Plan (AOP), decision support tools and conflict detection tools to be integrated in APOC for managing the overall performance of the Airport	D57	Phase 3 AOP Prototype Availability Note	11/11/2015

The Airport Operations Plan (AOP), decision support tools and conflict detection tools to be integrated in APOC for managing the overall performance of the Airport	D58	Phase 3 AOP Verification Plan	14/09/2015
The Airport Operations Plan (AOP), decision support tools and conflict detection tools to be integrated in APOC for managing the overall performance of the Airport	D59	Phase 3 AOP Verification Report	16/11/2015

12.06.03 R&D Green - Approved

Project Name **Enhanced MET-systems with CDM**

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Enhanced MET-systems with CDM	D12	D12 - V3 Technical Specification Refinement	02/03/2015
Enhanced MET-systems with CDM	D16	D16 Prototype V3 Availability Note	21/09/2015
Enhanced MET-systems with CDM	D17	D17 - V3 Verification Planning	20/07/2015
Enhanced MET-systems with CDM	D18	D18 - V3 Verification Report	24/08/2015

12.06.07 R&D Green - Approved

Project Name **AMAN, SMAN, and DMAN fully integrated into CDM processes**

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
AMAN, SMAN, and DMAN fully integrated into CDM processes	D15	System Requirements definition for Phase 2	15/05/2015
AMAN, SMAN, and DMAN fully integrated into CDM processes	D19	Common verification plan for Phase 2	29/06/2015
AMAN, SMAN, and DMAN fully integrated into CDM processes	D21	SELEX prototype development - Phase 2	30/10/2015
AMAN, SMAN, and DMAN fully integrated into CDM processes	D22	Specific Verification Strategy for SELEX Prototype for Phase 2	21/10/2015
AMAN, SMAN, and DMAN fully integrated into CDM processes	D23	Tests execution and report for SELEX Prototype for Phase 2	23/12/2015
AMAN, SMAN, and DMAN fully integrated into CDM processes	D25	INDRA prototype development - Phase 2	03/09/2015
AMAN, SMAN, and DMAN fully integrated into CDM processes	D26	Specific Verification Strategy for INDRA Prototype for Phase 2	04/09/2015
AMAN, SMAN, and DMAN fully integrated into CDM processes	D27	Tests execution and report for INDRA Prototype for Phase 2	05/11/2015

12.06.08 R&D Green - Approved

Project Name **Introduction of the UDPP and collaborative departure sequence**

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Introduction of the UDPP and collaborative departure sequence	D02	Phase 1 Technical Specification	02/03/2015
Introduction of the UDPP and collaborative departure sequence	D03	Phase 2 Technical Specification	19/06/2015
Introduction of the UDPP and collaborative departure sequence	D09	Phase 1 Prototype	01/06/2015
Introduction of the UDPP and collaborative departure sequence	D10	Phase 2 Prototype	16/11/2015
Introduction of the UDPP and collaborative departure sequence	D11	Phase 1 Verification Plan	12/03/2015
Introduction of the UDPP and collaborative departure sequence	D12	Phase 2 Verification Plan	31/07/2015
Introduction of the UDPP and collaborative departure sequence	D15	Phase 1 Verification Report	01/06/2015
Introduction of the UDPP and collaborative departure sequence	D16	Phase 2 Verification Report	16/11/2015

12.06.09 R&D Green - Approved

Project Name **Integration of CDM in the SWIM environment**

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Integration of CDM in the SWIM environment	D11	Phase 2 Prototype Availability Note	15/05/2015
Integration of CDM in the SWIM environment	D12	Phase 2 Verification Plan	01/01/2015
Integration of CDM in the SWIM environment	D14	Phase 2 Verification Report	16/01/2015
Integration of CDM in the SWIM environment	D19	Phase 3 Technical Specification	28/04/2015
Integration of CDM in the SWIM environment	D20	Phase 3 Prototype Availability Note	25/09/2015
Integration of CDM in the SWIM environment	D21	Phase 3 Verification Plan	30/07/2015
Integration of CDM in the SWIM environment	D22	Phase 3 Verification Report	25/09/2015

12.07.03 R&D Green - Approved

Project Name **Airport Performance Assessment and Management Support Systems**

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Airport Performance Assessment and Management Support Systems	D20	Phase 3 - APAMS Technical Specification	05/06/2015
Airport Performance Assessment and Management Support Systems	D21	Phase 3 - APAMS Prototype Availability Note	28/10/2015
Airport Performance Assessment and Management Support Systems	D22	Phase 3 - APAMS Verification Report	02/11/2015

Airport Performance Assessment and Management Support Systems	D24	Phase 3 - APAMS Verification Plan	09/09/2015
12.07.05	R&D	Green - Approved	
	Project Name	Improved weather information systems	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Improved weather information systems	D11	Phase 3 - Improved Weather Information System Requirements	27/02/2015
Improved weather information systems	D12	Phase 3 - IWIS Prototype Availability Note	30/10/2015
Improved weather information systems	D14	Phase 3 - Verification Plan - Report	30/10/2015
Improved weather information systems	D16	Phase 3 - Verification Report	11/12/2015
13.02.02	R&D	Green - Approved	
	Project Name	AIM	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
AIM	D18	R4 EXE 462 VALR authoring, review, handover	27/02/2015
AIM	D19	R5/6 EXE 461 OSED	02/03/2015
AIM	D21	R5/6 EXE 461 TS	28/08/2015
AIM	D22	R5/6 EXE 461 Integrated Digital Briefing Prototype AN	16/10/2015
AIM	D26	R5/6 EXE 461 VALP	16/10/2015
13.02.03	R&D	Green - Approved	
	Project Name	Enhanced DCB	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Enhanced DCB	D322	SPR S1 R5	28/02/2015
Enhanced DCB	D342	VALP S1 R5	30/03/2015
Enhanced DCB	D351	Technical Specification S1 R4 (Final): Enhanced DCB	01/06/2015
Enhanced DCB	D352	Technical Specification S1 R5 (initial): Fed DCB and TT Manager	31/03/2015
Enhanced DCB	D362	Availability Note S1 R5: Fed DCB and TT Manager	01/09/2015
Enhanced DCB	D382	VALR S1 R4	30/04/2015
Enhanced DCB	D402	OSED S2 V2 R6	18/12/2015
Enhanced DCB	D421	SPR S2 V2 R5	30/06/2015
Enhanced DCB	D443	VALP S2 R6	30/09/2015
Enhanced DCB	D451	Technical Specification S2 V2 R4 (final): Multiple Constraint Resolver and GNWP	28/02/2015
Enhanced DCB	D454	Technical Specification S2 V2 R6 (initial): Fully collaborative DCB and what-if	28/06/2015
Enhanced DCB	D462	Availability Note S2 V2 R5 Prototype: Coll. 4D Constraint manager incl ASM Integration	14/04/2015
Enhanced DCB	D481	VALR S2 R4	28/02/2015
14.00	Mgt	Green - Approved	
	Project Name	Global Co-ordination & Management	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Global Co-ordination & Management	D15-005	Work Package Management Plan (WMP)	20/12/2015
14.01.03	R&D	Green - Approved	
	Project Name	SWIM Design	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
SWIM Design	D37	SWIM (GG AG) Architectural Definition for Step 3 - Iteration 3.1	12/09/2015
SWIM Design	D38	SWIM Profiles for Step 3 - Iteration 3.1	12/09/2015
14.01.04	R&D	Green - Approved	
	Project Name	Interface specification and Services Technical requirements	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Interface specification and Services Technical requirements	D43-001	SWIM-TI Technical Specifications Catalogue 3.1	26/10/2015
Interface specification and Services Technical requirements	D43-002	SWIM-TI Public Key Infrastructure Technical Specification 3.1	26/10/2015
Interface specification and Services Technical requirements	D43-003	SWIM-TI Bridge Certification Authority Technical Specification 3.1	26/10/2015
Interface specification and Services Technical requirements	D43-004	SWIM-TI Run-Time Registry Technical Specification 3.1	26/10/2015
Interface specification and Services Technical requirements	D43-005	SWIM-TI Yellow Profile Technical Specification 3.1	26/10/2015
Interface specification and Services Technical requirements	D43-006	SWIM-TI Blue Profile Technical Specification 3.1	26/10/2015
Interface specification and Services Technical requirements	D43-007	SWIM-TI Purple Profile Technical Specification 3.1	26/10/2015
14.02.01	R&D	Green - Approved	
	Project Name	SWIM Middleware	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
SWIM Middleware	D02	Ground-Ground SWIM Technologies Benchmarking Report (Iteration 2.1)	22/10/2015
SWIM Middleware	D03	Ground-Ground SWIM Evaluation Scenarios Definition (Iteration 3.1)	29/05/2015
SWIM Middleware	D04	Ground-Ground SWIM Technologies Benchmarking Report (Iteration 3.1)	02/10/2015
SWIM Middleware	D07	A/G SWIM Prototype Design - Iteration 1	01/01/2015
14.02.02	R&D	Green - Approved	
	Project Name	Swim Security solutions	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Swim Security solutions	D01	Final Project Report	28/02/2015
Swim Security solutions	D26	SWIM security spec-design for iteration 3.0	13/01/2015
Swim Security solutions	D29	SWIM security spec-design iteration 3.1	28/02/2015

14.02.03

R&D

Red - Suspended

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
SWIM technical supervision	D18	System Definition V3.1.0	26/10/2015
SWIM technical supervision	D20	Verification report V3.0.0	23/01/2015

14.02.09

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
SWIM Platform Development and Demonstration Delivery	D32	V3.0.0 SWIM technical infrastructure definition	10/01/2015
SWIM Platform Development and Demonstration Delivery	D35	V3.0.0 verification plan	13/03/2015
SWIM Platform Development and Demonstration Delivery	D36	V3.0.0 verification report	29/05/2015
SWIM Platform Development and Demonstration Delivery	D37	V3.1.0 SWIM technical infrastructure definition	11/12/2015
SWIM Platform Development and Demonstration Delivery	D42-005	SWIM technical infrastructure demonstration - 2015	18/11/2015
SWIM Platform Development and Demonstration Delivery	D78	V3.0.0 SWIM technical infrastructure packaging and documentation - Frequentis	15/04/2015
SWIM Platform Development and Demonstration Delivery	D79	V3.0.0 SWIM technical infrastructure packaging and documentation - Indra	15/04/2015
SWIM Platform Development and Demonstration Delivery	D80	V3.0.0 SWIM technical infrastructure packaging and documentation - Thales	15/04/2015
SWIM Platform Development and Demonstration Delivery	D85	WP1.3.1 Preliminary Solution Evaluations Report - V2	03/01/2015

14.04

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
SWIM Exploitation	D76-006	SWIM Communication management plan (annual) 6	20/12/2015
SWIM Exploitation	D77-018	SWIM Communication action plan (quarterly) 18	20/03/2015
SWIM Exploitation	D77-019	SWIM Communication action plan (quarterly) 19	20/06/2015
SWIM Exploitation	D77-020	SWIM Communication action plan (quarterly) 20	20/09/2015
SWIM Exploitation	D77-021	SWIM Communication action plan (quarterly) 21	20/12/2015
SWIM Exploitation	D87	SWIM communication execution monitoring and webmastering - 2015	15/12/2015

15.00

Mgt

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Global Co-ordination & Management	D25	WP15 Management Report 2015	30/09/2015

15.01.06

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Spectrum Management & Impact Assessment	D04	Updated SESAR Spectrum Strategy (Part 1) Deliverable	31/03/2015
Spectrum Management & Impact Assessment	D23	Briefing Material Report Deliverable WRC-2015	13/03/2015
Spectrum Management & Impact Assessment	D28	Spectrum Efficiency Report Deliverable	27/11/2015

15.01.07

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
CNS System of System definition and roadmap	D01-00	CNS Technical Architecture Document	30/06/2015

15.02.04

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Future Mobile data Link system definition	D02	WA1 Periodic report	20/03/2015
Future Mobile data Link system definition	D07	UAS FCI Integration Requirements	20/03/2015
Future Mobile data Link system definition	D08	WA2 Periodic report	28/09/2015
Future Mobile data Link system definition	D10	Functional requirements specification	17/02/2015
Future Mobile data Link system definition	D11	ATN/IPS Protocol Specification	09/06/2015
Future Mobile data Link system definition	D12	Airborne Physical Architecture Specification	28/09/2015
Future Mobile data Link system definition	D13	Ground Physical Architecture Specification	28/09/2015

15.02.05

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
I4D Trajectory Exchange using SatCom IRIS Precursor	D03	Report on security, safety and activities	23/12/2015

15.02.06

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Future Mobile Satellite Communication	D104	SATCOM Mission Requirements Definition (Final issue)	10/12/2015
Future Mobile Satellite Communication	D106	SatCom Sys.EATMN and SWIM services Interfaces Definition (final version)	26/02/2015
Future Mobile Satellite Communication	D111	SATCOM External Interface Requirement Document (final version)	30/11/2015
Future Mobile Satellite Communication	D113	Iris Test bed Requirements document for E-OCVM V2 and V3 (fv)	30/06/2015

Future Mobile Satellite Communication	D115-01	Verification test procedures definition and test execution for E-OCVM V2	30/10/2015
Future Mobile Satellite Communication	D116	V&V Test Plan for E-OCVM V3 (including V2 update) (fv)	09/07/2015
15.02.07	R&D	Green - Approved	
	Project Name	Airport Surface Datalink	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Airport Surface Datalink	D07-002	Standardization and Global Interoperability	20/02/2015
15.03.02	R&D	Green - Approved	
	Project Name	Navigation Infrastructure Rationalisation	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Navigation Infrastructure Rationalisation	D08	D2.0. Project Management Report (Phase 2)	31/12/2015
Navigation Infrastructure Rationalisation	D09	D2.1. Coordination Report (Phase 2)	31/12/2015
Navigation Infrastructure Rationalisation	D10	D2.2 - Requirements for rationalisation of conventional NavAids during IP3.	31/12/2015
Navigation Infrastructure Rationalisation	D11	D2.3 - Rationalisation Planning for ECAC	15/07/2015
Navigation Infrastructure Rationalisation	D12	D2.4.A - DME Enhancement Analysis	11/12/2015
Navigation Infrastructure Rationalisation	D13	D2.4.B - A-PNT/ Alternate Technology Options	05/10/2015
15.03.04	R&D	Green - Approved	
	Project Name	GNSS Baseline Study	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
GNSS Baseline Study	D10	GNSS Iono Vulnerability Report	31/12/2015
GNSS Baseline Study	D11	GNSS RFI Vulnerability Report	30/06/2015
GNSS Baseline Study	D12	GNSS Monitoring Report	31/12/2015
GNSS Baseline Study	D13	Mode N APNT System Concept Report	30/06/2015
15.03.06	R&D	Green - Approved	
	Project Name	GBAS Cat II/III L1 Approach	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
GBAS Cat II/III L1 Approach	D02-009	LATO and IGWG meeting reports 9	01/01/2015
GBAS Cat II/III L1 Approach	D14	TN: PT2 Delivery Form and Verification Report (Phase 2)	01/01/2015
GBAS Cat II/III L1 Approach	D18	Implementation & SIS validation report site 2	01/01/2015
GBAS Cat II/III L1 Approach	D19	System Validation Report	01/01/2015
GBAS Cat II/III L1 Approach	D23-005	Report on submissions to and activities of relevant GBAS standardisation groups 6	01/01/2015
GBAS Cat II/III L1 Approach	D25	GBAS CAT II-III L1 Cost Assessment Report	01/01/2015
GBAS Cat II/III L1 Approach	D34-001	Regulatory Aspects - Initial Report	01/06/2015
15.03.07	R&D	Green - Approved	
	Project Name	Multi GNSS CAT II/III GBAS	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Multi GNSS CAT II/III GBAS	D02-001	T1.2- LATO and IGWG meeting reports	04/11/2015
Multi GNSS CAT II/III GBAS	D03	T2.1- MC-MF GBAS Trade-offs and Recommendations	30/11/2015
Multi GNSS CAT II/III GBAS	D04-001	T3.1- System Architecture Requirements Definition and Safety aspects	24/04/2015
Multi GNSS CAT II/III GBAS	D10-001	T6.1- Regular reports on submission to and activities of relevant GBAS standardisation Groups	01/10/2015
Multi GNSS CAT II/III GBAS	D11-002	T6.2- VDB Spectrum Use for MC-MF GBAS	27/02/2015
Multi GNSS CAT II/III GBAS	D13-001	T2.2- GNSS Signal Generator Specs & Design	30/09/2015
Multi GNSS CAT II/III GBAS	D13-003	T2.2 - GNSS Signal Generator - Mock-ups ICD	12/06/2015
15.04.02	R&D	Green - Approved	
	Project Name	Integrated Surveillance sensor technologies	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Integrated Surveillance sensor technologies	D06	Technical report, composite cooperative surveillance studies	19/02/2015
Integrated Surveillance sensor technologies	D07	Verification Strategy, composite cooperative surveillance	19/02/2015
Integrated Surveillance sensor technologies	D08	Technical report, composite cooperative surveillance prototype	19/11/2015
Integrated Surveillance sensor technologies	D09	Verification Plan, composite cooperative surveillance	19/11/2015
Integrated Surveillance sensor technologies	D12	Technical report, composite non-cooperative & cooperative surveillance studies	19/02/2015
Integrated Surveillance sensor technologies	D13	Verification Strategy, composite non-cooperative & cooperative surveillance	19/02/2015
Integrated Surveillance sensor technologies	D14	Technical report, composite non-cooperative & cooperative surveillance experimental platform	19/11/2015
Integrated Surveillance sensor technologies	D15	Verification Plan, composite non-cooperative & cooperative surveillance	19/11/2015
15.04.05.a	R&D	Green - Approved	
	Project Name	Surveillance ground system enhancements for ADS-B	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Surveillance ground system enhancements for ADS-B	D04	Integration report for third iteration ADS-B Ground Station and SDPD Prototype (for Trajectory Based Operations).	31/01/2015
15.04.06	R&D	Green - Approved	
	Project Name	Improved 1090MHz ADS-B Ground station capacity and security	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Improved 1090MHz ADS-B Ground station capacity and security	D02	Operational requirements (OSED ADS-B)	31/01/2015
Improved 1090MHz ADS-B Ground station capacity and security	D03	Operational requirements (SPR ADS-B)	31/01/2015

Improved 1090MHz ADS-B Ground station capacity and security	D09	Operational requirements (OSED 1090MHz)	31/03/2015
Improved 1090MHz ADS-B Ground station capacity and security	D10	Operational requirements (SPR 1090MHz)	31/03/2015
Improved 1090MHz ADS-B Ground station capacity and security	D11	System requirements (ADS-B Capacity)	31/03/2015
15.04.09.c	R&D	Green - Approved	
	Project Name	Ground Weather Monitoring System	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Ground Weather Monitoring System	D10	Prototype Preparation and in-house Verification results	18/02/2015
Ground Weather Monitoring System	D11	External Verification Execution Report	18/09/2015
Ground Weather Monitoring System	D12	Preliminary Prototype Refinement - Final Prototype Report	23/08/2015
16.06	Mgt	Green - Approved	
	Project Name	TA coordination and support function	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
TA coordination and support function	D13	2015 Release 4 SE3: Contribution from projects 16.06.XX	01/06/2015
16.06.01	R&D	Green - Approved	
	Project Name	Safety support and coordination function	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Safety support and coordination function	D27	SRM 4	18/12/2015
Safety support and coordination function	D41	Quarterly Report on SAF Assessments - Q1 2015	27/03/2015
Safety support and coordination function	D42	Quarterly Report on SAF Assessments - Q2 2015	26/06/2015
Safety support and coordination function	D43	Quarterly Report on SAF Assessments - Q3 2015	25/09/2015
Safety support and coordination function	D44	Quarterly Report on SAF Assessments - Q4 2015	31/12/2015
Safety support and coordination function	D52	Step x (x=1 or 2 or 3) SAF Case & Inputs to Business Case - 2015	18/12/2015
Safety support and coordination function	D63	SE Release 4 - Review 3	24/04/2015
Safety support and coordination function	D64	SE Release 5 - Review 2	26/06/2015
Safety support and coordination function	D65	SE Release 6 - Review 1	30/10/2015
16.06.01.b	R&D	Green - Approved	
	Project Name	Application of resilience & robustness guidance to remote tower and ASAS	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Application of resilience & robustness guidance to remote tower and ASAS	D02-002	Produce interim report 2 on application of RE principles and guidance to Multiple remote tower concept	30/09/2015
Application of resilience & robustness guidance to remote tower and ASAS	D03-001	Produce interim report 1 on application of RE principles to ASAS concept	26/01/2015
Application of resilience & robustness guidance to remote tower and ASAS	D05-003	Information - Report 2015-01	30/06/2015
Application of resilience & robustness guidance to remote tower and ASAS	D05-004	Information - Report 2015-02	31/12/2015
16.06.02	R&D	Green - Approved	
	Project Name	Security support and coordination function	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Security support and coordination function	D103	SESAR Security Reference Material v5	30/01/2015
Security support and coordination function	D108	Security Support Report 2014	30/01/2015
Security support and coordination function	D113	Security Case and Inputs to Business Case Report 2014	30/01/2015
Security support and coordination function	D124	SE Release 4 SE#3	30/05/2015
Security support and coordination function	D126	SE Release 5 SE#2	30/07/2015
Security support and coordination function	D128	SE Release 6 SE#1	30/11/2015
16.06.03	R&D	Green - Approved	
	Project Name	Environment support and coordination function	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Environment support and coordination function	D27	SESAR ENV Assessment Process 4 (ERM methodology update)	18/12/2015
Environment support and coordination function	D32	Report on ENV Assessment Release 4	01/04/2015
Environment support and coordination function	D37	Step x (x=1 - 2 or 3) ENV Case & Inputs to Business Case 2015	18/12/2015
Environment support and coordination function	D48	SE Release 4 Review 3	24/04/2015
Environment support and coordination function	D60	IMPACT V3. (improved Emissions) - Release document	01/12/2015
Environment support and coordination function	D63	Open-ALAQs V2.1 (new PM + 1st Dispersion) - Release document	01/12/2015
Environment support and coordination function	D66	Ad-Hoc Studies 1	30/06/2015
Environment support and coordination function	D74	Third Reporting and Analysis of Environment-Related Risks - Ex 16.03.07 D12	13/07/2015
16.06.05	R&D	Green - Approved	
	Project Name	Human Performance support and coordination function	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date

Human Performance support and coordination function	D28	SESAR HP Assessment Process 4	18/12/2015
Human Performance support and coordination function	D42	Quarterly Report on HP Assessments - Q1 2015	27/03/2015
Human Performance support and coordination function	D43	Quarterly Report on HP Assessments - Q2 2015	26/06/2015
Human Performance support and coordination function	D44	Quarterly Report on HP Assessments - Q3 2015	25/09/2015
Human Performance support and coordination function	D45	Quarterly Report on HP Assessments - Q4 2015	31/12/2015
Human Performance support and coordination function	D53	Step x (x=1 - 2 or 3) HP Case & Inputs to Business Case 2015	18/12/2015
Human Performance support and coordination function	D64	SE Release 4 Review 3	24/04/2015
Human Performance support and coordination function	D65	SE Release 5 Review 2	26/06/2015
Human Performance support and coordination function	D66	SE Release 6 Review 1	30/10/2015
Human Performance support and coordination function	D71	SES CCC Content Review	30/01/2015
Human Performance support and coordination function	D72	SES Training Taskforce Proposal	31/12/2015
Human Performance support and coordination function	D73	CCC Proposal Training Simulation	31/07/2015
Human Performance support and coordination function	D74	Training Automation Assessment Guidance	31/12/2015
Human Performance support and coordination function	D77	Develop Federated Training approach	23/02/2015
Human Performance support and coordination function	D78	Exploratory low fidelity simulation	27/07/2015

16.06.06

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Green - Approved

Project Name Business Case Maintenance, support and coordination

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Business Case Maintenance, support and coordination	D27	BC & CBA Reference Material v6	31/12/2015
Business Case Maintenance, support and coordination	D39	Quarterly Support Report I-15	30/03/2015
Business Case Maintenance, support and coordination	D40	Quarterly Support Report II-15	30/06/2015
Business Case Maintenance, support and coordination	D41	Quarterly Support Report III-15	30/09/2015
Business Case Maintenance, support and coordination	D42	Quarterly Support Report IV-15	30/12/2015
Business Case Maintenance, support and coordination	D50	CBA & Business Case Building 2015	31/12/2015
Business Case Maintenance, support and coordination	D68	New CBA Models and Methods 2015	31/12/2015

B.01

R&D

Green - Approved

Project Name Consolidation & Coordination of ATM Target Concept

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Consolidation & Coordination of ATM Target Concept	D53-001	Dictionary Release 2015.1	30/04/2015
Consolidation & Coordination of ATM Target Concept	D53-002	Dictionary Release 2015.2	02/10/2015
Consolidation & Coordination of ATM Target Concept	D71	Release 6 Rev. 1 Report	06/11/2015
Consolidation & Coordination of ATM Target Concept	D82	IR Dataset14 Release Note - Consolidated deliverable with contribution from B.04.02 and B.04.03	30/04/2015
Consolidation & Coordination of ATM Target Concept	D83	IR Dataset15 Release Note - Consolidated deliverable with contribution from B.04.02 and B.04.03	02/10/2015
Consolidation & Coordination of ATM Target Concept	D91	WP B Contribution to Masterplan 2015	31/12/2015

B.04.01

R&D

Green - Approved

Project Name Development & maintenance of the ATM performance and business aspects of the European ATM Enterprise Architecture

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Development & maintenance of the ATM performance and business aspects of the European ATM Enterprise Architecture	D108	Cycle 5 Performance Framework	28/12/2015
Development & maintenance of the ATM performance and business aspects of the European ATM Enterprise Architecture	D118	EATMA Version 6.0	31/05/2015
Development & maintenance of the ATM performance and business aspects of the European ATM Enterprise Architecture	D67	EATMA Version 7.0	29/11/2015

B.04.02

R&D

Green - Approved

Project Name Update and maintenance of the development of the Concept of Operations (CONOPS) and associated ATM Services

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
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Update and maintenance of the development of the Concept of Operations (CONOPS) and associated ATM Services	D100	Updated Issue List (including prioritisation allocation and problem solving activities) 2015	10/10/2015
Update and maintenance of the development of the Concept of Operations (CONOPS) and associated ATM Services	D102	Coherency report 2014	31/03/2015
Update and maintenance of the development of the Concept of Operations (CONOPS) and associated ATM Services	D105	SESAR Concept of Operations Step 2 edition 2014	20/05/2015
Update and maintenance of the development of the Concept of Operations (CONOPS) and associated ATM Services	D110	Report on Support the SJU global coordination activities 2015	31/12/2015
Update and maintenance of the development of the Concept of Operations (CONOPS) and associated ATM Services	D67	SESAR Concept of Operations Step 1 edition 2014	28/06/2015
Update and maintenance of the development of the Concept of Operations (CONOPS) and associated ATM Services	D68	SESAR Concept of Operations Step 1 edition 2015	28/09/2015

B.04.03

R&D

Green - Approved

Project Name	Development of the high level logical system architecture (SOA) and the technical system architecture (SoS)
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Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Development of the high level logical system architecture (SOA) and the technical system architecture (SoS)	D101	Service Coordination activity report 2015	20/12/2015
Development of the high level logical system architecture (SOA) and the technical system architecture (SoS)	D102	Service Method update 2015	20/12/2015
Development of the high level logical system architecture (SOA) and the technical system architecture (SoS)	D104	Technical Issue Management activity report 2015	20/12/2015
Development of the high level logical system architecture (SOA) and the technical system architecture (SoS)	D106	Consulting activity report 2015	20/12/2015
Development of the high level logical system architecture (SOA) and the technical system architecture (SoS)	D95	ADD Step1 2014 edition	30/03/2015
Development of the high level logical system architecture (SOA) and the technical system architecture (SoS)	D98	ADD Step2 2015 edition	20/12/2015

B.04.04

R&D

Green - Approved

Project Name	Workstation, Service Interface Definition
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Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Workstation, Service Interface Definition	D06	Service Identification	30/09/2015

B.04.05

R&D

Green - Approved

Project Name	Options on high level architecture
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Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Options on high level architecture	D04	Common Services Foundation - Method	20/01/2015

B.05

R&D

Green - Approved

Project Name	Performance Analysis of ATM Target Concept
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Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Performance Analysis of ATM Target Concept	D62	B.5 Contribution to SE Reviews in 2015	31/12/2015
Performance Analysis of ATM Target Concept	D71	Updated Performance Assessment in 2015	30/06/2015
Performance Analysis of ATM Target Concept	D86	Guidance on KPIs and Data Collection Version 2 (2015)	16/10/2015
Performance Analysis of ATM Target Concept	D90	Data coherence and assumptions management report 2014	29/01/2015
Performance Analysis of ATM Target Concept	D91	Data coherence and assumptions management report 2015	30/12/2015

C.01

R&D

Green - Approved

Project Name	Administrate ATM Master Plan Updates
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Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Administrate ATM Master Plan Updates	D03-002	Supporting material for updated ATM Risk management for Master Plan Edition 3 update campaign	29/05/2015
Administrate ATM Master Plan Updates	D06-002	Material for consultation for Master Plan Edition 3 and decision support if or when applicable (optional).	31/10/2015
Administrate ATM Master Plan Updates	D11-002	Updated e-ATM Master Plan Edition 3 after endorsement.	18/12/2015
Administrate ATM Master Plan Updates	D14	Dataset 14 (Deliverable with contribution from C.02-T024)	30/04/2015
Administrate ATM Master Plan Updates	D15	Dataset 16 (Deliverable with contribution from C.02-T024)	01/10/2015

C.02

R&D

Green - Approved

Project Name	Deployment/Performance planning and reporting
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Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Deployment/Performance planning and reporting	D06-005	ESSIP Plan - Edition 2015	31/07/2015
Deployment/Performance planning and reporting	D101	Process for performance deployment planning - financial incentives and reporting - Update	31/12/2015
Deployment/Performance planning and reporting	D107	Report on contribution to DS 14 and DS 15	30/10/2015
Deployment/Performance planning and reporting	D68	ESSIP Report for 2014	26/06/2015
C.03	R&D	Green - Approved	
	Project Name	Maintain Standardisation and Regulatory Roadmaps	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Maintain Standardisation and Regulatory Roadmaps	D04-004	List of Standardisation Activities 2015	30/10/2015
Maintain Standardisation and Regulatory Roadmaps	D05-004	Standardisation Roadmap 2015	30/10/2015
Maintain Standardisation and Regulatory Roadmaps	D07-004	List of Regulatory Activities 2015	30/10/2015
Maintain Standardisation and Regulatory Roadmaps	D08-004	Regulatory Roadmap 2015	30/10/2015
Maintain Standardisation and Regulatory Roadmaps	D10-003	Monitoring Progress Reports - Standardisation 2015	31/12/2015
Maintain Standardisation and Regulatory Roadmaps	D11-003	Monitoring Progress Reports - Regulations 2015	31/12/2015
Maintain Standardisation and Regulatory Roadmaps	D44	Standardisation Roadmap Development and Maintenance Process (2015)	30/09/2015
Maintain Standardisation and Regulatory Roadmaps	D47	Regulatory Roadmap Development and Maintenance Process (2015)	30/09/2015
E.00	Mgt	Green - Approved	
	Project Name	Management	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
Management	D02-006	WPE annual event	05/12/2015
E.01.01	R&D	Green - Approved	
	Project Name	ComplexWorld	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
ComplexWorld	D14	y4 final wiki report	15/01/2015
ComplexWorld	D15	y4 CW book submission	15/01/2015
ComplexWorld	D16	y4 CW final report	15/01/2015
E.01.02	R&D	Green - Approved	
	Project Name	HALA!	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
HALA!	D13	HALA! Progress report year 4	01/02/2015
HALA!	D14	Project Closeout Report	27/02/2015
HALA!	D17	Position Paper including progress on automation and WEP revision	27/02/2015
E.02.19	R&D	Green - Approved	
	Project Name	RobustATM	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
RobustATM	D02	Validation report for stochastic and for robust models (D4.1)	24/01/2015
RobustATM	D03	Report on the concept of a robust, stochastic model for ATM applications (D3.1)	15/10/2015
E.02.20	R&D	Green - Approved	
	Project Name	AGATHA	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
AGATHA	D05	Consolidated technical scenarios (D2.3.1)	18/03/2015
AGATHA	D06	Wireless system capacity assessment results (D2.3.2)	18/04/2015
AGATHA	D07	Operational benefits assessment report (D1.3)	27/06/2015
AGATHA	D08	Final project report (D0.11)	27/06/2015
E.02.21	R&D	Green - Approved	
	Project Name	SAFECORAM	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
SAFECORAM	D05	Methodology Approach Report (D3.2)	15/01/2015
SAFECORAM	D06	Models and Scenarios SW implementation (D4.1)	30/04/2015
SAFECORAM	D07	Validation Report (D4.2)	31/12/2015
E.02.22	R&D	Green - Approved	
	Project Name	NINA	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
NINA	D03	Mental State Classifier (D1.3)	01/02/2015
NINA	D04	First Validation Report (D3.2)	01/04/2015
NINA	D05	Report on Adaptive Interface Solutions (D2.1)	01/09/2015
NINA	D06	Second Validation Report (D3.3)	01/12/2015
E.02.23	R&D	Green - Approved	
	Project Name	ALIAS II	
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
ALIAS II	D02	Intermediate network activity report (D1.2)	10/05/2015
ALIAS II	D03	Report of test applications (D2.2)	10/08/2015
ALIAS II	D04	e-Learning platform (D3.1)	15/11/2015
ALIAS II	D05	Consolidate legal case (D2.3)	10/12/2015
E.02.24	R&D	Green - Approved	
	Project Name	MOTA	

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
MOTA	D04	D2.2 final functional HMI	15/07/2015
MOTA	D05	D3.2 benefits and perf eval	15/12/2015
E.02.25	R&D	Green - Approved	
Project Name	6th Sense		
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
6th Sense	D03	D4.2 verification results	15/06/2015
6th Sense	D04	D0.8 final report	15/06/2015
E.02.26	R&D	Green - Approved	
Project Name	FLITE		
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
FLITE	D03	D3.1 description of required tools	01/03/2015
FLITE	D04	D4.1 future analysis tool	01/10/2015
E.02.27	R&D	Green - Approved	
Project Name	SecureDataCloud		
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
SecureDataCloud	D03	D3.1 simu and data model for cases	01/04/2015
SecureDataCloud	D04	D3.2 results from cases	01/10/2015
SecureDataCloud	D05	Project closeout report	15/10/2015
E.02.28	R&D	Green - Approved	
Project Name	TREE		
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
TREE	D05	Model Structure and Functionalities (D3.1 Final)	01/04/2015
TREE	D06	Exercise Report (D4.2)	01/06/2015
TREE	D07	Final Report on Conclusions and Recommendations (D6.1)	01/09/2015
TREE	D08	Project closeout report	01/11/2015
E.02.29	R&D	Green - Approved	
Project Name	ACCESS		
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
ACCESS	D02	Definition of simulation scenarios (D4.1)	01/03/2015
ACCESS	D03	Report on simulation results (D4.2)	01/11/2015
ACCESS	D04	Roadmap for implementation of market-based mechanisms (D5.5)	01/12/2015
ACCESS	D05	Project closeout report	01/12/2015
E.02.30	R&D	Green - Approved	
Project Name	SCALES		
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
SCALES	D03	D2.2 case validation	01/10/2015
E.02.31	R&D	Green - Approved	
Project Name	ACCHANGE		
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
ACCHANGE	D04	Quantitative and qualitative assessment of scenarios for ATM development - final (D4.2)	28/02/2015
ACCHANGE	D05	Conclusions and caveats (D5)	30/05/2015
ACCHANGE	D06	Project closeout report	30/05/2015
E.02.32	R&D	Green - Approved	
Project Name	EMFASE		
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
EMFASE	D03	D2.2 first evaluation	01/03/2015
E.02.33	R&D	Green - Approved	
Project Name	SATURN		
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
SATURN	D03	Pure pricing mechanisms (D4.2)	30/10/2015
SATURN	D04	Hybrid pricing mechanisms (D5.2)	30/10/2015
SATURN	D05	Final technical report (D6.5)	30/12/2015
SATURN	D06	Project closeout report	30/12/2015
E.02.34	R&D	Green - Approved	
Project Name	ERAINT		
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
ERAINT	D04	Validation report of results of the RPAS contingency experiments (D4.2)	15/07/2015
ERAINT	D05	Definition of the experimental plan and metrics to evaluate low impact flight plans (D1.3)	01/10/2015
E.02.35	R&D	Green - Approved	
Project Name	ComplexityCosts		
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
ComplexityCosts	D02	Layered network model (D2.1)	01/05/2015
ComplexityCosts	D03	Model implementation (D2.2)	01/08/2015
ComplexityCosts	D04	Scenario definition (D3.1)	01/12/2015
E.02.36	R&D	Green - Approved	
Project Name	ProGA		
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
ProGA	D05	Proof of concept and human factors (D2.2)	15/02/2015
ProGA	D06	Safety objectives and requirements (D3.2)	15/02/2015
ProGA	D07	Efficiency benefit analysis (D3.3)	15/02/2015
ProGA	D08	Analysis of total benefit to SESAR (D1.3)	15/06/2015
ProGA	D09	Project closeout report	15/06/2015
E.02.37	R&D	Green - Approved	
Project Name	AEROGAME		
Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
AEROGAME	D04	Validation report (D3.2)	01/05/2015
AEROGAME	D05	Final project report (D4.2)	01/06/2015

E.02.38

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
ACF	D04	Demonstrator (D3.1)	15/05/2015
ACF	D05	Test scenario and data (D3.2)	15/05/2015
ACF	D06	Dashboard (D3.3)	15/05/2015
ACF	D07	Project closeout report	15/05/2015

E.02.39

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
EMERGIA	D04	D4.1 draft simu model improved conops	15/05/2015
EMERGIA	D05	D4.2 final tech report	15/11/2015
EMERGIA	D06	Project closeout report	15/11/2015

E.02.40

R&D

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
IMET	D03	D2.2 Probabilistic TP Requirements	31/01/2015
IMET	D04	D2.3 Probabilistic TP and MET Inputs optimization	31/08/2015
IMET	D05	Project closeout report	23/09/2015

RPAS.01

Demo

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
DEMORPAS	D02	DEMORPAS Demonstration Report	22/10/2015

RPAS.02

Demo

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
INSuRE	D02	Deliverable B.7 Demonstration Report	26/08/2015

RPAS.03

Demo

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
RAID	D02	D-B1 - Demonstration Report	15/12/2015

RPAS.04

Demo

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
MedALE	D02	MedALE Demonstration Report	31/03/2015

RPAS.05

Demo

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
TEMPAERIS	D02	TEMPAERIS Final Report	30/09/2015

RPAS.06

Demo

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
ODREA	D02	A2 Final Report - release	25/05/2015

RPAS.07

Demo

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
CLAIRE	D02	Demonstration Report (D2)	23/09/2015

RPAS.08

Demo

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
AIRICA	D02	AIRIA Demonstration Report	11/11/2015

RPAS.09

Demo

Green - Approved

Project Name	Deliverable Code	Deliverable Name	Deliverable Forecast/Actual Date
ARIADNA	D02	ARIADNA Demonstration Report	30/03/2015



SESAR Joint Undertaking Membership Accession Process

20 October 2015

Version 1.2

This document sets out the main principles and rules governing the SESAR Joint Undertaking (SJU) Membership Accession Process and describes the various steps thereof, on the basis of Article 1.5 of the SJU Regulation¹ and Articles 1.3, 1.4, 5.1(d), (m) of the SJU Statutes annexed to the SJU Regulation and Recitals (7), (10) and (15) of Council Regulation (EU) No 721/2014.

Broad principles governing the SJU Membership Accession Process were presented by the SJU to its Administrative Board ADB(M)031 of 23 October 2014 and have subsequently been endorsed by the Board.

¹ Council Regulation (EC) No 219/2007 OJ L 64, 2.3.2007, amended by Council Regulation (EC) No 1361/2008 OJ L 352, 31.12.2008 and Council Regulation (EU) No 721/2014 L192, 1.7.2014

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1 INTRODUCTION

1.1 Purpose

The purpose of the document describing the process followed for the SESAR Joint Undertaking Membership Accession Process (also referred to as “the Process”) is to, on the basis of Article 1.5 of the SJU Regulation, Articles 1.3, 1.4, 5.1(d), (m) of the SJU Statutes annexed to the SJU Regulation and Recitals (7), (10) and (15) of Council Regulation (EU) No 721/2014, report on the main steps as well as the main principles and rules of the Process followed by the SJU Executive Director to negotiate the conditions of accession with the selected Candidate Members taking due consideration of the current SJU framework of operation, the protection of the financial interests of the Union and in compliance with Horizon 2020².

This document refines the principles presented by the SJU at the Administrative Board Meeting ADB(M)031 of 23 October 2014.

1.2 Background

The SJU main tasks are to establish the renewed SJU membership and to implement the European Union budget in the context of Horizon 2020 - stem from two different legal sources:

- the SJU Regulation, and
- the General Agreement signed between the European Commission and the SJU on 19 December 2014³, which sets the conditions of implementation of the EU contribution to the SJU under the 2014-2020 Multiannual Financial Framework and new framework for funding research and development activities.

This document describes the process (i.e. governing the SJU membership accession) followed in order to fulfil the Membership Accession Process.

As described in the Call for expressions of interest to become Candidate Member of the SESAR Joint Undertaking – SESAR Research and Innovation Programme 2020 (SESAR 2020) Ref. SJU/LC/010-CEI (“the CEI”) and detailed during Administrative Board meeting of 23 October 2014, the SJU Membership Accession Process is broken down into three consecutive phases which are described in Chapter 3 below.

Considering that Phase 1 of the Process (“Call for expressions of interest to become Candidate Member of the SESAR Joint Undertaking”) was launched, managed and completed following the conditions published in the relevant call documentation, only the outcomes of Phase 1 are reiterated in this document.

This document details the conditions of participation in and the management of Phase 2 of the SJU Membership Accession Process (“Dialogue Phase”) as well as general rules and principles with regard to Phase 3 (“Call for Final Membership Applications”) are set out in this document⁴.

² In accordance to the mandate given to the SJU Executive by the Administrative Board in its Decision ADB(D)13-2014 of 4 November 2014.

³ Following the provisions of Article 4 of the SJU Regulation.

⁴ More detailed provisions will be established in the documentation annexed to the Call for Final Membership Applications.

At the time of drafting of the present document the full Phase 1 and Phase 2 of the Membership Accession Process are completed. Phase 3 shall be launched and managed on the basis of this document.

2 GENERAL PROVISIONS

2.1 Overview of the Membership Accession Process

From the original plan and principles presented at the Administrative Board of 23 October 2014 several assumptions have changed.

In particular, agreements with the SJU Members are not based any longer on the MA/MFA (Membership Agreement/Multilateral Framework Agreement) principles, but strictly on Horizon 2020 model grant agreements (resulting in use of new partnering and financial instruments). In addition, the spirit of SESAR 1 key partnering principles (e.g., SESAR Development Phase governance principles, Remedial Plan, Intellectual Property Regime, etc.) that have been identified through the dialogue phase with Candidate Members, as essential to perform the activities derived from the European ATM Master Plan, will be preserved as far as possible when not contradicting the H2020 Rules for Participation and model grant agreements.

These new assumptions lead the SJU to launch two procedures⁵:

- a) *Ad hoc* procedure for the membership accession and
- b) Horizon 2020 Industrial Research and Very Large Scale Demonstrations Wave 1 call for proposals.

The ad-hoc procedure for membership accession (a) must be concluded before the award of grants resulting from the call for proposals (b).

The below graph presents an overview of the resulting Membership Accession Process:

⁵ While the *Ad Hoc* procedure for membership accession will cover in general terms the whole duration of SESAR 2020 (including both Industrial Research and Very Large Scale Demonstrations Wave 1 and Wave 2 activities) it will not lead to any financial commitment from the SJU as the Horizon 2020 Industrial Research and Very Large Scale Demonstrations Wave 1 call for proposals will cover exclusively Wave 1 activities and lead to financial commitment from the SJU.

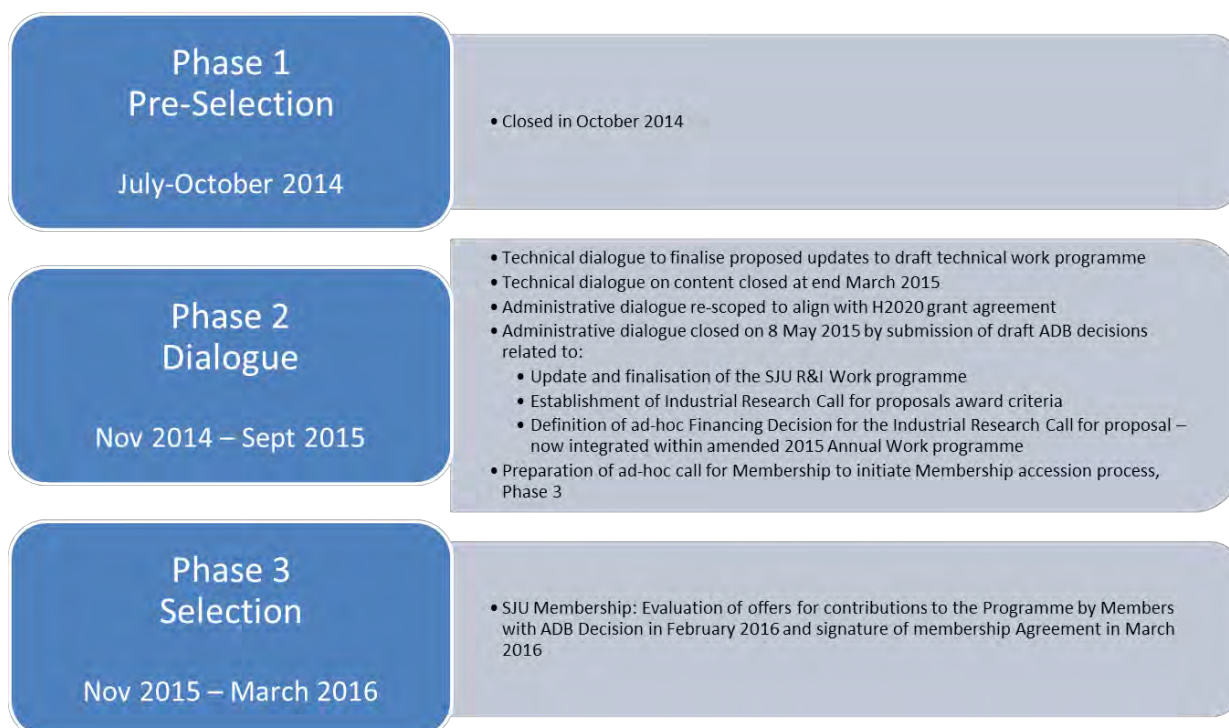


Figure 1: Main phases of the SJU Membership Accession Process

A detailed description of the three different phases is presented in Section 3 below.

2.2 Information Meeting with Candidate Members

All Candidate Members selected as a result of Phase 1 were invited and attended the first meeting with the SJU on 20 November 2014. This meeting provided the opportunity to meet and discuss all aspects of the subsequent steps of the Membership Accession Process as well as the envisaged SESAR 2020 Programme activities with the SJU. The meeting focused on the purpose of the next steps of the process with the emphasis in particular on:

- Definition of the technical means capable of satisfying the ATM Master Plan needs and objectives through SESAR2020,
- setting-up the legal and financial make-up of the SESAR 2020 Programme, and
- selection of the SJU Members for the period of SESAR 2020 Programme.

The SJU reiterated the commitment to ensure that all Candidate Members are provided with the same information at the same time also during the subsequent phases of the Membership Accession Process and that additional briefing would be specifically targeted at Candidate Members not participating in the first SESAR Programme in order provide transparency on specific procedures and ways of working established as part of the existing PPP arrangements.

3 Phases of the Membership Accession Process

3.1 Phase 1: Call for expressions of interest to become candidate member of the SESAR Joint Undertaking

Following the approval of the SJU Administrative Board of 25 June 2014, Phase 1: Call for expressions of interest to become Candidate Member of the SESAR Joint Undertaking – SESAR Research and Innovation Programme 2020 (SESAR 2020) Ref. SJU/LC/010-CEI (“the CEI”), was launched on 9 July 2014 with its publication on the SJU’s public website as well as subsequently on DG MOVE and European Commission Horizon 2020 websites and in OJEU C 244/23 of 26 July 2014.

Based on Article 1.3 of the Statutes of the SJU annexed to the amended SJU Regulation, the call was addressed to the current SJU Members, who – at this time - intended to confirm their interest in SESAR 2020 and to any new entity who intended to become a member of the SJU. Accordingly, the scope of the call was to establish a list of SJU Candidate Members, fulfilling specific criteria, with which the SJU would initiate negotiations (Phase 2) for the final definition of SESAR 2020 Programme content in view of the definite establishment of the SJU membership for SESAR 2020.

Phase 1 was concluded with the selection of 19 Candidate Members and the decision of the SJU Administrative Board ADB(D)13 -2014 of 4 November 2014, authorising negotiations with Candidate Members and entrusting the Executive Director to negotiate the conditions of accession.

The entities or consortia invited to take part in the subsequent phase of the Membership Accession Process were the Candidate Members:

- | | |
|---|--|
| 1. Airbus SAS | 11. Thales Air Systems SAS |
| 2. Alenia Aermacchi SpA | 12. B4 Consortium |
| 3. AT-One | 13. Coopans |
| 4. Dassault Aviation SA | 14. Frequentis SESAR Partners |
| 5. Deutsche Flugsicherung GmbH (DFS) | 15. Honeywell International Inc |
| 6. Direction des Services de la Navigation Aérienne | 16. North European ATM Industry Group (NATMIG AS) |
| 7. Entidad Publica Emresarial (ENAIRE) | 17. SEAC - SESAR European Airports Consortium |
| 8. Ente Nazionale Assistenza al Volo (ENAV) | 18. Selex ES Spa |
| 9. INDRA Sistemas S.A | 19. Skyguide, Swiss Civil and Military Air Navigation Services Ltd |
| 10. NATS (En Route) Plc | |

and EUROCONTROL as SJU Founding Member .

3.2 Phase 2: Dialogue

3.2.1 Purpose

The participants of the second phase of the Membership Accession Process were the SJU, EUROCONTROL and the Candidate Members. This Phase aimed at:

- Defining the technical means to achieve the objectives of the ATM Master Plan (this included amongst other to further refining the technical content of the draft SESAR 2020

- R&I Programme, agreeing the programme management framework and confirming the skills required to cover the scope of the refined Programme).
- Presenting the legal and financial make-up of the SESAR 2020 Programme, considering the H2020 model contractual documentation and *inter alia* the evolution and outcomes of the technical dialogue.

Once all aspects of the S2020 work programme had been substantially agreed with the Candidate Members and EUROCONTROL, the SJU has been in the position to draft the Final Call for Membership and a draft Public-Private Partnership Agreement reflecting all aspects of the extended SESAR development phase (i.e. technical content and H2020 model contractual documentation). At this stage, the SJU would therefore formally be able to declare the discussions with the Candidate Members closed. The produced documentation was sent to the Administrative Board on 8 May 2015 for adoption and was subsequently updated on 8 October 2015. This decision has to be formalised by an Administrative Board decision on or immediately after the ADB meeting of 23 October 2015.

3.2.2 General provisions

3.2.2.1 Processing of personal data

Processing of personal data (such as names, addresses and CVs) of the participants in Phase 2, as in the overall Membership Accession Process, was done pursuant to Regulation (EC) No 45/2001 on the protection of individuals with regard to the processing of personal data by the European Union institutions and bodies and on the free movement of such data. The participants of Phase 2 were informed of the applicable rules.

3.2.2.2 Communication with the SJU

With the exception of meetings, and unless otherwise authorised in writing by the SJU, any communication between the Candidate Members and the SJU was in English, in writing and through the mailbox established for that purpose: SESAR2020membership@sesarju.eu, as well as through a dedicated area on the SJU Extranet. Any other communication outside this framework was considered as legally irrelevant to this procedure and was not taken into consideration.

During the process the SJU ensured the equal treatment of the Candidate Members in accordance with the SJU Financial Rules.

3.2.2.3 Query and answer procedure

The Steering Committee was considered as the forum for governance of the process with the SJU Executive Director leading the Committee. This Committee designated a Technical Task Force and identified Legal and Administrative points of contacts to work in partnership to ensure common understanding of the S2020 contractual conditions, governing the SJU membership, S2020 Programme updates and processes.

In parallel to the meetings of the Steering Committee, Technical Task Force and Legal-Administrative points of contact, a formal query and answer procedure applied. All requests for additional information, clarifications, questions and answers etc. whether technical, financial or contractual were sent to the SESAR2020membership@sesarju.eu mailbox.

Questions and answers were shared with all the Candidate Members through the dedicated area on the SJU Extranet. Only queries and answers exchanged using this procedure were formally considered, besides those exchanged during the dialogue meetings.

3.2.2.4 Exchange of confidential information

The essence of Phase 2 was that the SJU could use, discuss, disclose and/or publish all information exchanged with and by the Candidate Members for the purpose of drafting the final SESAR 2020 Programme.

An area within the SJU Extranet was established, private to the Candidate Members of the SJU for the general exchange of information amongst all parties. The access of the representatives of the Candidate Members' was managed by the Steering Committee member, nominating authorised persons within their respective entities and consortia if necessary. The SJU maintained the security of the sites in accordance with these nominations.

Any information that the SJU gave to one Candidate Member during the course of Phase 2 and which had a bearing on the overall Membership Accession Process were made available to the other Candidate Members on an equal basis.

3.2.2.5 Conditions applying to meetings

Phase 2 was conducted simultaneously within two frameworks i.e. a bilateral and a multi-lateral framework for discussions, as summarised below:

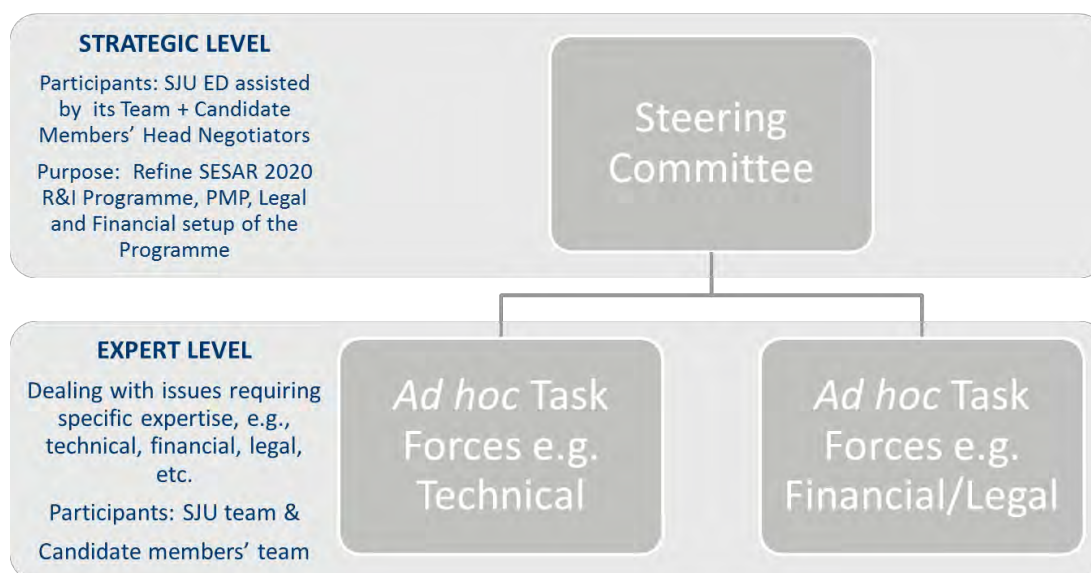


Figure 2: Simultaneous fora of discussion during Phase 2 of the Membership Accession Process⁶

For each meeting, an agenda and a written record of the meeting was drafted by the SJU. This record included *inter alia* the decisions taken during the meeting and the action items for the Candidate Member and the SJU with corresponding due dates.

⁶ Due to the mandatory use of Horizon 2020 model contractual documentation, the mandate of the Financial/Legal Task Force was modified and reduced in scope. The role of the Task Force was therefore transposed into the "Information Sessions" with the Candidate Members.

To ensure the effective conduct of the meetings and the decision making process, it was required that (unless otherwise specified):

- the relevant key and specialist (technical/commercial/legal) staff of the Candidate Member were present;
- at least the representative of the Candidate Member with the authority to take decisions on its behalf attended the meeting;
- the number of participants in the meeting representing the Candidate Member remained limited to a maximum of one person as far as possible.

The SJU requested the Candidate Members to confirm their participation and send the list of participants to the meetings before the meeting.

3.2.2.5.1 Bilateral framework for discussions

When considered necessary, the SJU met individually each Candidate Member or groups of Candidate Members on the basis of elements of the expressions of interest presented by the Candidate Member, which were specific to the latter or which the Candidate Member was not able to share with the other Candidate Members. The SJU also conducted bilateral discussions with EUROCONTROL in the context of the preparation of the specific agreement in accordance to Article 9.2 of the SJU Statutes annexed to the SJU Regulation.

3.2.2.5.2 Multi-lateral framework for discussions

The SJU, all the Candidate Members and EUROCONTROL met and discussed collectively all elements of generic nature of the expressions of interest presented by the Candidate Members in their applications and EUROCONTROL with a view to define the technical means capable of satisfying the needs and objectives as well as the legal and financial make-up of the SESAR 2020 Programme.

This multi-lateral framework for discussions was held simultaneously through the Steering Committee, the Ad-Hoc Technical Task Force and in the context of Information Exchange Meetings on legal, administrative and financial matters.

While the Ad-Hoc Technical Task Force worked on areas requiring specific technical expertise, the Steering Committee was acting at the strategic level.

3.2.3 Regular updates of the European Commission

During Phase 2, the SJU sent regular updates to its mother DG within the European Commission –DG MOVE - on the preparations of the contractual membership documentation and on the on-going technical, legal and financial discussions hold with its Candidate Members.

In this perspective, as a result of:

- the General Agreement between the European Commission and the SJU of 19 December 2014 (the “General Agreement”),
- the subsequent mandatory use of the H2020 model grant agreements and
- the advised use of the model H2020 Framework Partnership Agreement and Specific Grant Agreement,

the SJU presented to the European Commission a proposed S2020 contractual structure in December 2014 with its following updates and refinements.

In complement, the SJU has also shared regularly with DG MOVE and DG BUDG an “Issue Log”⁷ and its updates that captured the key concerns and blocking points of the Candidate Members as well as contradictions between the Public-Private Partnership concept as developed under SESAR 1 and the model contractual documentation advised by the European Commission (i.e., Horizon 2020 model framework partnership and specific grant agreements). This log was monitored by the SJU and presented at every meeting with the European Commission (DG MOVE) addressing legal and financial matters.

In parallel and in the context of the finalisation of the strict alignment of the SJU Financial Rules with Commission Delegated Regulation (EU) No 1271/2013 of 30 September 2013 on the framework financial regulation for the bodies referred to in Article 208 of Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council, the SJU shared also the Issue Log and a presentation about the proposed S2020 contractual structure with DG BUDG.

Last, the SJU has also established direct contacts with the Common Support Centre of DG RTD, for the use of the H2020 Participants Portal and IT tools and for the involvement of H2020 independent experts in the context of the preparation of the call evaluation.

Since submission of the documentation produced by the SJU as a result of the dialogue with the Members to the Administrative Board on 8 May 2015, the SJU had several exchanges with the European Commission (Common Support Centre of DG RTD, DG MOVE, DG BUDG and Legal Service) to define the scope of applicability of the H2020 Rules for Participation and the resulting flexibility with regards to the standard H2020 model Grant Agreements.

3.2.4 Working groups

3.2.4.1 Steering Committee

The Steering Committee was set up for the purpose of Phase 2 of the Membership Accession Process in order to give to the SJU strategic recommendations to ensure:

- the consistency of the overall SESAR 2020 work programme,
- its alignment with the objectives of the ATM Master Plan, and
- consistency of the partnership documentation with the objectives of the Programme.

The discussions held and the recommendations provided by the Steering Committee have enabled the SJU to:

- refine the overall work programme with an objective to fulfil the action plan as derived from the European ATM Master Plan and taking into account the needs and objectives of the SJU, EUROCONTROL and Candidate Members’ potential contributions to the various work packages,
- determine which of several possible solutions would be best suited (prioritisation) to satisfy the ATM Master Plan objectives within the SESAR Programme, and
- set up specific task forces and information sessions as deemed necessary for the progress of the discussions related to the SESAR 2020 Programme content and conditions of implementation.

⁷ Access to the Issue Log will be made available upon request.

The Steering Committee was composed of the representatives of the SJU, EUROCONTROL and the Candidate Members.

To meet the objectives of the Steering Committee, the persons involved in the Steering Committee committed to making the SESAR 2020 Programme work and mobilised support from the respective entity or consortia ensuring there is a culture of “leading from the front”.

Therefore, the Chief Executive Officer⁸ of each Candidate Member appointed one representative (referred to as “Head Negotiator”) and one alternate. The Head Negotiator appointed for the purpose of the Steering Group was the same person as the one leading any discussions within the framework of the bilateral discussions.

An appointment letter, duly signed by the Chief Executive Officer⁹ of each Candidate Member organisation, which designated (i) the Head negotiator and (ii) his/her Alternate for the purpose of the discussions held in the framework of the Steering Committee and in the framework of bilateral discussions, was transmitted to the SJU before the initiation of the activities of the Committee.

Only the representative or the alternate participated in the Steering Group’s meetings. Moreover, only the positions of the duly appointed Head Negotiators (or in his absence those of the Alternate) were effectively taken into account by the Steering Committee for the drafting of its recommendations.

Depending on the agenda of the meeting, the representative could have been assisted by an advisor. The person appointed as Alternate might have acted as an advisor for the Head Negotiator and, in such case, he/she accompanied the Head Negotiator in this capacity.

Under exceptional circumstances duly justified, the Candidate Members were allowed to change their Head Negotiator (and/or Alternate) by written notice to the SJU. The appointment process and the empowerment of the new nominated Head Negotiator and/or Alternate was similar to the one followed and initially given to the replaced Head Negotiator and /or Alternate.

Head Negotiators (or Alternates) duly appointed by their organisation were duly authorised and empowered to be able to take stands on behalf of the Candidate Member organisation, in order to participate in the drafting of the Steering Committee recommendations.

Recommendations of the Steering Committee were made on a consensual basis. Discussions were conducted in a spirit of cooperation and partnership, in good faith and for the general interest of the SESAR 2020 Programme, avoiding behaviour leading to divisions within the extended partnership being formed.

Taking into account the recommendations made by the Steering Committee, the SJU¹⁰ made decisions regarding the SESAR 2020 Programme, its work breakdown structure and the rules governing its execution.

⁸ Or the equivalent senior manager responsible for overseeing the relevant activities within the relevant entity and duly empowered to represent and take position on the name and on behalf of the Candidate Member.

⁹ See the footnote here above.

¹⁰ In accordance with the SJU Statutes, the SJU decisions were taken internally either by the the SJU Administrative Board or by its Executive Director.

In the event no consensus was found and, as a consequence, no recommendation could be made by the Steering Committee, the SJU took the necessary decisions on the basis of its own analysis, expertise and experience.

The Steering Committee was chaired by the SJU Executive Director, to whom the Steering Committee reported.

The agenda of the Steering Committees meetings was established by the Chairman and sent to the Head Negotiators in advance of the meetings.

SJU staff ensured the secretariat of the Steering Committee meetings¹¹.

The minutes of meeting were entered in books kept for the purpose of the discussions between the SJU, the Candidate Members and EUROCONTROL.

The below table presents the overview of the meetings and their due dates of the Steering Committee as well as the summary of their main outputs:

Time	Milestones	Objectives/Output
20 November 2014	Steering Committee Meeting 1 - by WebEx	Familiarisation and confirmation of an agreement to launch parallel activities on legal and technical dialogue, leading to establishment of membership agreements.
10 December 2014	Steering Committee Meeting 2	Clarification of mandates of the Ad-Hoc Task Forces. Global picture on the Programme budget and contributions. Legal Task Force not activated due to the on-going discussion with the EC on the changes of SESAR 2020 legal set-up.
15 January 2015	Follow-up Steering Committee Meeting - by WebEx	Progress meeting and issue escalation from mainly Technical Task Force.
29 January 2015	Steering Committee Meeting 3	Progress meeting and issue escalation from the Technical Task Force. Progress on the SJU legal preparation with the EC.
19 February 2015	Steering Committee Meeting 4	Progress meeting and issue escalation from the Technical Task Force. Progress on the SJU legal preparation with the EC.
25 March 2015	Steering Committee Meeting 5	Formal closure of the technical dialogue. Finalisation of the contractual documentation and consultation of the EC.
28 April 2015	Follow-up Steering Committee Meeting - by WebEx	Progress on consultations with the EC, leading to launch of the call in May 2015 and presentation to the ADB in Q3 2015, leading to the signature of the agreements by end 2015.

Figure 3: Meetings of the Steering Committee and their outputs

¹¹ Access to the minutes will be made available upon request.

3.2.4.2 Ad-Hoc Technical Task Force

The Technical Task Force was set up as a multilateral forum for facilitating the technical dialogue between the SJU, EUROCONTROL and the Candidate Members to share their views, and provide advice and recommendations to the Steering Committee on the SESAR 2020 Work Programme.

This technical dialogue took into consideration the work performed in the context of the ongoing SESAR Programme and Very Large Scale Demonstrations (VLSD), the initial definition of SESAR 2020 Work Breakdown Structure (WBS) and project level Description of Work (DOW), as well as the initial assessment of SESAR Lessons Learned.

In this context, the role of the Technical Task Force was in particular to discuss and provide its technical expertise to the Steering Committee regarding the refinement of:

- The Industrial Research and validation WBS and project's DOWs, detailing the organisation of the work as well as the content of the associated research projects;
- The VLSD WBS and project's DOW, detailing the organisation of work as well as the content of the VLSD projects;
- The SESAR 2020 Programme Execution Framework based on the SESAR I experience.

The Technical Task Force members were nominated by the Steering Committee representatives. Only one representative per Candidate Member were, in principle, allowed to attend the Task Force. An Airspace Users representative also attended the Task Force.

The below table presents the overview of the meetings and their due dates of the Technical Task Force as well as the summary of their main outputs:

Time	Milestones	Objectives/Output
25 November 2014	Kick-off meeting with new Candidate Members	Candidate Members to Refine the OIs definition (where required) through an update of the Extended Release Strategy Sheet and provide feedback to SJU. Candidate Members to provide refined DOWs v0.7 (IR and VSLD) focusing on: Solution Description, Performance Impact (H,M,L), needs for coordination, standardisation. Candidate Members to provide SJU with a coordinated proposal (DOW format) for a VDL 2 wave 1 demonstration together with a feedback on the opportunities to add VDL2 focused objectives to the existing SESAR 1 trials. Candidate Members to provide detailed comments on the Programme Execution Guidance (use of the template).
2 December 2014	Familiarisation meeting only for the Candidate Members that were not in SESAR I	No output / action taken.
17 December 2014	Follow-up meeting	SJU to deliver updated Extended Release Strategy integrating the content of DOWs 0.7. SJU to review and provide feedback to Candidate Members on the remaining Industrial Research DOWs SJU to review and provide feedback to Candidate Members on VLD DOWs, to be integrated in v0.9.

28 January 2015	Follow-up meeting	SJU to deliver a proposal to integrate RPAS solutions into the SESAR 2020 DOWs including the review of PJ.13. SJU and Candidate Members to review the DOWs v0.9 and consider: CNS/MET/AIM/SWIM services and standardisation needs, dependencies with other projects and ensure maturity dates synchronization of the Solutions. Candidate Members to deliver new round of comments on the SESAR 2020 Programme Execution Guidance.
3 March 2015	Follow-up meeting	SJU to provide guidance about how the VLD activities are expected to be performed. Airspace Users to share with the rest of the Candidate Members the AU White Paper. SJU to clarify the roles and responsibilities in the management of Transversal Activities projects. Candidate Members to send their comments on version 0.9 of Programme Execution Guidance.

Figure 4: Meetings of the Technical Task Force and their outputs

3.2.4.3 Ad hoc Information Exchange Meetings on Legal, Administrative and Financial matters

In accordance to the conditions expressed in the CEI, considering that the current operational framework of the SJU was sufficiently flexible and adapted to the needs of the SJU and in order to ensure continuity of the SESAR Programme, the approach of the SJU was to continue running the SJU partnership on the basis of the contractual set-up of SESAR I (i.e. Multilateral Framework Agreement or “MFA” and bilateral Membership Agreements or “MA”).

Nevertheless, following the signature of the General Agreement between the European Commission and the SJU on 19 December 2014, the SJU was required to strictly follow and use the European Commission Horizon 2020 Model Grant Agreements.

Thus, the SJU limited the discussions of Legal, Administrative and Financial Matters with the Candidate Members as far as possible. Information Exchange Meetings with the Candidate Members Legal and Administrative points of contacts were organised by the SJU. Their purpose was to present the H2020 model grant agreements terms and conditions as well as the new functioning of the SESAR Public Private Partnership (PPP).

Due to the need to clarify with the European Commission the substantial change of the approach compared to the one followed by the SJU after the launch of the CEI and subsequently of Phase 2 of the Membership Accession Process, the SJU launched the initial “Legal-Financial Task Force” on 5 March 2015 as an “Information Exchange Meeting”. In the meeting, the Candidate Members were represented not only by their appointed legal experts, but also by the members of the Steering Committee. The purpose of this first information meeting was the exchange of views the Candidate Members that aimed to reach a clear understanding of the proposed legal framework for SESAR 2020, of the areas that were open for comments and potential modifications and of the areas, which were non-modifiable and non-negotiable.

The meeting as well as subsequent information exchange meetings have been followed by the exchange of views and comments between the SJU and its Candidate Members in writing, that allowed the SJU to understand the concerns and potential blocking points of the Candidate Members and to advance in its exercise of drafting the legal SESAR 2020 set-up. The SJU has also worked on the Issue Log that captured the key concerns and blocking points of the Candidate Members as well as contradictions of the PPP concept to the one proposed by the European Commission Horizon 2020 model agreements. The Issue Log was regularly updated and presented to the European Commission for the resolution of the issues captured therein.

The below table presents the overview of the Information Exchange Meetings on Legal, Administrative and Financial Matters and their due dates as well as the summary of main outputs:

Time	Milestones	Objectives/Output
5 March 2015	1 st Information Exchange Meeting	Presentation of SESAR 2020 contractual structure, considering the mandatory use of Horizon 2020 FPA and SGA model agreements as well as principles governing the “Membership Agreement” (re-named to the “PPP Agreement” at the later stage). Candidate Members to send to the SJU coordinated or individual inputs/comments on the FPA/SGA.
20 March 2015	Follow-up WebEx meeting	Enhanced clarity on the proposed legal set-up of SESAR 2020. “Issue Log” shared with the Candidate Members with the request to suggest solution/mitigation measures. Capturing of the first major concerns from the perspective of the Candidate Members and showing where resolution of these points could be included in the documentation.
27 March 2015	2 nd Information Exchange Meeting	Detailed provisions of the proposed agreements discussed with the focus on the PPP Agreement. Refinement of the agreements. Refinement of the shared understanding on how the new documentation will be applied in practice. Update of the list of major concerns and identification of the blocking points. SJU to share updated versions of the documents indicating clauses to resolve blocking points for the next meeting.
9 April 2015	Follow-up WebEx meeting	To provide feedback to the Candidate Members on the responses to all comments received and answer questions. To reconfirm the status of issues logged and the proposed mitigation measures. To brief on next steps to be taken by the SJU in preparation for the call and to receive feedback from Candidate Members.

Figure 6: Information Exchange Meetings on Legal, Administrative and Financial Matters and their outputs

3.2.5 Conclusion of Phase 2

3.2.5.1 Technical Task Force

The SJU gathered the technical and management information exchanged during the technical dialogue, further information regarding interfaces with other SESAR activities, examined and assessed the solutions and changes to the SESAR 2020 Programme discussed with the Candidate Members.

The work of the Technical Task Force closed on schedule with agreement on the number, relative priorities and scope of the projects, the SJU retaining the right to review and freely determine any further updates to the draft programme under SESAR2020. The SJU undertook an extensive review and update to the technical needs during April in preparation for a Call for Proposals, to be managed by the SJU in parallel with Phase 3 of the Membership Accession Process as described in Section 3.3 below.

3.2.5.2 Information Exchange Meetings on Legal, Administrative and Financial matters

The SJU provided information to the Candidate Members on the new legal and financial framework, captured all issues and blocking points and proposed mitigation means and a draft text for the PPP Agreement.

The SJU made clear that the contractual documentation is subject to specific approval of the European Commission and would require clear justification to be provided for any deviations from the Commission model agreements and /or deviation from Horizon 2020 rules. The SJU will request an Administrative Board decision on these matters along with the request for approval to enter Phase 3 of the Membership Accession Process.

3.2.5.3 Overall Outcome

The overall outcome of the prioritisation work resulted in the SJU identifying 50 priority ATM solutions and 35 required enabling infrastructure solutions. 29 Solutions were identified as being of lower priority, as illustrated below:

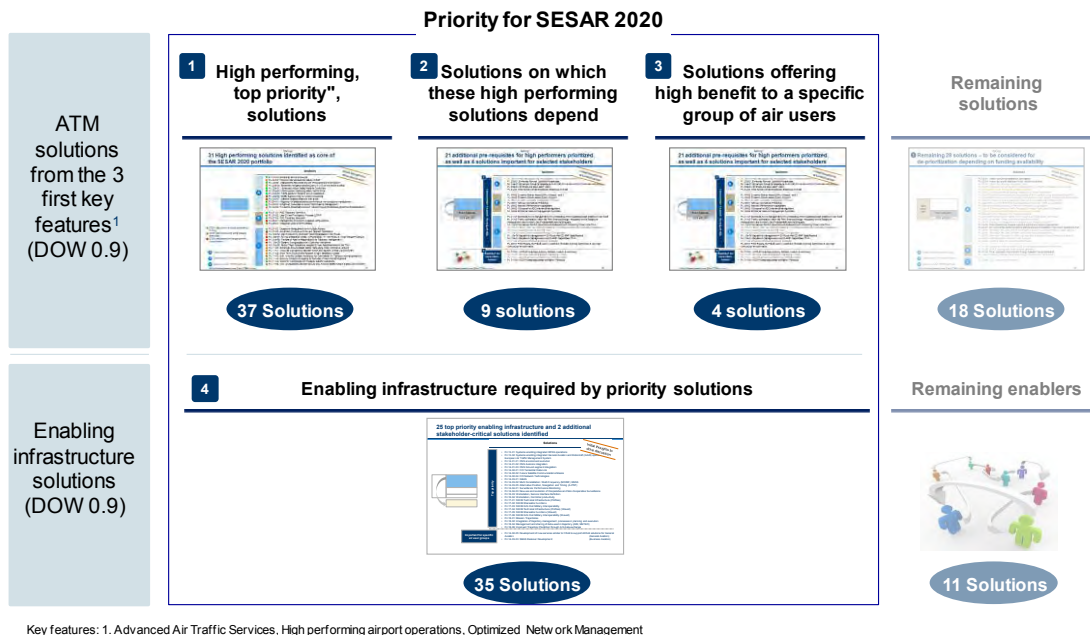


Figure 7: Prioritisation within SESAR 2020 Programme

Globally, this prioritisation was of crucial importance and served a dual purpose:

- To ensure and make visible the alignment between the Master Plan campaign and SESAR 2020 process: the deployment packages and scenarios of SESAR 1 have been prioritised taking into account the SESAR 2020 prioritisation outcome. The SESAR 2020 R&I priorities can be mapped to the more mature SESAR 1 technologies, ensuring traceability and continuity between the two SESAR Programmes, and facilitating current work on SESAR vision and architecture.
- To ensure that SESAR 2020 R&I will be adequately prioritised to satisfy the performance needs of the network, thus securing SESAR's contribution to reaching the SES high-level goals, and, supported by a broad buy-in from the stakeholders consulted, giving decision-makers a good view on the streams of technology expected to be developed and deployed in the medium-long term to satisfy their local or specific performance needs.

This prioritisation work was reflected in the updated SESAR R&I Programme 2020, initially annexed to the Call for expressions of interest, and the final Descriptions of Work (DOW) for specific actions.

It must be noted that there are no specific SESAR Solution related to cyber-security since by nature this topic shall be addressed from a transversal standpoint. However, the estimation above includes a set of activities related to cyber security, mainly in the area of SWIM and of Communication (CNS) projects. In addition, following the successful outcome of the RPAS definition phase conducted by the SJU and transmitted to the European and the letter from the European Commission dated 8 April 2015 on the outcome of the definition phase and of the Riga Conference, specific RPAS Related SESAR solutions were identified and incorporated in the final version of the Description of Work.

Regarding the effort estimates required to perform the delivery of the actions (R&I of the prioritised solutions, Transversal activities and VLDs), the SJU conducted its own analysis based on the data

available from the development effort and associated costs of the SESAR 1 Solutions, as illustrated below:

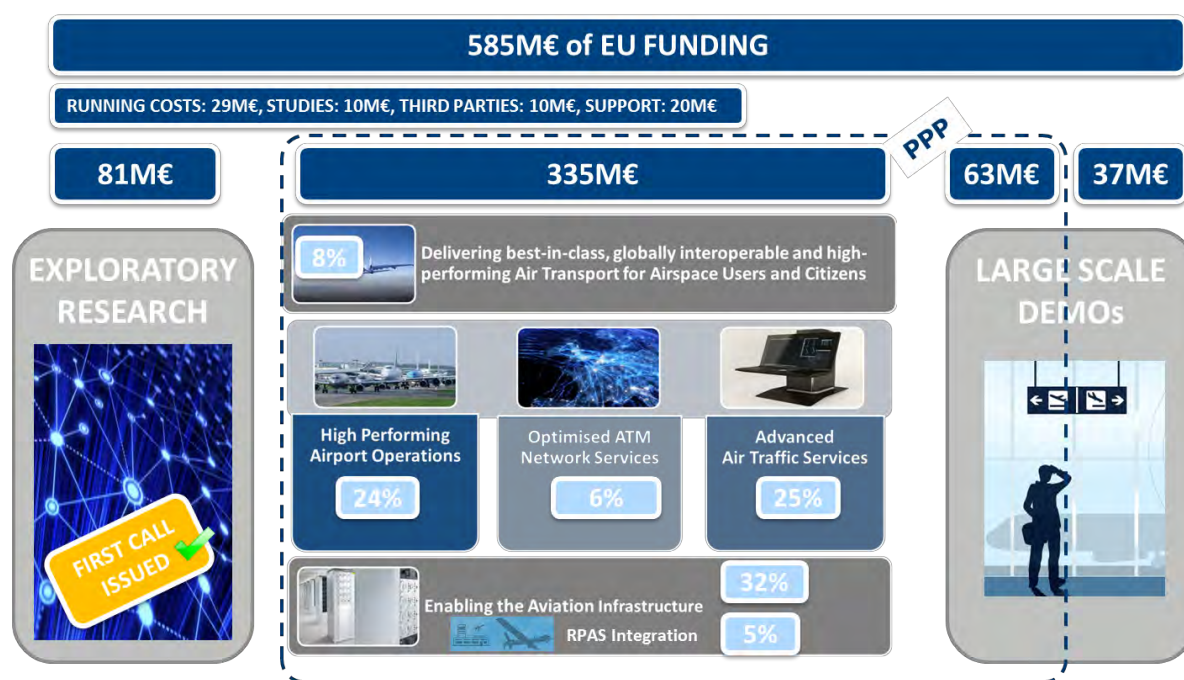
- The work performed by the Technical Group identifies for each SESAR 2020 project a list of SESAR Solution together with the initial and final maturity phase (« V phase ») of each Solution
- The effort estimate (man.hours) per SESAR 2020 project is calculated by using:

- The average estimated effort & breakdown necessary to develop a Solution in SESAR1

V1	V2	V3
20%	30%	50%

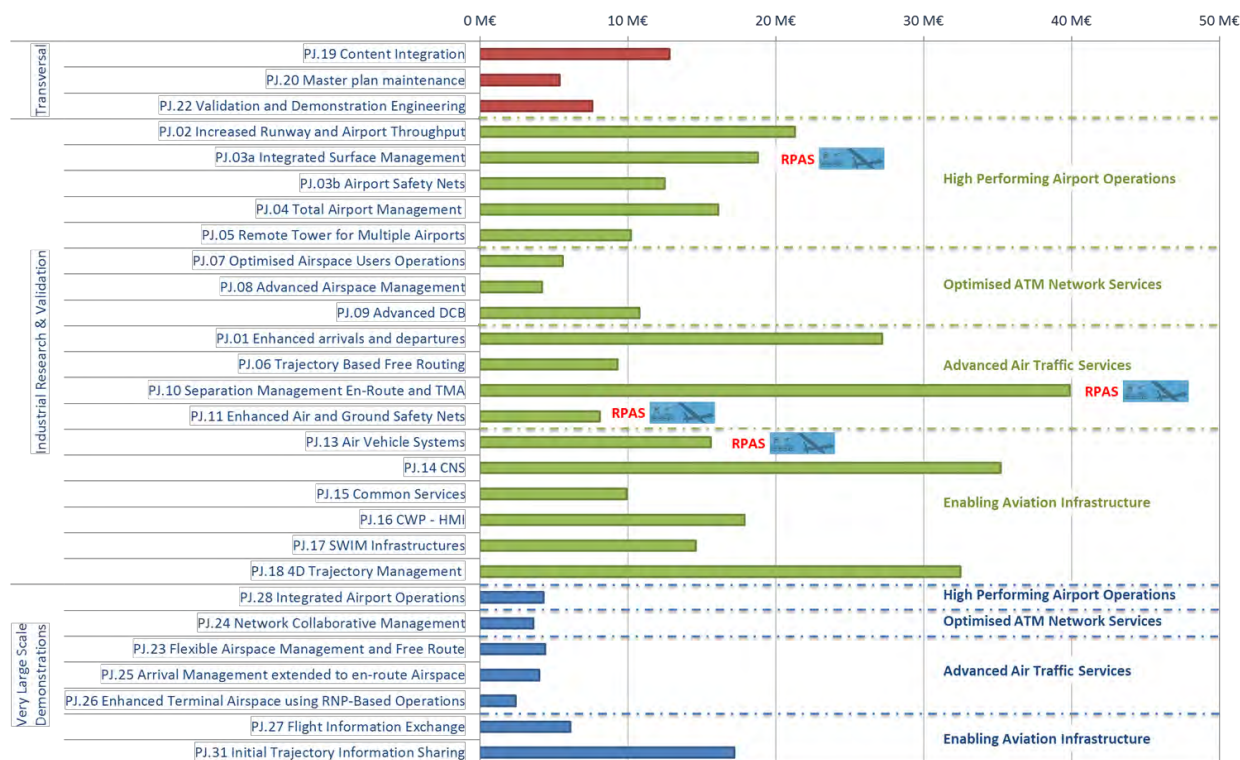
- The V phase effort breakdown of SESAR 1:
- The start maturity level and end maturity level of the SESAR 2020 solutions

This basis was further refined during the dialogue phase in particular using more detailed technical approach as regard to the “complexity” of SESAR 2020 solutions in relation to Air-Ground connectivity and Ground-Ground interoperability solutions. Then based on the refined effort estimates, the SJU, at its own level only in order to preserve from any potential conflict of interest, identified the final budget allocation to the different activities as established in Annex 1 to the ADB decision¹² adopting the *Ad-Hoc* Financing Decision related to the Call for Proposals for “SESAR2020 Transversal Activities, Industrial Research & Validation, and Very Large Scale Demonstrations” and illustrated below in terms of overall EU funding allocations proposal to the different SJU activities identified to fulfil its mandate:



- **2 waves 2016-19 & 2019-21 synchronised with the European ATM Master Plan cycle – 65%/35% split**
- **RPAS: +40M€ of activities value across the 3 pillars**

¹² ADB(D) 05-2015 - Adoption of the SESAR Joint Undertaking *Ad-Hoc* Financing Decision related to the Call for Proposals for “SESAR 2020 Transversal Activities, Industrial Research & Validation, and Very Large Scale Demonstrations” and “SESAR 2020 R&I Programme”



Phase 2 has also resulted in the refinement of the principles, governing the SESAR PPP - as defined under the SJU Regulation -, the SJU membership and the preparation of the draft PPP Agreement that govern *inter alia*:

- terms and conditions according to which the SESAR public-private partnership is set up,
- contributions to the SESAR PPP,
- SESAR 2020 Programme management principles based on the SESAR 1 principles as long as they do not contradict Horizon 2020 and Horizon 2020 model agreements,
- rights and obligations of the parties to the agreement (SJU Members, EUROCONTROL and the SJU).

These principles are summarised in the document entitled “*Principles governing the accession and participation of the members of the SESAR Joint Undertaking*” submitted to the Administrative Board for approval on 8 May 2015¹³.

With the final Steering Committee Meeting of 28 April 2015 by tele-conference the SJU concluded Phase 2 of the Membership Accession Process.

3.3 Phase 3: Call for Final Membership Applications

3.3.1 General

Once Phase 2 is declared concluded by the SJU and formalised by a decision of its Administrative Board, the third phase of the Membership Accession Process will start upon publication by the SJU of two procedures:

¹³ As Annex 2 of ADB Decision ref. ADB(D)04-2015 authorising the launch of the Ad Hoc Call for Final Membership Applications

- 1) an *ad-hoc* Call for Final Membership Applications, leading to the selection of SJU Members and signature of a Public Private Partnership Agreement (PPPA) upon SJU Administrative Board decision; and
- 2) a restricted H2020 Call for Proposals covering SJU Industrial Research activities, Transversal activities and Very Large Scale Demonstrations to be performed by future SJU Members, leading to the signature with the newly appointed SJU Members of one Framework Partnership Agreement (FPA) and 28 Specific Agreements (SGAs) upon SJU Executive Director Grant Award Decision.

The conditions of both procedures result of the consultation process between the SJU and its Candidate Members organised in Phase 2.

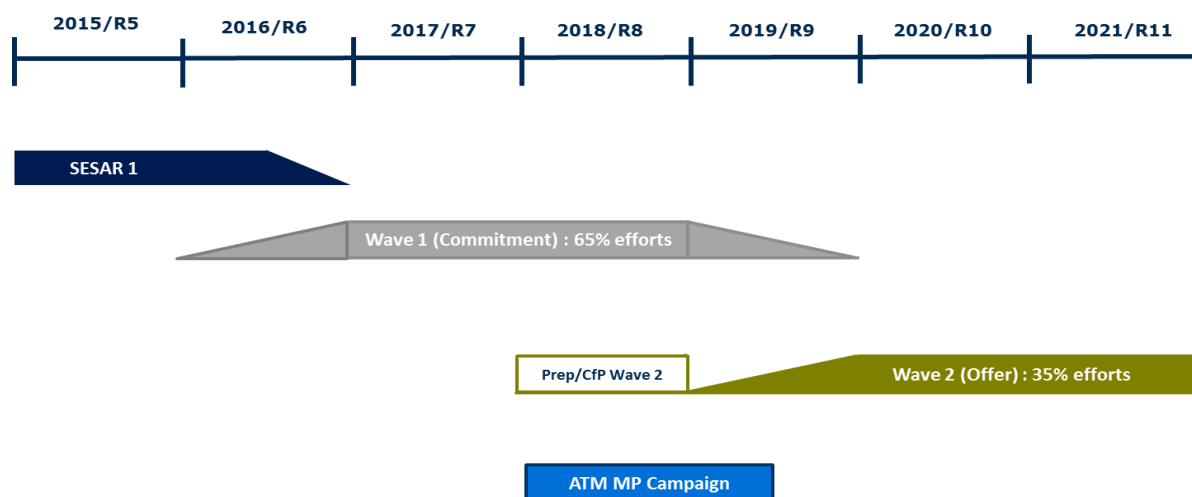
3.3.2 Content and scope of the Call for Final Membership Applications

The Call for Final Membership Applications will set out the requirements for the Membership Applications (i.e., approved Multi-annual Work Programme and model Membership agreement).

The Membership Application shall:

- cover the entire S2020 Programme;
- contain all the elements required and necessary for the performance of the proposed in-kind contributions to the PPP;
- be based on the expressions of interest submitted as a result of Phase 2;
- answer the requirements of the SJU as expressed in the approved Multi-annual Work Programme;
- be final and not subject to change or negotiation.

Consequently, the SESAR 2020 high level planning is depicted below:



High level WAVE 1 & WAVE 2 planning

3.3.3 Procedure

Any Candidate Member who submits a Membership Application on a different basis than the one submitted as an answer to the Call for expressions of interest faces a risk that its application be considered unacceptable or non-eligible.

As such, the Candidate Member shall apply as the same legal entity and in the same consortium/grouping composition as selected as a result of the CEI. Any change shall be exceptional and duly justified.

In the cover letter of its Membership Application, the Candidate Member shall therefore either:

- (a) confirm that no change is applicable to the consortium/grouping composition initially presented, or
- (b) describe and justify any legal change made to the consortium/grouping composition:
 - i. clarifying that the identified change has no significant impact on the initial membership application submitted as a result of Phase 1 of the Membership Accession Process;
 - ii. providing the full documentary evidence required under the sections 9.1, 9.2, 9.3.1, 9.3.2 of the CEI for each entity affected by the identified change.

Following any necessary clarification, specification or fine-tuning, or request for additional information, the SJU must evaluate the final Membership Applications received on the basis of the following criteria, as per Article 1(4) of the SJU Statutes:

- undertaking or body's documented knowledge and experience with air traffic management and/or with the manufacture of equipment and/or services for use in air traffic management,
- the contribution that the undertaking or body can be expected to make to the execution of the ATM Master Plan,
- potential conflicts of interest of the undertaking or body
- the adequacy of the proposed financial contribution for the overall duration of SESAR 2020.

Once the Candidate Members have been selected as SJU Members after evaluation, the SJU will notify formally the Candidate Members the outcome of the evaluation.

The accession of new members to the SESAR Joint Undertaking will be formalised through the signature of a Membership Agreement placed between the SJU and all the selected Members upon formal approval of the SJU Administrative Board of the conditions for accession.

PROGRAMME FINANCIALS 18 NOVEMBER 2014

WP	Member	Realloc 2013 + BAFO III		Commitments and Co-Financing			Cost by nature	Ibaf0 figures
		In-Kind	Max Co-financing	Commitments 2008 - 2014	Co-fin paid 2008 - 2014	Pre-fin at 18/11/2014		
03.	aena	6,7	3,4	2,9	1,5	0,9	Direct Labour Costs	48,5
	dfs	2,9	1,5	1,4	1,0	0,5	Other Direct Costs	6,8
	dsna	1,3	0,6	0,6	0,4	0,3	Subcontract	18,3
	enav	9,6	4,8	4,4	3,0	1,1	Use of Facilities	1,0
	nats	5,3	2,6	1,7	0,4	0,4		
	noracon	6,6	3,3	2,7	1,9	0,3		
	seac							
	frequentis							
	indra	6,5	3,2	2,4	1,8	0,5		
	natmig							
	selex	4,7	2,3	1,7	0,9	0,5		
	thales	12,7	6,4	4,5	3,0	1,2		
	airbus	5,5	2,8	2,4	2,0	0,4		
	alenia	2,2	1,1	0,6	0,3	0,1		
	honeywell							
	Sub Total	64,1	32,0	25,4	16,3	6,1	Direct Costs	74,63
							Indirect Costs	24,2
							Total	98,85
							Deductions	(0,2)
							Total Eligible Costs	98,69
	eurocontrol	19,8						
	Total	83,9						
04.	aena	7,1	3,6	3,0	2,1	0,6	Direct Labour Costs	76,8
	dfs	14,1	7,0	5,1	4,0	0,8	Other Direct Costs	7,9
	dsna	29,5	14,7	10,5	8,0	2,4	Subcontract	14,8
	enav	10,4	5,2	3,4	2,0	0,9	Use of Facilities	2,0
	nats	14,3	7,2	5,3	3,2	1,3		
	noracon	0,3	0,1	0,1	0,1			
	seac							
	frequentis							
	indra	1,8	0,9	0,6	0,4	0,2		
	natmig							
	selex	1,3	0,7	0,9	0,5	0,2		
	thales	5,7	2,9	2,9	1,6	1,5		
	airbus	5,4	2,7	1,6	1,0	0,4		
	alenia	2,2	1,1	0,3	0,3	0,1		
	honeywell	1,2	0,6	0,5	0,4	0,2		
	Sub Total	93,4	46,7	34,2	23,6	8,6	Direct Costs	101,47
							Indirect Costs	29,7
							Total	131,17
							Deductions	(0,6)
							Total Eligible Costs	130,58
	eurocontrol	29,7						
	Total	123,0						
05.	aena	15,4	7,7	6,6	3,7	1,0	Direct Labour Costs	93,8
	dfs	7,2	3,6	1,9	1,2	0,3	Other Direct Costs	10,8
	dsna	9,2	4,6	2,9	2,4	0,4	Subcontract	10,6
	enav	16,3	8,1	6,7	5,0	1,4	Use of Facilities	1,6
	nats	23,1	11,5	9,1	5,0	1,1		
	noracon	13,5	6,7	5,2	3,6	0,6		
	seac							
	frequentis	1,5	0,7	0,4	0,2	0,1		
	indra	2,5	1,2	0,9	0,3	0,3		
	natmig	0,0	0,0	0,0	0,0			
	selex	1,0	0,5	0,8	0,2	0,3		
	thales	3,5	1,8	1,7	1,2	0,9		
	airbus	4,0	2,0	1,6	1,0	0,4		
	alenia	0,7	0,4	0,3	0,3	0,1		
	honeywell							
	Sub Total	97,8	48,8	38,0	24,0	6,9	Direct Costs	116,82
							Indirect Costs	29,5
							Total	146,34
							Deductions	(0,9)
							Total Eligible Costs	145,42
	eurocontrol	26,3						
	Total	124,1						
06.	aena	13,4	6,7	6,2	3,3	0,5	Direct Labour Costs	79,6
	dfs	5,3	2,7	5,2	1,5	0,5	Other Direct Costs	8,9
	dsna	10,3	5,1	6,9	2,9	1,0	Subcontract	12,0
	enav	11,9	5,9	7,0	2,0	1,0	Use of Facilities	0,6
	nats	5,2	2,6	2,3	1,6	0,3		
	noracon	13,2	6,6	6,4	3,7	0,2		
	seac	13,7	6,9	5,9	2,7			
	frequentis	0,5	0,3	0,4	0,1	0,1		
	indra	2,9	1,4	5,1	0,9	0,3		
	natmig	0,9	0,5	2,0	0,2	0,1		
	selex	2,0	1,0	2,3	0,7	0,2		
	thales	5,4	2,7	5,2	1,4	0,8		
	airbus	7,6	3,8	6,4	1,2	0,3		
	alenia	1,5	0,7	1,9	0,3	0,0		
	honeywell	0,3	0,1	1,7	0,1			
	Sub Total	94,1	47,0	65,0	22,6	5,4	Direct Costs	101,10
							Indirect Costs	23,3
							Total	124,42
							Deductions	(0,1)
							Total Eligible Costs	124,32
	eurocontrol	46,7						
	Total	140,7						

PROGRAMME FINANCIALS 18 NOVEMBER 2014

WP	Member	Realloc 2013 + BAFO III		Commitments and Co-Financing			Cost by nature	Ibaf0 figures
		In-Kind	Max Co-financing	Commitments 2008 - 2014	Co-fin paid 2008 - 2014	Pre-fin at 18/11/2014		
07.	aena	2,9	1,4	0,9	0,3	0,4	Direct Labour Costs	64,8
	dfs	2,8	1,4	0,5	0,2	0,2	Other Direct Costs	4,8
	dsna	2,1	1,1	0,8	0,5	0,2	Subcontract	6,0
	enav	3,6	1,8	1,3	0,5	0,4	Use of Facilities	
	nats	3,5	1,8	1,1	0,6	0,3	Direct Costs	75,62
	noracon	2,8	1,4	0,6	0,2		Indirect Costs	11,0
	seac	0,2	0,1	0,2	0,0		Total	86,66
	frequentis	0,0	0,0	0,0	0,0	0,0	Deductions	(0,2)
	indra	5,1	2,5	0,9	0,6	0,4	Total Eligible Costs	86,50
	natmig							
	selex	1,5	0,7	0,5	0,4	0,2		
	thales	0,7	0,3	0,3	0,2	0,3		
	airbus	0,1	0,1	0,1	0,0	0,0		
	alenia							
	honeywell							
	Sub Total	25,4	12,7	7,3	3,7	2,3		
	eurocontrol	76,0						
	Total	101,4						
08.	aena	0,6	0,3	0,2	0,2	0,1	Direct Labour Costs	37,1
	dfs	5,4	2,7	2,4	1,7	0,7	Other Direct Costs	5,1
	dsna	2,1	1,0	0,8	0,6	0,3	Subcontract	7,2
	enav	1,9	0,9	0,7	0,5	0,2	Use of Facilities	0,7
	nats						Direct Costs	50,04
	noracon	11,0	5,5	4,5	3,5	0,6	Indirect Costs	10,5
	seac	0,2	0,1	0,1	0,0		Total	60,53
	frequentis	2,3	1,2	1,0	0,8	0,2	Deductions	
	indra	1,9	1,0	0,8	0,5	0,2	Total Eligible Costs	60,53
	natmig	2,2	1,1	1,0	0,6	0,2		
	selex	1,6	0,8	0,6	0,4	0,2		
	thales	1,4	0,7	0,7	0,4	0,3		
	airbus							
	alenia							
	honeywell							
	Sub Total	30,6	15,3	12,7	9,4	2,9		
	eurocontrol	21,0						
	Total	51,5						
09.	aena						Direct Labour Costs	69,2
	dfs						Other Direct Costs	11,2
	dsna	0,2	0,1	0,1	0,0		Subcontract	32,6
	enav						Use of Facilities	6,1
	nats						Direct Costs	119,11
	noracon	0,0	0,0	0,0	0,0		Indirect Costs	70,7
	seac						Total	189,81
	frequentis						Deductions	
	indra	0,1	0,1	0,0	0,0	0,0	Total Eligible Costs	189,81
	natmig							
	selex	5,5	2,8	2,7	1,7	0,8		
	thales	60,2	30,1	23,5	17,1	5,6		
	airbus	62,2	31,1	24,1	17,8	5,1		
	alenia	25,3	12,6	10,1	6,0	2,4		
	honeywell	38,0	19,0	13,8	9,3	2,6		
	Sub Total	191,6	95,8	74,4	52,1	16,5		
	eurocontrol	8,5						
	Total	200,1						
10.	aena	1,3	0,7	0,5	0,4	0,2	Direct Labour Costs	75,0
	dfs	3,4	1,7	1,4	0,8	0,5	Other Direct Costs	13,5
	dsna	1,6	0,8	0,8	0,5	0,4	Subcontract	6,9
	enav	3,8	1,9	1,6	0,8	0,5	Use of Facilities	3,9
	nats	0,8	0,4	0,3	0,1	0,1	Direct Costs	99,34
	noracon	1,2	0,6	0,5	0,4		Indirect Costs	55,5
	seac						Total	154,84
	frequentis	0,9	0,5	0,5	0,5	(0,0)	Deductions	(0,0)
	indra	32,4	16,2	12,1	7,5	4,1	Total Eligible Costs	154,81
	natmig	4,6	2,3	2,0	1,2	0,5		
	selex	21,4	10,7	10,0	3,2	2,8		
	thales	49,2	24,6	18,4	13,5	5,2		
	airbus	0,1	0,1	0,1	0,1	0,0		
	alenia							
	honeywell							
	Sub Total	120,7	60,3	48,2	29,0	14,4		
	eurocontrol	18,4						
	Total	139,1						

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WP	Member	Realloc 2013 + BAFO III		Commitments and Co-Financing			Cost by nature	Ibaf0 figures
		In-Kind	Max Co-financing	Commitments 2008 - 2014	Co-fin paid 2008 - 2014	Pre-fin at 18/11/2014		
12.	aena	0,3	0,2	0,1	0,1	0,0	Direct Labour Costs	64,5
	dfs	4,6	2,3	1,9	1,5	0,7	Other Direct Costs	14,5
	dsna	1,2	0,6	0,6	0,4	0,5	Subcontract	12,4
	enav	1,0	0,5	0,4	0,1	0,1	Use of Facilities	2,4
	nats	0,2	0,1	0,1	0,1	0,0	Direct Costs	93,75
	noracon	2,0	1,0	0,9	0,6		Indirect Costs	45,5
	seac	0,4	0,2	0,2	0,1		Total	139,21
	frequentis	7,2	3,6	2,2	1,7	0,5	Deductions	(0,0)
	indra	27,4	13,7	10,5	6,9	3,1	Total Eligible Costs	139,19
	natmig	13,8	6,9	4,7	3,7	0,8		
	selex	21,0	10,5	8,1	4,1	2,4		
	thales	29,8	14,9	11,5	8,5	3,2		
	airbus							
	alenia	0,6	0,3	0,2	0,2			
	honeywell							
	Sub Total	109,5	54,8	41,5	28,0	11,3		
	eurocontrol	3,6						
	Total	113,2						
13.	aena	2,2	1,1	0,4	0,2	0,1	Direct Labour Costs	36,3
	dfs	2,7	1,4	0,6	0,4	0,1	Other Direct Costs	3,2
	dsna	1,0	0,5	0,2	0,1	0,1	Subcontract	3,2
	enav	0,6	0,3	0,1	0,1	0,0	Use of Facilities	0,2
	nats	0,9	0,5	0,4	0,2	0,1	Direct Costs	42,85
	noracon	0,1	0,1	0,0	0,0		Indirect Costs	8,6
	seac						Total	51,41
	frequentis	3,2	1,6	0,8	0,7	0,2	Deductions	(0,0)
	indra	3,4	1,7	1,3	0,6	0,4	Total Eligible Costs	51,38
	natmig							
	selex	1,3	0,6	0,6	0,1	0,2		
	thales	3,1	1,6	0,7	0,6	0,3		
	airbus							
	alenia							
	honeywell							
	Sub Total	18,6	9,3	5,1	3,0	1,4		
	eurocontrol	32,6						
	Total	51,2						
14.	aena						Direct Labour Costs	43,1
	dfs	0,3	0,1	0,1	0,1	0,0	Other Direct Costs	6,1
	dsna	0,1	0,1	0,1	0,1	0,1	Subcontract	4,4
	enav	0,3	0,1	0,1	0,0	0,0	Use of Facilities	1,8
	nats						Direct Costs	55,38
	noracon	0,5	0,2	0,2	0,1		Indirect Costs	24,2
	seac						Total	79,57
	frequentis	7,3	3,7	2,7	2,1	0,5	Deductions	
	indra	8,7	4,3	4,0	2,8	1,3	Total Eligible Costs	79,57
	natmig	1,8	0,9	0,9	0,8	0,1		
	selex	3,0	1,5	1,2	0,7	0,3		
	thales	16,0	8,0	7,8	5,2	2,3		
	airbus	0,3	0,1	0,1	0,1	0,0		
	alenia							
	honeywell	0,2	0,1	0,1	0,0			
	Sub Total	38,5	19,2	17,3	12,0	4,8		
	eurocontrol	16,7						
	Total	55,1						
15.	aena	4,0	2,0	1,7	1,0	0,2	Direct Labour Costs	74,8
	dfs	5,0	2,5	1,7	1,1	0,3	Other Direct Costs	9,8
	dsna	2,7	1,3	1,2	0,6	0,2	Subcontract	11,5
	enav	1,8	0,9	0,8	0,4	0,1	Use of Facilities	1,0
	nats	1,2	0,6	0,2	0,1	0,1	Direct Costs	97,08
	noracon	2,2	1,1	1,1	0,4	0,1	Indirect Costs	49,3
	seac						Total	146,42
	frequentis	4,6	2,3	2,2	1,7	0,5	Deductions	(0,0)
	indra	18,7	9,4	7,9	3,9	2,3	Total Eligible Costs	146,40
	natmig	13,3	6,6	5,0	3,5	0,6		
	selex	18,1	9,1	8,6	4,7	2,2		
	thales	32,0	16,0	14,7	7,9	7,1		
	airbus	5,4	2,7	0,8	0,5	0,1		
	alenia	4,1	2,0	1,8	0,8	0,3		
	honeywell	0,7	0,3	0,2	0,1			
	Sub Total	113,7	56,8	47,8	26,8	14,2		
	eurocontrol	31,2						
	Total	144,9						

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WP	Member	Realloc 2013 + BAFO III		Commitments and Co-Financing			Cost by nature	Ibaf0 figures
		In-Kind	Max Co-financing	Commitments 2008 - 2014	Co-fin paid 2008 - 2014	Pre-fin at 18/11/2014		
16.	aena	3,5	1,7	1,6	1,1	0,3	Direct Labour Costs	70,7
	dfs	4,4	2,2	1,9	1,4	0,5	Other Direct Costs	6,0
	dsna	0,5	0,2	0,2	0,2	0,1	Subcontract	9,9
	enav	5,0	2,5	1,8	1,4	0,4	Use of Facilities	0,1
	nats	3,3	1,6	1,4	0,7	0,3	Direct Costs	86,70
	noracon	1,9	1,0	0,6	0,4		Indirect Costs	18,4
	seac	0,6	0,3	0,3	0,1		Total	105,13
	frequentis	1,8	0,9	0,8	0,6	0,2	Deductions	(0,1)
	indra	3,6	1,8	1,4	1,1	0,3	Total Eligible Costs	104,98
	natmig	2,9	1,4	1,2	1,0	0,1		
	selex	1,4	0,7	0,6	0,4	0,2		
	thales	4,2	2,1	1,9	1,4	0,5		
	airbus	12,1	6,1	5,5	4,0	1,1		
	alenia	0,5	0,2	0,1	0,1			
	honeywell							
	Sub Total	45,7	22,8	19,2	13,8	4,0		
	eurocontrol	48,1						
	Total	93,8						
B.0	aena	2,9	1,5	1,2	0,9	0,2	Direct Labour Costs	56,8
	dfs	11,6	5,8	4,0	3,3	0,8	Other Direct Costs	5,2
	dsna	3,9	2,0	0,8	0,5	0,2	Subcontract	4,1
	enav	2,5	1,3	0,8	0,6	0,2	Use of Facilities	0,5
	nats	5,0	2,5	2,0	1,7	0,3	Direct Costs	66,65
	noracon	4,0	2,0	1,6	1,4	0,2	Indirect Costs	15,0
	seac	0,5	0,2	0,2	0,1		Total	81,64
	frequentis	1,7	0,8	0,6	0,3	0,3	Deductions	(0,2)
	indra	1,8	0,9	0,6	0,4	0,1	Total Eligible Costs	81,41
	natmig							
	selex	3,3	1,7	1,2	0,6	0,4		
	thales	4,2	2,1	1,9	0,9	0,7		
	airbus	2,9	1,4	1,3	1,1	0,3		
	alenia	0,2	0,1	0,1	0,1	0,0		
	honeywell							
	Sub Total	44,6	22,3	16,3	11,8	3,7		
	eurocontrol	33,6						
	Total	78,2						
C.0	aena	1,5	0,8	0,6	0,4	0,0	Direct Labour Costs	44,4
	dfs	2,0	1,0	0,7	0,5	0,2	Other Direct Costs	3,4
	dsna	1,3	0,7	0,7	0,4	0,2	Subcontract	5,4
	enav	2,0	1,0	0,7	0,4	0,2	Use of Facilities	
	nats	1,3	0,7	0,7	0,3	0,2	Direct Costs	53,17
	noracon	2,2	1,1	0,7	0,3		Indirect Costs	8,8
	seac	0,7	0,3	0,2	0,1		Total	61,97
	frequentis						Deductions	(0,1)
	indra	2,1	1,0	0,9	0,5	0,3	Total Eligible Costs	61,90
	natmig							
	selex							
	thales	2,1	1,0	1,0	0,5	0,3		
	airbus	2,4	1,2	1,2	0,9	0,3		
	alenia	0,3	0,1	0,1	0,1			
	honeywell	0,1	0,0	0,0	0,0			
	Sub Total	18,0	9,0	7,5	4,3	1,8		
	eurocontrol	33,5						
	Total	51,5						
H.0	aena	0,3	0,2				Direct Labour Costs	
	dfs	0,3	0,1				Other Direct Costs	
	dsna	0,3	0,1				Subcontract	
	enav	0,5	0,2				Use of Facilities	
	nats	0,3	0,2				Direct Costs	
	noracon	0,6	0,3				Indirect Costs	
	seac	0,4	0,2				Total	
	frequentis	0,2	0,1				Deductions	
	indra	0,4	0,2				Total Eligible Costs	
	natmig	0,2	0,1					
	selex	0,8	0,4	0,4		0,2		
	thales	0,7	0,4	0,4		0,3		
	airbus	0,9	0,4					
	alenia	0,4	0,2					
	honeywell	0,3	0,1					
	Sub Total	6,5	3,2	0,7		0,5		
	eurocontrol	1,1						
	Total	7,6						

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WP	Member	Realloc 2013 + BAFO III		Commitments and Co-Financing			Cost by nature	Ibaf0 figures
		In-Kind	Max Co-financing	Commitments 2008 - 2014	Co-fin paid 2008 - 2014	Pre-fin at 18/11/2014		
Total	aena	62,2	31,1	26,0	15,2	4,5	Direct Labour Costs	935,4
	dfs	71,9	35,9	28,7	18,7	6,1	Other Direct Costs	117,2
	dsna	67,4	33,7	27,3	17,5	6,4	Subcontract	159,4
	enav	71,3	35,5	29,8	16,9	6,6	Use of Facilities	21,8
	nats	64,4	32,2	24,6	13,9	4,4	Direct Costs	1.233,72
	noracon	62,3	31,1	25,2	16,8	2,1	Indirect Costs	424,3
	seac	16,6	8,3	7,0	3,1		Total	1.657,98
	frequentis	31,3	15,6	11,7	8,6	2,5	Deductions	(2,5)
	indra	119,2	59,6	49,4	28,4	13,7	Total Eligible Costs	1.655,48
	natmig	39,6	19,8	16,7	11,1	2,5		
	selex	88,1	44,0	40,3	18,4	11,0		
	thales	231,0	115,5	97,1	63,4	30,5		
	airbus	108,8	54,4	45,0	29,7	8,5		
	alenia	37,9	19,0	15,6	8,6	3,1		
	honeywell	40,7	20,3	16,4	10,0	2,8		
	Sub Total	1.112,6	556,1	460,9	280,2	104,7		
	eurocontrol	505,2						
	Total	1.617,8						

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Realloc 2013 + IBAFO III	amounts of gross in kind contributions and max co-financing as result of the Reallocation 2013 and/or IBAFO III
Commitments 2008-2014	cumulative amount committed <u>per project&per Member</u> by the SJU in terms of co-financing (Level 2 Commitments) (Remaining difference to the maximum Co-Financing has been committed <u>per Member</u> as Level 1 commitments, full breakdown to Level 2 commitments <u>per project</u> expected by end of 2014)
Co-Fin paid 2008-2014	amount paid/to be paid to the Members in terms of Co-financing until 18/11/2014 for activities realized until 31/12/2013
Pre-fin at 18/11/2014	amount paid to the Members in terms of Pre-financing considering the clearing of 2013 activities realized until 18/11/2014 (Members Cost Claims for 2013 activities considered in above figures: 12 out of 16 (18/11/2014)!!)
Ibaf0 figures	Breakdown of Cost by nature based on the <u>original</u> Ibaf0 figures

Annex III Risk Management

The table shows the results of the Risk Assessment conducted in July 2014 as compared to those of January 2014.

	RISK ID	RISK Description	Net Criticality Jan-14	Net Criticality Jul-14
R&D	RD01	Future major events (start of deployment, possible extension of the SJU and possible extension of SESAR) might bring focus on future topics other than the R&D activities, compromising the achievement of the on-going SESAR work Programme	12	9
	RD02	Coordination and transversal activities are not effective, leading the R&D Programme to not deliver solutions that are really ready for the preparation of deployment	8	6
	RD03	The ineffective bridging between R&D and industrialisation / Deployment leads to inefficiencies, in particular for third-parties (non-Members) and Deployment Manager	6	6
	RD04	The ineffective (top-down) planning causes delays	6	6
	RD05	R&D activities do not meet target maturity dates	6	9
	RD06	The System Engineering approach (people, process and tools) does not enable the Programme to ensure the overall coherence and quality of the output of the R&D Programme	6	6
	RD07	Inefficient or unrealistic resource management (Programme and projects resources)	9	9
	RD08	R&D activities do not deliver solutions allowing to reach expected ATM performance	9	6
	RD09	The definition and follow-up of the main milestones and success criteria do not enable to steer the Programme effectively	3	3
	RD10	Lack of buy-in and support from broader ATM community in the R&D programme	6	6
	RD11	The Programme does not adapt to external changes	6	6
	RD12	The governance of the R&D Programme is not capable of steering the R&D Programme	3	3
	RD13	The SWIM concept is not broadly adopted	6	6
	RD14	Gaps in the work programme cause major gaps in the SESAR Solutions proposed as an output of the R&D activities, which limit benefits to stakeholders	4	4
	RD15	The investment of the stakeholders, necessary to support the development activities, is not secured (SESAR I)	3	3
	RD16	Available Regulatory and Standardisation frameworks are unable to support the Deployment phase. SESAR output will not effectively support the transition to pre-industrialisation (in particular standardization activities)	6	9
	RD17	Lack of operational inputs into ENABLERS for both CNS and Spectrum. Thus, the assumptions based for these developments have not been confirmed by the operational	6	6
	RD18	Inefficiency in the transition between SESAR I and SESAR 2020 leading to negative impacts on the R&D results	NEW	6
SESAR Wide Scope	WSS01	The SESAR Step 1 Cost Effectiveness objective is not reached	12	12
	WSS02	Governance Structure is not capable of ensuring successful Deployment	6	6
	WSS03	Investment to support deployment beyond Deployment Baseline is not secured	8	8
	WSS04	Without adequate planning of deployment oriented R&D, the ATM MP loses its purpose	6	6
	WSS05	Failure to manage Human Performance (Human Factors, Competency and Change Management) issues in the development and implementation of the ATM Target Concept	6	6
	WSS06	Delays in the implementation of the Deployment Baseline, resulting in possible delays in the subsequent operational/technological changes	6	6
	WSS07	The SESAR Step 1 Security objective is not reached	CANCELLED	CANCELLED
	WSS08	The SESAR Step 1 Capacity objective is not reached	6	6
	WSS09	The SESAR STEP 1 Environmental objective is not reached	6	6
	WSS10	The SESAR Step 1 Safety objective is not reached	6	6
	WSS11	The SESAR Step 1 Quality of Service objective is not reached	CANCELLED	CANCELLED
	WSS12	Interoperability and global harmonisation are not ensured	6	6
	WSS13	Regulatory arrangements and standards implementation are unable to support the Deployment phase	4	4
Corporate	ADM01	Information is not managed properly, affecting the SJU's reputation and potentially resulting in lost opportunities for the industry with regard to the transition towards Deployment	8	8
	ADM02	Lack of available required competences due to key staff turnover and/or inability to attract skilled resources or inability to offer compelling career development perspectives	9	9
	ADM03	Large amount of both external and internal upcoming changes affects effectiveness and quality of the work performed	NEW	9
	ADM04	A lack of connection between the SJU strategic objectives, the IT strategy and the IT project management framework might cause decreased effectiveness and efficiency of delivering SJU program 2020	NEW	6

This table shows the status of mitigating actions identified and implemented

ACTION ID	ACTION Description	Due date	Status
1	Define and implement appropriate Deployment Governance arrangement to ensure an effective execution of the ATM Master Plan and the necessary link with the implementation plans of all relevant stakeholders	31/12/2013	Cancelled
2	Define and implement the Release strategy, the top-down V&V roadmap and the Integrated Roadmap which put the Priority Business Needs into practice (including performance expectations)	30/06/2013	Completed
3	Ensure appropriate coordination between all stakeholders concerned to ensure consistency between initiatives related to Human Factors, Competency and Develop relations with the staff associations.	On Going Process	Cancelled
4	Ensure that financial and operational incentive mechanisms are defined and implemented to facilitate the deployment of SESAR	31/12/2013	Cancelled
5	A)Review the level and capacity of human resources and competencies against requirements to run the processes within the Directorate Operations and Programme Analyse the risk of turnover per profile, define clear and operating back-up plans and monitor the coverage of processes by actual resources B)Define R&D calendar for upcoming year and the related priority activities	31/12/2012	Completed
6	Work towards interoperability in the framework of ICAO – in particular the preparation for ANC 2012 – and EASA, Standardization bodies working arrangements.	31/12/2012	Completed
7	Monitor implementation of the Deployment Baseline and identify any deviation of the schedule for further reporting to the adequate forum (e.g. EC Interim Deployment Steering Group) Analyse the impact of delays on the rest of the R&D Programme and define mitigations	31/12/2013	Completed

8	Prepare for the deployment of first SESAR R&D results (through the proposal for PCP that will be proposed to the EC Draw lessons learnt	31/12/2013	Completed
9	Develop the SJU workplace to include facilities, procedures and support where the core-business SESAR Programme and Operations activities can be performed efficiently and effectively for all roles and staff types (SJU, PSO, SNE, Member Seconded, Contractors etc.). Encourage the appropriate focus on exemplary service and performance from all staff (best facilities and support are key to deliver best overall SJU performance) in all parts of the organisation.	31/12/2014	In Progress
10	Implement and apply PMP V3 including OFA coordinator	31/12/2013	Completed
11	Ensure effective implementation of Demonstration initiative including AIRE	31/12/2012	Completed
12	Strengthen identification of the Inter-Projects dependencies and synchronisation status of the projects, in particular dependency between OPS and SYS thread projects	31/12/2012	Completed
13	Establish approach to strengthen the link between the SJU innovative research activities and the rest of the Programme, in view of the launch of SESAR 2020	31/12/2014	In Progress
14	BAFO 1&2 Re-allocation and BAFO 3	31/12/2013	Completed
15	Define a clear information and IPR management policy that establishes rules and plan for the disclosure of the SJU foreground and of key programme deliverables (e.g. projects final report): what to disclosed, with whom...	31/12/2013	Completed
16	Update communication plan to address reputational risks for the SJU	31/12/2014	In Progress
17	Secure the extension of the SJU (and stakeholders involvement) and establish principles of Programme 2 (include decision on transitory arrangements for staff)	30/06/2014	Completed
18	Define the content and create consensus on the level of ambition of CONOPS STEP 2	30/06/2014	Completed

19	Establish SESAR solution packages	31/12/2013	Completed
20	Review WP16 and implement recommendations	31/12/2014	Completed
21	Implement arrangement with EASA, ICAO, EUROCAE and standardisation bodies	31/12/2013	Completed
22	Implementation of NAs new MOUs	31/12/2013	Completed
23	System Thread Guidance modeling activities (EATMA)	31/12/2013	Completed
24	Integrate new 3P (Staff associations, Military and NAs) as part of 3rd Parties Resource Management process	31/12/2013	Completed
25	Implement a monitoring tool to check applicability of performance and transversal area assessment methodologies by projects	30/09/2013	Completed
26	Monitor and ensure the commitment of member resources during BAFO 1, 2 & 3 reallocation (SESAR I & II, Development VS Deployment)	31/12/2013	Completed
27	Ensure that Release 4 is defined in compliance with top down criteria while maintaining minimum 80% ratio actual/planned	31/12/2013	Completed
28	As part of Programme II preparation, reassess the operating model and tools VS HR staffing	31/12/2014	Completed
29	Update release strategy	31/12/2013	Completed
30	Put in place the ICT action plan to ensure the transition towards SJU 2020	31/10/2015	In Progress

31	Deliver state of harmonisation EU/US SESAR/NextGEN. Particular attention must be paid on the definition and timeframe of the ATN B2 RTCA/EUROCAE standards publication (in relation to AF # 6) and on the definition and timeframe of the FIXM standard evolution (in relation to AF#5).	31/12/2014	In Progress
32	Ensure the commitment of SESAR 2020 candidate members during design, preparation and phase-in of SESAR 2020	30/06/2015	In Progress
33	Launch PC Tigerteam to prepare the next ATM MP update campaign and formulate proposals to enhance the working arrangements involving transversal activities	30/06/2014	Completed
34	Continue to support the commission during the PCP consultation phase	30/06/2014	Completed
35	Ensure delivery of PCP R&D objectives with Release 5	31/12/2015	In Progress
36	Provide support to the commission in setting up SESAR deployment phase	31/12/2014	Completed
37	Ensure alignment of resources and activities to be performed especially in the period 2014-2016, including outsourcing delegation of functions simplification	31/12/2014	On Going Process
38	Launch of Large Scale Demonstration activities covering the period 2014-2016	31/01/2014	Completed
39	Engage the operational work packages at the level of the federating projects (X.2) to provide inputs to the WP15 CNS activities in terms of refining the assumptions used to define the operational requirements	31/12/2014	In Progress
40	To implement the CONOPS STEP 2	31/12/2014	In Progress
41	Further strengthen the 3PRM process to achieve the targeted engagement level	31/12/2015	In Progress
42	Apply the SWIM compliance framework to the SWIM enabled prototypes supporting the validation exercises for release 4 and 5	31/12/2014	In Progress
43	Establish the working arrangement with the DM	30/06/2015	Not Started
44	Ensure implementation of MP TigerTeam conclusions	30/06/2015	In Progress
45	Put in place adequate corporate planning and change management activities	30/06/2015	In Progress
46	Ensure quality aspects and document management are put in place at the corporate level	31/03/2015	In Progress
47	Monitor the PCP coverage, report to WPL, PCG and even PC about any deviance and ensure their awareness of the need to comply with the commitment	31/12/2015	In Progress

48	Ensure convergence of the SESAR regulatory & standardization roadmaps with the EASA rulemaking plan	30/04/2015	In Progress
49	Put in place the means of transferring the 'work in progress' and 'results' from closed projects in SESAR 1 to new project(s) in SESAR 2020 to avoid unnecessary rework or inefficiency	31/07/2015	In Progress

Annex IV – Release 5 list of exercises

1.1 Priority Business Need: Traffic Synchronisation

OFA02.01.01 - Optimised 2D/3D Routes					
Achievement	- Gap Analysis on the use of the PBN in an En-Route phase of flight. - Promoting Continuous Descent Operations in complex and constrained airspace of Orly Airport.				V3
Deliverables	VALR, OSED, SPR				
Contributing Projects	04.07.03, 05.06.02				
Contributing AU(s)	Air France, Novair				
SESAR Solutions	#09	Enhanced terminal operations with automatic RNP transition to ILS/GLS and LPV			AOM-0605
	#10	Optimised Route Network using advanced RNP			AOM-0404
	#11	Continuous Descent Operations (CDO) and Continuous Climb Operations (CCO)			AOM-0702-A, AOM-0705-A
Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-04.07.03-VP-794	AOM-0404	Safety Analysis	Fast Time	N/A	31/08/2015
EXE-05.06.02-VP-763	AOM-0702-A AOM-0705-A	Flight Trial	DSNA Paris ACC legacy system	None	16/11/2015
EXE-06.08.08-VP-787	AO-0320, AOM-0605	Flight Trial	ENAV Malpensa GBAS GS, Milan Malpensa AIRBUS Flight Test Aircraft, Airbus Toulouse and Milan-Malpensa	P6.8.8 Airborne GBAS and FMS capability AIRBUS, ENAV Malpensa GBAS GS	25/03/2016

OFA03.02.01 – ASAS Spacing					
Achievement	This OFA contains 1 R5 SESAR Solution #16 “ASAS Spacing applications: Remain behind and Merge Behind” which is validated by 1 Exercise (EXE-05.03-VP-805) allocated to OFA04.01.02				V3
Deliverables					
Contributing Projects					
Contributing AU(s)					
SESAR Solution	#16	ASAS Spacing applications: Remain behind and Merge Behind			TS-0105-A
Exercise	Ols	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-05.03-VP-805	TS-0103 TS-0105-A TS-0109 TS-0305-A	Flight Trial, RTS, RTS / Flight Trial	ENAV IBP Rome,Rome AIRBUS Integration Simulator,Toulouse AIRBUS Flight Test Aircraft	10.03.02-D22-SELEX-Prototype Development - availability note Phase 2, SELEX 10.02.01-D89-Prototype 3 Availability Note, SELEX 10.10.03-D64-SELEX-Prototype availability note-Cycle 1, SELEX 09.01-D23-AIRBUS-Integrated Airborne i4D simulator II, AIRBUS 09.05-D29-Phase III Aircraft integration simulator, AIRBUS	30/03/2016

OFA04.01.01 - Integrated Arrival/Departure Management at Airports					
Achievement	Validation of Advanced AMAN-DMAN-Routing Step2 V3: - to obtain arrival-departure integrated sequence in crossed runways situation - based on the coordinated pre-departure management and arrival metering, calculate an integrated arrival and departure sequence to maximise runway throughput.				V3
Deliverables	VALR, OSED, TS				
Contributing Projects	06.08.04, 10.09.01, 12.04.04, 03.03.02, 03.03.03				
Contributing AU(s)					
SESAR Solutions	#14	Departure Management integrating Surface Management Constraints			TS-0203
	#15	Integrated and throughput-optimised sequence of arrivals and departures			TS-0309
Exercise	Ols	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-06.08.04-VP-343	TS-0203, TS-0309	Real Time Simulation	ENAIRES HQ Pre-operational IBP-Tower Segment, Madrid	10.09.01.D25, INDRA 12.04.04-D21-DMAN/SMAN, INDRA	27/02/2016
EXE-06.08.04-VP-440	TS-0309	Real Time Simulation	DSNA IBP TWR Lyon, DSNA Toulouse	10.09.01-D14-AMAN, THALES 12.04.04-D23-DMAN/SMAN, THALES	15/12/2015
EXE-06.03.01-VP-719	AO-0104-A AO-0205 AO-0208-A TS-0203	Real Time Simulation	ENAV IBP Malpensa, Milan Malpensa	12.03.02.D39-SELEX-ASN, SELEX 12.05.04-D50-SELEX-Tower iCWP, SELEX 12.04.04-D22-SELEX DMAN/SMAN, SELEX 12.04.03-D13-SELEX-Phase 3-Prototype, SELEX	27/11/2015

OFA04.01.02 - Enhanced Arrival & Departure Management in TMA and En Route					
Achievement	- Initial assessment of i4D+CTA in a cross border environment, using the Flight Object mechanisms between MUAC and LVNL. - Technical feasibility and operability of the Controlled Time of Arrival (CTA) concept in the Extended TMA/ En-Route environment				V3
Deliverables	VALR				
Contributing Projects	04.03, 05.06.01, 09.01, 10.02.01, 10.02.05, 10.07.01, 10.09.04, 03.03.02, 03.03.03				
Contributing AU(s)					
SESAR Solutions	#5	Extended AMAN horizon			TS-0305-A
	#6	CTA in medium density / medium complexity environments			TS-0103
	#8	Arrival management in multiple airports			TS-0303
Exercise	Ols	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-04.03-VP-030	AUO-0205-A AUO-0302-A AUO-0303-A IS-0302 IS-0303-A TS-0103	Real Time Simulation	LVNL iTEC based IBP,Amsterdam ECTRL MUAC	10.07.01-D60-INDRA-ATS Datalink, 10.02.05-D14-ECTRL-ATC-ATC FOS, 10.07.01-D74-ECTRL-ATS Datalink	18/12/2015
EXE-05.06.01-VP-477	TS-0103	Real Time Simulation	AIRBUS Integration Simulator,Toulouse NORACON IBP Thales,Malmö	09.01-D23-AIRBUS-Integrated Airborne i4D simulator II, 10.02.01-D04-THALES-I4D in TMA	18/12/2015
EXE-05.03-VP-804	CM-0103-A CM-0104-A TS-0305-A	Real Time Simulation	ENAIRe CRIDA IBP,Madrid	10.08.01---INDRA-Complexity and Trajectory Management Tool, INDRA 10.09.01---INDRA E-AMAN prototype, INDRA	25/03/2016

EXE-05.03-VP-805	TS-0103 TS-0105-A TS-0109 TS-0305-A	Flight Trial, RTS, RTS / Flight Trial	ENAV IBP Rome, Rome AIRBUS Integration Simulator, Toulouse AIRBUS Flight Test Aircraft	10.03.02-D22- SELEX-Prototype Development - availability note Phase 2, SELEX 10.02.01-D89- Prototype 3 Availability Note, SELEX 10.10.03-D64- SELEX-Prototype availability note- Cycle 1, SELEX 09.01-D23- AIRBUS- Integrated Airborne i4D simulator II, AIRBUS 09.05-D29-Phase III Aircraft integration simulator, AIRBUS	30/03/2016
EXE-05.04.02-VP-778	TS-0303	Real Time Simulation	DFS AFS Langen,Langen	10.09.01-M052- DFS-CMAN, DFS	31/07/2015

1.2 Priority Business Need: Airport Integration & Throughput

OFA01.02.01 - Airport Safety Nets					
Achievement	- Evaluate the use of RWSL (RunWay Status Lights) system based on A-SMGCS surveillance to prevent runway incursions. The information on runway usage is directly made available to the vehicle drivers and flight crews through new airfield lights; - Integration of Airport safety support tools, HMI, DMAN, FDP, in particular between Route function and DMAN on the basis of the exchange of Departure runway, Total Taxi Time, TSAT and TTOT. Resulting improvement in Surface routing of the calculation of taxi time, improvement of CMAC (Conformance Monitoring Alerts for Controllers) related to taxi, and possibility of giving clearances to portion of taxi route; - Validate enhanced situational awareness and safety nets elements linked to vehicle's driver; - Validate safety nets (conformance monitoring and conflicting ATC clearances) in a cross runway environment together with the routing and planning function that takes into account inputs from ATCos, other movements and known constraints. Routing information and clearances will be provided to the aircraft using datalink; - Validate the integration of A-CWP and A-SMGCS Level IV functions (advanced routing, safety nets, guidance) in an airport environment with crossing runways.				V3
Deliverables	VALR, OSED, TS				
Contributing Projects	06.03.01, 06.07.01, 06.09.02, 12.03.02, 12.03.03, 12.03.04, 12.04.03, 12.04.04, 12.05.04				
Contributing AU(s)					
SESAR Solutions	#1	Runway status light			AO-0209
	#2	Airport safety nets for controllers: conformance monitoring alerts and detection of conflicting ATC clearances			AO-0104-A
	#3	Airport safety nets for the Flight Crew: traffic alerts			AUO-0605-A
	#4	Enhanced Traffic Situational Awareness and Airport Safety Nets for the vehicle drivers			AO-0204
Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-06.07.01-VP-232 (from R3)	AO-0209	Live trial	DSNA CDG Legacy system	N/A (DSNA system)	31/03/2016
EXE-06.03.01-VP-719	AO-0104-A, AO-0205, AO-0208-A, TS-0203	Real Time Simulation	ENAV IBP Malpensa, Milan	12.03.02.D39-SELEX-ASN, 12.05.04-D50-SELEX-Tower iCWP, 12.04.04-D22-SELEX DMAN/SMAN, 12.04.03-D13- SELEX-Phase 3-Prototype	27/11/2015
EXE-06.03.01-VP-724	AO-0105, AO-0204	Live trial	SEAC ADP Vehicle Driver IBP, Paris CDG	N/A	30/06/2015

EXE-06.03.01-VP-758	AO-0104-A, AO-0205, AO-0208-A, AUO-0308	Real Time Simulation	ENAIHQ HQ Pre- operational IBP- Tower Segment, ENAIHQ	12.03.02 - INDRA- D61 Phase 3 –Prototype, 12.03.03 - INDRA D16 Phase 3- Prototype, 12.04.03 - INDRA D14 Phase 3 – Prototype, 12.05.04 - D48 INDRA prototype - Phase 3, 12.05.04 - DXX PBM+DST INDRA, 12.03.04 - DXX	05/02/2016
EXE-06.09.02-VP-679	AO-0104-A, AO-0205, AO-0208-A, AUO-0308, IS-0901-A, MET-0101	Real Time Simulation	DFS TWR IBP Langen	12.05.04 – FREQUENTIS / DFS	11/12/2015
EXE-06.07.01-VP-769	AO-0105	Live Trial	NORACON TBD,		30/05/2015
EXE-09.14-VP-673	AUO-0605-A	Live Trial	AIRBUS Integration Simulator, Airbus Toulouse	---, Honeywell	31/03/2015
EXE-06.03.01-VP-699	AO-0104-A AO-0205 AO-0208-A AUO-0308	Real Time Simulation	DSNA CDG IBP,Paris CDG	10.07.01-D82-THALES, THALES 12.03.02-D42-THALES, THALES 12.04.03-D12-THALES, THALES 12.05.04--THALES, THALES	31/10/2015
EXE-06.03.01-VP-761	AO-0104-A AO-0205 AO-0208-A AUO-0308 AUO-0603-A	Real Time Simulation	ECTRL eDEP,ECTRL Bretigny	12.03.02-D06-NATMIG- Enhanced Surface Safety Nets, NATMIG 12.03.03-D28-NATMIG- Surface routing, NATMIG 12.03.04-Dxx-NATMIG- Surface Guidance Server, NATMIG	05/02/2016

OFA04.02.01 - Integrated Surface Management					
Achievement	- Validate the value of the manual taxi route and the traffic display on three representative airport platforms To improve the pilot situation awareness, two additional sources of information are added on top on the aircraft moving map: Traffic situation awareness around the airport vicinity (ATSA-SURF) and Graphical display of the taxi route in the cockpit entered by the pilots to ease the taxiing phase; - Validate advanced A-SMGCS Guidance function and alerts related to vehicle drivers in a representative environments, with the provision of ground related instructions & information via data link to both flight crew (D-TAXI service) and vehicle drivers, integrated with both ground lighting system (AGL) and Virtual Stop Bars.				V3
Deliverables	VALR				
Contributing Projects	06.03.01, 06.07.03, 09.13, 10.07.01, 12.03.04, 12.05.04				
Contributing AU(s)					
SESAR Solutions	#22	Automated Assistance to controller for Surface movement Planning and Routing			AO-0205
	#23	D-TAXI service for CPDLC application			AUO-0308
	#24	Improved vehicle guidance			AO-0206 AO-0215
	#26	Manual Taxi routing function			AUO-0603-A
	#47	Guidance assistance through Airfield Ground Lighting			AO-0222
	#48	Virtual Block Control in LVPs			AO-0223
Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-06.07.03-VP-093	AO-0105, AO-0206, AO-0215, AUO-0308, AUO-0603-A	Live Trial and Simulation, RTS / Flight Trial	ENAV IBP, Milan Malpensa AIRBUS TBD, Airbus Toulouse and Milan-Malpensa	12.03.04-D26-SELEX-Surface Guidance Server, 10.07.01-D61-SELEX-ATS Datalink, 12.05.04-D50-SELEX, 09.13-ATSU, AIRBUS 09.13-AMM, AIRBUS	28/02/2016
EXE-06.03.01-VP-699	AO-0104-A AO-0205 AO-0208-A AUO-0308	Real Time Simulation	DSNA CDG IBP, Paris CDG	10.07.01-D82-THALES, 12.03.02-D42-THALES, 12.04.03-D12-THALES, 12.05.04--THALES	31/10/2015
EXE-06.03.01-VP-759	AUO-0603-A	Real Time Simulation	SEAC SASIM, Frankfurt		30/04/2015

EXE-06.03.01-VP-761	AO-0104-A AO-0205 AO-0208-A AUO-0308 AUO-0603-A	Real Time Simulation	ECTRL eDEP, ECTRL Bretigny	12.03.02-D06- NATMIG-Enhanced Surface Safety Nets, NATMIG 12.03.03-D28- NATMIG-Surface routing, NATMIG 12.03.04-Dxx- NATMIG-Surface Guidance Server, NATMIG	05/02/2016
EXE-06.03.01-VP-758	AO-0104-A, AO-0205, AO-0208-A, AUO-0308	Real Time Simulation	ENAIHQ HQ Pre- operational IBP- Tower Segment, ENAIHQ	12.03.02 - INDRA- D61 Phase 3 – Prototype, 12.03.03 - INDRA D16 Phase 3- Prototype, 12.04.03 - INDRA D14 Phase 3 – Prototype, 12.05.04 - D48 INDRA prototype - Phase 3, 12.05.04 - DXX PBM+DST INDRA, 12.03.04 - DXX	05/02/2016
EXE-06.09.02-VP-679	AO-0104-A, AO-0205, AO-0208-A, AUO-0308, IS-0901-A, MET-0101	Real Time Simulation	DFS TWR IBP Langen	12.05.04 – FREQUENTIS / DFS	11/12/2015
EXE-06.03.01-VP-719	AO-0104-A AO-0205 AO-0208-A TS-0203	Real Time Simulation	ENAV IBP Malpensa, Milan Malpensa	12.03.02.D39- SELEX-ASN, SELEX 12.05.04-D50- SELEX-Tower iCWP, SELEX 12.04.04-D22- SELEX DMAN/SMAN, SELEX 12.04.03-D13- SELEX-Phase 3- Prototype , SELEX	27/11/2015

OFA05.01.01 – Airports Operations Management					
Achievement	• Validate real time operations (Set a new TOBT and wait to delayed passengers or Start up at planned TOBT without some passengers) with connection of landside information with the AOP and therefore impact assessment on ATVs, • Demonstrate fully integrated Airport Performance Monitoring, DCB Management and MET Service through SWIM (Integrated Validation of Aerodrome MET related Information & Alerting in the Management of Adverse Weather Conditions and Impact of MET information on DCB Management Processes and Airport Performance Monitoring). • Validated operational benefits resulting from APOC implementation, validated interfaces (roles and responsibilities) between the APOC and the individual stakeholder operational units and validated information requirements within an APOC covering performance and alerting as well as decision support; • Validate the use of a De-icing Management Tool in an A-CDM environment, creating awareness of de-icing activities among airport stakeholders by feeding the airport database (i.e. Airport Operations Plan) with up-to-date information about planned and ongoing de-icing activities.				V3
Deliverables	VALR, OSED				
Contributing Projects	06.03.01, 06.05.04, 06.05.05, 06.06.02, 12.02.01, 12.05.04, 12.06.02, 12.06.03, 12.06.07, 12.07.03, 12.07.05, 03.03.02, 03.03.03				
Contributing AU(s)					
SESAR Solutions	21	Airport Operations Plan and AOP-NOP seamless integration			AO-0801 AO-0803 AO-0804 DCB-0309
Exercise	Ols	Validation Technique	Validation Platform	Prototype	Exercise Completed

EXE-06.03.01-VP-549	AO-0801, AO-0802	Shadow Mode	ENAIRE Airport IBP,Palma	12.06.02-D25-INDRA Airport Operations Plan	31/07/2015
EXE-06.03.01-VP-669	AO-0208-A, AO-0801, AO-0803, AO-0804, DCB-0309, MET-0101	Shadow mode	ENAV IBP Milan Malpensa	12.06.07-D21-SELEX- prototype development & verification for Phase 2, 12.05.04-D50-SELEX- Tower iCWP, 12.02.01-D20-SELEX- RMAN, 12.07.05-D12-SELEX- IWIS, 12.06.03-D12-SELEX- WISADS 15.04.09.c-D12-GWMS V3 prototype, SELEX	30/03/2016
EXE-06.03.01-VP-757	AO-0801, AO-0803, AO-0804	Real Time Simulation	DLR ACCES APOC, Braunschweig	12.06.02-D25-INDRA Airport Operations Plan, 12.07.03-D16-INDRA	22/04/2016
EXE-06.06.02-VP-513	AO-0803	Shadow mode	NORACON TBD, ARN & HEL	06.06.02-DXX- Telespazio VEGA DIMT V3 prototype, Telespazio VEGA	31/03/2015
EXE-06.03.01-VP-010	AO-0801 AO-0804 DCB-0309	Fast Time Simulation	DLR ACCES APOC, Braunschweig	12.02.01-D21-INDRA, INDRA 12.06.02-D25-INDRA Airport Operations Plan, INDRA 12.06.07-D11-INDRA, INDRA	29/01/2016
EXE-13.02.03-VP-749	DCB-0103-A DCB-0208	Live Trial	ECTRL NMVP, BRUXELLES ENAIRE TBD,Palma & Barcelona Airport	13.02.03-D362-ECTL, 13.02.03-D362-ENAIRE, INDRA	28/10/2015

1.3 Priority Business Need: Moving from Airspace to 4D Trajectory Management

OFA03.01.03 - Free Routing					
Achievement					V3
Deliverables	OSED, VALP, VALR				
Contributing Projects	04.03, 03.03.02, 10.04.01, 10.04.03, 10.10.03, 14.02.09				
Contributing AU(s)					
SESAR Solutions	#32	Free Route through the use of Direct Routing for flights both in cruise and vertically evolving for cross ACC borders and in high & very high complexity environments.			AOM-0500
	#33	Free Route through Free Routing for flights both in cruise and vertically evolving within low to medium complexity environments			AOM-0501
Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-04.03-VP-798	AOM-0500 AOM-0501 CM-0103-A CM-0104-A CM-0201-A CM-0205 CM-0207-A	Real Time Simulation	DSNA Coflight-Based IBP, DSNA Toulouse ENAV Coflight Based IBP, Rome	10.02.05-D39-Coflight, SELEX-THALES 10.04.01-D052-THALES, 10.08.01-D15-THALES-, 10.10.03-DXX-SELEX-CWP en route & approach, SELEX 10.04.01-D09-Selex- CDR, 10.02.05-D39-Coflight, THALES-SELEX 10.04.03-D31-SELEX, 10.04.02-D19, THALES 10.04.03-D15-THALES, 10.10.03-D76-THALES	30/03/2016

OFA03.01.04 - Business and Mission Trajectory					
Achievement	Validate the EFPL submission through B2B services, its impact on Flight Planning validation and distribution, on traffic predictability and possibly on ATC systems and operations.				V3
Deliverables	VALP, VALR, OSED, SPR, INTEROP, TS				
Contributing Projects	07.06.02, 11.01.04, 11.01.05				
Contributing AU(s)					
SESAR Solutions	#37	Extended Flight Plan			AUO-0203-A
Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-07.06.02-VP-713	AUO-0203-A AUO-0204-A DCB-0103-A	Shadow Mode	ECTRL NMVP, BRUSSELS Fly4D FOC/WOC,Airbus Toulouse	07.06.02-D43, ECTRL 11.01.04-DXX, Fly4D (LIDO & SABRE)	20/02/2015

1.4 Priority Business Need: Network Collaborative Management and Dynamic Capacity Balancing

OFA05.03.01 - Airspace Management and AFUA					
Achievement	Validate an enhanced real-time civil military coordination for airspace use based on real-time data exchange between ASM support system, NM systems and ATC system.				V3
Deliverables	VALR, OSED, SPR, INTEROP, TS				
Contributing Projects	07.05.04, 13.02.01				
Contributing AU(s)					
SESAR Solutions	#31	Variable profile military reserved areas and enhanced (further automated) civil-military collaboration			<u>AOM-0202-A</u> <u>AOM-0206-A</u>
Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-07.05.02-VP-710 (from R4)	AOM-0202-A AOM-0206-A DCB-0103-A	Live Trial	ECTRL NMVP,Bretigny DFS ENR IBP Langen 1	13.02.01-TBD-DFS-STANLY ACOS, INDRA, 13.02.01-TBD-ECTRL-LARA, 13.02.01-TBD-DFS-iCAS, INDRA 07.05.04-TBD-ECTRL-CUA	15/05/2015
EXE-11.01.05-VP-789	AOM-0206-A AOM-0303 AOM-0304-A AUO-0203-A AUO-0204-A IS-0301 IS-0901-A	Shadow Mode or Off-line validation	11.01.04-DXX Airbus DS, ECTRL	11.01.04-DXX Airbus DS, ECTRL	<u>30/11/2015</u>

OFA05.03.04 - Enhanced ATFCM processes					
Achievement	- Validate enlarged STAM tool set (hotspot, coordination tool, occupancy traffic monitoring values (OTMV)) complemented with local DCB tools connected via B2B services, for improved predictability of operations, including traffic occupancy counts and complexity prediction, using integrated MET forecast functions, airport operations (departure sequences, ground handling, gate management, runway usage, etc), What-if function and network view capabilities; - Validate the full package of DCB time-based measures (CASA, STAM time-based (MDI, MIT, TONB,) and adherence to TTO & TTA DCB constraints for en-route and arrival congested areas.				V3
Deliverables	VALP, VALR, OSED, SPR, INTEROP, TS				
Contributing Projects	03.03.02, 03.03.03, 04.07.01, 10.08.01, 13.02.03, 05.03, 04.03, 10.09.01, 10.02.05, 10.04.02, 10.04.03				
Contributing AU(s)					
SESAR Solutions	#17	Advanced Short ATFCM Measures (STAM)			DCB-0308
	#18	CTOT and TTA			DCB-0208
	#19	Automated support for Traffic Complexity Detection and Resolution			CM-0103-A, CM-0104-A
Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-13.02.03-VP-700	DCB-0308, DCB-0103-A	Shadow Mode	ECTRL NMVP, BRUSSELS	13.02.03--ECTRL, 13.02.03-D362-ENAIRES, INDRA 13.02.03-D362-ENAV, 13.02.03-D362-Skyguide, DFS/Skyguide 13.02.03-D362-DSNA, 13.02.03-D362-DFS, 13.02.03-D362-MUAC, ECTRL 13.02.03-D362-NATS, SELEX	30/10/2015
EXE-13.02.03-VP-749	AO-0801 DCB-0103-A DCB-0208	Live Trial	ECTRL NMVP, BRUXELLES ENAIRES TBD, Palma & Barcelona Airport	13.02.03-D362-ECTL, 13.02.03-D362-ENAIRES, INDRA	28/02/2016
EXE-04.07.01-VP-005	CM-0103-A CM-0104-A	Real Time Simulation	ENAIRES CRIDA IBP, Madrid	10.08.01--- INDRA-Complexity and Trajectory Management Tool, INDRA	18/03/2016

EXE-05.03-VP-804	CM-0103-A CM-0104-A TS-0305-A	Real Time Simulation	ENAIRES CRIDA IBP, Madrid	10.08.01--- INDRA- Complexity and Trajectory Management Tool, INDRA 10.09.01---INDRA E-AMAN prototype, INDRA	25/03/2016
EXE-04.03-VP-798	AOM-0500 AOM-0501 CM-0103-A CM-0104-A CM-0201-A CM-0205 CM-0207-A	Real Time Simulation	DSNA Coflight- Based IBP, DSNA Toulouse ENAV Coflight Based IBP, Rome	10.02.05-D39- Coflight, SELEX- THALES 10.04.01-D052- THALES, 10.08.01-D15- THALES-, 10.10.03-DXX- SELEX-CWP en route & approach, SELEX 10.04.01-D09- Selex- CDR, 10.02.05-D39- Coflight, THALES-SELEX 10.04.03-D31- SELEX, 10.04.02-D19, THALES 10.04.03-D15- THALES, 10.10.03-D76- THALES	30/03/2016

OFA05.03.07 - Network Operations Planning					
Achievement	- Enhancement of NOP performance and monitoring and integration of NOP and MET in support, as well, to the NOP monitoring role. - AOP-NOP Integration - Include in the NOP Extended Flight Plan information, addressing the following aspects: - continuous sharing of latest demand - network performance improvement (through use traffic demand with higher predictability) - collaborative process of trajectory definition (AU, NM, ATC) Update the real airspace status automatically into the NM systems				V3
Deliverables	OSD, VALP, VALR, TS				
Contributing Projects	07.06.02, 07.05.04, 13.02.03				
Contributing AU(s)					
SESAR Solutions	#20	Collaborative NOP for Step 1			<u>DCB-0103-A</u>
Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-07.06.02-VP-713	AUO-0203-A AUO-0204-A DCB-0103-A	Shadow Mode	ECTRL NMVP, BRUSSELS Fly4D FOC/WOC,Airbus Toulouse	07.06.02-D43, ECTRL 11.01.04-DXX, Fly4D (LIDO & SABRE)	20/02/2015
EXE-07.05.02-VP-710 (from R4)	AOM-0202-A AOM-0206-A DCB-0103-A	Live Trial	ECTRL NMVP,Bretigny DFS ENR IBP Langen 1	13.02.01-TBD-DFS-STANLY ACOS, INDRA, 13.02.01-TBD-ECTRL-LARA, 13.02.01-TBD-DFS-iCAS, INDRA 07.05.04-TBD-ECTRL-CUA	15/05/2015
EXE-13.02.03-VP-700	DCB-0308, DCB-0103-A	Shadow Mode	ECTRL NMVP, BRUSSELS	13.02.03--ECTRL, 13.02.03-D362-ENAIRES, INDRA 13.02.03-D362-ENAV, 13.02.03-D362-Skyguide, DFS/Skyguide 13.02.03-D362-DSNA, 13.02.03-D362-DFS, 13.02.03-D362-MUAC, ECTRL 13.02.03-D362-NATS, SELEX	30/10/2015

EXE-13.02.03-VP-749	AO-0801 DCB-0103-A DCB-0208	Live Trial	ECTRL NMVP, BRUXELLES ENAIRES TBD, Palma & Barcelona Airport	13.02.03-D362-ECTL, 13.02.03-D362-ENAIRES, INDRA	28/02/2016
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1.5 Priority Business Need: Conflict management and automation

OFA03.03.01 - Ground Based Separation Provision in En Route					
Achievement	- Validate the conflict detection and resolution (CD/R) service, and the associated MONA, for the Tactical Controller and Automated Flight Conformance Monitoring in an environment with many evolutive flights (FIR/TMA interface); - Validate the aid (full risk module providing improved primary and contextual interactions, conformance monitoring and intra-team communications and graphical display) to the PC and TC services for multi-sector planner and TMA concepts				V3
Deliverables	VALR, OSED, TS				
Contributing Projects	04.07.02, 10.04.01, 03.03.02, 03.03.03, 14.02.09, 10.02.05				
Contributing AU(s)	Italian Military Air Force, French Military Airforce, German Military Airforce ELFAA, EBAA, Air France, NOVAIR, Turkish Airlines				
SESAR solutions	#27	MTCD and conformance monitoring tools		CM-0205, CM-0207-A	
	#28	Automated Assistance to Controller for Seamless Coordination, Transfer and Dialogue through improved trajectory data sharing		CM-0201-A	
Exercise	Ols	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-04.07.02-VP-175	CM-0205, CM-0207-A	Real Time Simulation	DFS ENR IBP Langen 1	10.04.01-D08-INDRA	30/03/2015
EXE-04.07.02-VP-501	CM-0205	Real Time Simulation	NATS CTC	TBD, INDRA	30/12/2015

EXE-04.03-VP-799	AUO-0205-A AUO-0303-A CM-0201-A	Real Time Simulation	DFS ENR IBP Langen 2, Langen ECTRL MUAC, MUAC ENAV Coflight Based IBP,Rome NATS CTC,Southampton	10.02.05-D53-ITEC, INDRA 10.02.05-D53-IOPG- MUAC, INDRA 10.02.05-D53-ITEC, INDRA 10.02.05-D53- Coflight, SELEX- THALES 14.02.09 - D73-002 - Indra - V2.1.0 SWIM technical infrastructure packaging and documentation, INDRA 14.02.09 - D73-002 - Indra - V2.1.0 SWIM technical infrastructure packaging and documentation, INDRA 14.02.09 - D73-002 - Indra - V2.1.0 SWIM technical infrastructure packaging and documentation, INDRA 14.02.09 - D73-003 - Thales- V2.1.0 SWIM technical infrastructure packaging and documentation, THALES	31/03/2016
EXE-04.03-VP-798	AOM-0500 AOM-0501 CM-0103-A CM-0104-A CM-0201-A CM-0205 CM-0207-A	Real Time Simulation	DSNA Coflight- Based IBP, DSNA Toulouse ENAV Coflight Based IBP, Rome	10.02.05-D39- Coflight, SELEX- THALES 10.04.01-D052- THALES, 10.08.01-D15- THALES-, 10.10.03-DXX- SELEX-CWP en route & approach, SELEX 10.04.01-D09-Selex- CDR, SELEX 10.02.05-D39- Coflight, THALES- SELEX 10.04.03-D31- SELEX, 10.04.02-D19-, THALES 10.04.03-D15-, THALES 10.10.03-D76- THALES	30/03/2016

1.6 OFAs not in Priority Business Needs

ENB02.01.01 – SWIM					
Achievement	Collection of SWIM elements being validated within the set of exercises contributing to other SESAR Solutions.				V3
Deliverables	Initial SWIM: - Governance - SWIM Security - SWIM Technical Infrastructure and Profiles - SWIM Foundation - ATM information reference model - ISRM				
Contributing Projects					
Contributing AU(s)					
SESAR Solutions	#46	SWIM			<u>IS-0901-A</u>
Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-13.02.02-VP-461	IS-0201-A, IS-0201-B ⁽¹⁾	Live Trial	FREQUENTIS Vienna	13.02.02-D22- Frequentis	05/02/2016
EXE-13.02.03-VP-749	DCB-0103-A DCB-0208	Live Trial	ECTRL NMVP, BRUXELLES ENAIRES TBD, Palma & Barcelona Airport	13.02.03-D362- ECTRL, 13.02.03-D362- ENAIRES, INDRA	28/10/2015
EXE-11.01.05-VP-789	AOM-0206-A AOM-0303 AOM-0304-A AUO-0203-A AUO-0204-A IS-0301 IS-0901-A	Shadow Mode or Off-line validation	11.01.04-DXX Airbus DS, ECTRL	11.01.04-DXX Airbus DS, ECTRL	30/11/2015

¹ IS-0201-B is not part of DS12 but a new OI Step proposed for DS13

EXE-04.03-VP-798	AOM-0500 AOM-0501 CM-0103-A CM-0104-A CM-0201-A CM-0205 CM-0207-A	Real Time Simulation	DSNA Coflight-Based IBP, DSNA Toulouse ENAV Coflight Based IBP, Rome	10.02.05-D39-Coflight, SELEX-THALES 10.04.01-D052-THALES, 10.08.01-D15-THALES-, 10.10.03-DXX-SELEX-CWP en route & approach, SELEX 10.04.01-D09-Selex-CDR, 10.02.05-D39-Coflight, THALES-SELEX 10.04.03-D31-SELEX, 10.04.02-D19, THALES 10.04.03-D15-THALES, 10.10.03-D76-THALES	30/03/2016
EXE-05.03-VP-804	CM-0103-A CM-0104-A TS-0305-A	Real Time Simulation	ENAIRe CRIDA IBP, Madrid	10.08.01---INDRA-Complexity and Trajectory Management Tool, INDRA 10.09.01---INDRA E-AMAN prototype, INDRA	25/03/2016
EXE-06.03.01-VP-669	AO-0208-A, AO-0801, AO-0803, AO-0804, DCB-0309, MET-0101	Shadow mode	ENAV IBP Milan Malpensa	12.06.07-D21-SELEX-prototype development & verification for Phase 2, 12.05.04-D50-SELEX-Tower iCWP, 12.02.01-D20-SELEX-RMAN, 12.07.05-D12-SELEX-IWIS, 12.06.03-D12-SELEX-WISADS 15.04.09.c-D12-GWMS V3 prototype, SELEX	30/03/2016
EXE-04.03-VP-030	AUO-0205-A AUO-0302-A AUO-0303-A IS-0302 IS-0303-A TS-0103	Real Time Simulation	LVNL iTEC based IBP, Amsterdam ECTRL MUAC	10.07.01-D60-INDRA-ATS Datalink, 10.02.05-D14-ECTRL-ATC-ATC FOS, 10.07.01-D74-ECTRL-ATS Datalink	18/12/2015

EXE-04.07.01-VP-005	CM-0103-A CM-0104-A	Real Time Simulation	ENAIRe CRIDA IBP, Madrid	10.08.01---INDRA- Complexity and Trajectory Management Tool, INDRA	18/03/2016
EXE-07.06.02-VP-713	AUO-0203-A AUO-0204-A DCB-0103-A	Shadow Mode	ECTRL NMVP, BRUSSELS Fly4D FOC/WOC,Airbus Toulouse	07.06.02-D43, ECTRL 11.01.04-DXX, Fly4D (LIDO & SABRE)	20/02/2015
EXE-13.02.03-VP-700	DCB-0308, DCB-0103-A	Shadow Mode	ECTRL NMVP, BRUSSELS	13.02.03---ECTRL, 13.02.03-D362- ENAIRe, INDRA 13.02.03-D362- ENAV, 13.02.03-D362- Skyguide, DFS/Skyguide 13.02.03-D362- DSNA, 13.02.03-D362-DFS, 13.02.03-D362- MUAC, ECTRL 13.02.03-D362- NATS, SELEX	30/10/2015
EXE-07.05.02-VP-710 (from R4)	AOM-0202-A AOM-0206-A DCB-0103-A	Live Trial	ECTRL NMVP,Bretigny DFS ENR IBP Langen 1	13.02.01-TBD-DFS- STANLY ACOS, INDRA, 13.02.01-TBD- ECTRL-LARA, 13.02.01-TBD-DFS- iCAS, INDRA 07.05.04-TBD- ECTRL-CUA	15/05/2015

EXE-04.03-VP-799	AUO-0205-A AUO-0303-A CM-0201-A	Real Time Simulation	DFS ENR IBP Langen 2, Langen ECTRL MUAC, MUAC ENAV Coflight Based IBP,Rome NATS CTC,Southampton	10.02.05-D53-ITEC, INDRA 10.02.05-D53-IOPG- MUAC, INDRA 10.02.05-D53-ITEC, INDRA 10.02.05-D53- Coflight, SELEX- THALES 14.02.09 - D73-002 - Indra - V2.1.0 SWIM technical infrastructure packaging and documentation, INDRA 14.02.09 - D73-002 - Indra - V2.1.0 SWIM technical infrastructure packaging and documentation, INDRA 14.02.09 - D73-002 - Indra - V2.1.0 SWIM technical infrastructure packaging and documentation, INDRA 14.02.09 - D73-003 - Thales- V2.1.0 SWIM technical infrastructure packaging and documentation, THALES	31/03/2016
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ENB02.01.02 – AIM/MET					
Achievement	Validate that graphical presentation of the information, better filtering and a more logical organization of the pre-flight information bulletins, via Digital NOTAM, can improve the pilot/dispatcher awareness, improve the briefing times and reduce the risk of information being misunderstood or missed.				V3
Deliverables	VALR, OSED, TS				
Contributing Projects	13.02.02, SWP11.01, SWP11.02				
Contributing AU(s)					
SESAR Solutions	#34	Digital Integrated Briefing			IS-0201-A
	#35	MET Information Exchange			MET-0101
Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-13.02.02-VP-461	IS-0201-A, IS-0201-B ⁽²⁾	Real Time Simulation	FREQUENTIS Vienna, Honeywell, (to be defined) Sabre, (to be defined)	13.02.02-D22-Frequentis-, FREQUENTIS Honeywell, (to be defined) Sabre, (to be defined)	05/02/2016
EXE-06.09.02-VP-679	AO-0104-A, AO-0205, AO-0208-A, AUO-0308, IS-0901-A, MET-0101	Real Time Simulation	DFS TWR IBP Langen	12.05.04 – FREQUENTIS / DFS	11/12/2015
EXE-06.03.01-VP-669	AO-0208-A, AO-0801, AO-0803, AO-0804, DCB-0309, MET-0101	Shadow mode	ENAV IBP Milan Malpensa	12.06.07-D21-SELEX-prototype development & verification for Phase 2, 12.05.04-D50-SELEX-Tower iCWP, 12.02.01-D20-SELEX-RMAN, 12.07.05-D12-SELEX-IWIS, 12.06.03-D12-SELEX-WISADS 15.04.09.c-D12-GWMS V3 prototype, SELEX	30/03/2016

² IS-0201-B is not part of DS12 but a new OI Step proposed for DS13

OFA06.03.01 - Remote Tower					
Achievement	Validate the Remote Tower Concept for a medium sized airport.				V3
Deliverables	VALR, OSED				
Contributing Projects	03.03.02, 06.08.04, 06.09.03, 12.04.08				
Contributing AU(s)					
SESAR Solutions	#12	Single Remote Tower operations for medium traffic volumes			SDM-0201
	#13	Remotely Provided Air Traffic Service for Contingency Situations at Aerodromes			SDM-0204
Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-06.08.04-VP-640	SDM-0201	Shadow Mode	DFS Saarbrücken	Prototype provided by DFS outside SESAR	30/11/2015
EXE-06.08.04-VP-752	SDM-0204	Shadow Mode	ENAIRES TBD, Girona Airport (LEGE)	12.04.08-D36-INDRA-Contingency Tower, ENAIRES	27/11/2015
EXE-06.09.03-VP-062	SDM-0204	Shadow Mode	NORACON IBP SAAB, Gotheburg	12.04.08-D21-NATMIG	06/02/2015

Annex IV - Large Scale Demonstrations

This Annex shows a high level description and objectives of the ongoing Large Scale Demonstrations.

Lot 1

FREE Solutions

The project aims to demonstrate that direct routes and initial Free Routing operations are possible in Europe and can help reduce flight times, congestion and the impact on the environment. The project will specifically show how direct routes can be applied to city couples, across borders and can involve various ATM stakeholders. Furthermore, the project intends to demonstrate ATM functionalities such as Flexible Airspace Management and Free Route and Network Collaborative Management, by collecting and analysing data in order to facilitate the deployment of these solutions. Against this background, three types of exercises will be executed:

- City pairs: optimisation will be proposed;
- Direct Routing (DCT) during weekends and week days including Airspace Management (ASM) and Flexible Use of Airspace (FUA);
- Free Routing in across a Functional Airspace Block area.

The project will also look how military airspace can be tactically used to better manage flight planning. A performance assessment, including safety, will be conducted thanks to a series of flight trials as part of the project.

Integrated SESAR TRials for Enhanced Arrival Management (iStream)

The project will evaluate the benefits of several flight efficiency procedures, assessing on-board and ground systems capabilities and evaluating how crews, airport operators and controllers can handle these procedures. The evaluation will be performed on commercial flights landing in major European hubs during periods of heavy traffic when short-term capacity and flow measures usually have to be implemented.

Optimised Descent Profiles

The project aims to design and validate cross-border arrival management procedures using Optimised or Continuous Descent Operations (CDO) - where aircrafts approach an airport according to a continuous vertical profile and in doing so reduce fuel consumption and noise. The project will conduct fast-time and real-time simulations and eight cross-border exercises, developing continuous descent profiles at the highest level possible for aircraft coming from both free route and conventional route airspaces into major aerodromes in Central Europe.

Providing Effective Ground & Air data Sharing via EPP (PEGASE)

The project will analyse the performance of Extended Projected Profile (EPP) information from multiple live trials involving aircraft equipped with prototypes of the next generation flight management system (FMS) and data link communication systems. Along with

additional information, the EPP is a sequence of geographical waypoints that an aircraft will fly over, together with times when the aircraft will pass these waypoints. The EPP is a core element of the SESAR i4D concept in which trajectories are synchronised between air and ground, thus enabling increased predictability of air traffic. Through live flight trials across high density continental airspace, the project will aim to show that the EPP information regarding the trajectory flown is accurate and reliable and that the sharing of this information improves the performance of the systems on the ground, as well as in the air.

TOPLINK – L1

The project aims to demonstrate the benefits of the deployment of System Wide Information Management (SWIM)-based services, including MET, aeronautical, corporate network and flight information services. The project will show the direct benefits that these advanced information services can bring to commercial airlines, air navigation service providers, and how these services can improve collaborative decision making between stakeholders. Several hundred operational flights are expected to take place in the demonstrations.

Lot 2

Augmented approaches to land (AAL)

The AAL project aims to develop and demonstrate several augmented approach procedures for small and medium-sized airports, using advanced procedures based on four different technologies: Ground and Satellite-based Augmentation System (GBAS/SBAS Advanced), Synthetic Vision Guidance System (SVGS), Enhanced Flight Vision System (EFVS). The aim of the project is to pave the way for the uptake of these technologies, which are needed to overcome the limitations of the current Instrument Landing System (ILS) - equipment which is costly to install and maintain, and which can only guide straightforward approaches by aircraft. The project will involve six airports across Europe and more than 200 flights, including business jets and commercial airliners.

Budapest 2.0

The project will show that SESAR solutions can improve operational efficiency at small and medium-sized airports. The solutions include Remote Tower Services, MergeStrip (A tool that helps air traffic controllers to better sequence arrivals and departures, particularly for continuous descent and climb operations) and Required Navigation Performance (RNP) (use of onboard systems to define automated flight paths). Budapest Liszt Ferenc International Airport, where the trials will be performed, is a perfect example of a mid-sized airport infrastructure that combines a wide range of users operating regularly (long and medium haul, regional and business operators).

European - Connected Regional Airport (ECRA)

Airport Collaborative Decision Making (A-CDM) systems are normally implemented in large airport hubs, to allow actors (airport operators, aircraft operators, ANSPs, handlers, Network Manager) to work together more efficiently. The E-CRA project will demonstrate that A-CDM systems can also be deployed at small to medium-sized airports for a reduced cost using a pre-existing enhanced simulation platform. Using gaming and shadow mode trials, the project will present 6 scenarios where airport traffic flow is disrupted and 6 exercises to choose from depending on the different operational maturity levels or A-CDM steps that are needed.

Electronic Visibility via ADS-B (EVA)

This project aims at evaluating in live conditions the feasibility and benefits of automatic dependent surveillance - broadcast (ADS-B) equipment for use by general aviation. For the purpose of the project, general aviation (GA) pilots and air traffic controllers will test low-cost ADS-B equipment in order to assess situational awareness and whether the equipment allows for a smoother inclusion of general aviation flights into controlled and uncontrolled airspace. It will assess how to enhance GA pilots' situational awareness to reduce the number of mid-air collisions involving GA aircraft and to reduce the number of infringements into managed airspace. The project will also assess interoperability, address regulatory issues and cost barriers to bringing this equipment to market, and develop guidance material for European aviation standards.

PBN Rotorcraft Operations under Demonstration (PROuD)

The project aims to demonstrate how the use of satellite-based procedures can enhance helicopter operations, particularly for search and rescue, and medical emergencies in Europe. A total of 80 flight tests are planned in Switzerland and Norway at heliports and small airports. The project will specifically aim to show how PBN procedures can enable precision arrival and departure and can handle operations in adverse weather and challenging environments.

Remote Airport Concept of Operation (RACOON)

The project aims to demonstrate the viability and cost effectiveness of providing Remote Tower Services to multiple airports. For the purpose of the project, a remote tower will be set up at Milano Malpensa airport, which will act as a Remote Tower Center providing remote airport services combined with air navigation (RNAV) procedures for the night-time operations to Milano Linate, as well as a virtual airport. The project, which will involve real-time simulations, shadow mode trials and live trials, will also aim at demonstrating the viability and the cost effectiveness of Remote Tower Services and RNAV procedures for different classes of aircraft and their associated cost benefits compared to ground equipment which requires ongoing maintenance.

Remote Towers, Shannon and Cork from Dublin

The project seeks to enable the provision of Remote Tower Services at Shannon and Cork, primarily in periods of low traffic intensity, from a remote facility in Dublin. In doing so,

the project aims to demonstrate the state of readiness of the SESAR Remote Tower solution for industrialisation and subsequent deployment, as well as the cost and operational efficiency of the solution. The Remote Tower Services will be provided simultaneously or in sequence for both airports during periods of low traffic density. Safety management processes and procedures will be applied to ensure that levels of safety will be equal to those which are provided by the local control towers at both airports. A total of 50 exercises are envisaged for the project.

Remote Tower Operations (RTO)

The project will demonstrate Remote Tower Services (AFIS and ATC) at single tower locations in the Netherlands, Sweden and Germany using live and shadow mode operations. Up to 100 flights are envisaged during the project, covering day and night operations. Specific traffic scenarios incorporating Instrument flight Rules (IFR) and Visual Flight Rules (VFR) - two sets of regulations governing all aspects of civil aviation will be defined. Furthermore, the interchange between conventional operations in a local tower and the remote tower facility will be demonstrated. In addition, a demonstration of control at multiple airports is proposed in a simulated environment.

RNP Implementation Synchronisation in Europe (RISE)

Performance Based Navigation (PBN) procedures, notably Required Navigation Performance (RNP) standards, are about freeing airplanes' reliance on ground-based navigational aids and allowing more flexible and optimum routing using satellite navigation. While these procedures have existed for some time, implementation in Europe has been slow due to a number of operational factors. The RISE project aims to validate several PBN/RNP procedures by conducting over 160 flight trials between ten European small and medium-sized airports. The project will work closely with all actors, and in particular with airlines and air service navigation providers to ensure uptake of the procedures more widely.

Toplink 2

The project aims to conduct a total of 130 flight trials in order to demonstrate cost-innovative solutions for the provision to general aviation users of network business-to-business information services, including MET services, air traffic control and aeronautical information management (AIM) services. Specifically, the project foresees implementing a low-cost Flight Operation Centre (FOC) solution for general aviation users connected through the internet, as well as a low-cost cockpit solution based on Electronic Flight Bags using communications options such as WiFi, 3G/4G, Iridium Satcom and ACARS.

Annex VI – Staff establishment plan¹

Human Resources	2014		2015	2016	2017	2018
	Authorised under the EU Budget	Actually filled as of 31/12/2014	Authorised under the EU Budget	DB request	Envisaged	Envisaged
Establishment plan posts:						
AD	33	30	33	33	33	33
AST	6	5	6	6	6	6
Total Establishment plan posts	39	35	39	39	39	39
<i>Of which:</i>						
- Temporary Agents	32	31	38	38	38	38
- Secondment from SJU Members *	7	1	1	1	1	1
- Contract Agents *	0	3	0	0	0	0

Contract Agents **	0	0	0	2	2	0
Seconded National Experts	3	2	3	3	3	3
TOTAL STAFF	42	37	42	44	44	42

(*) These staff members are not additional to the 39 posts included in the Staff Establishment Plan approved by the Administrative Board of the SESAR Joint Undertaking, but they are contractual forms used by the SJU to fill in specific positions taking into consideration the needs and expertise requested. The same is applicable for the staff seconded by the Members to the SJU, in accordance with Article 8 of the SJU Statutes.

(**) These staff members are not additional to the 39 posts included in the Staff Establishment Plan approved by the Administrative Board of the SESAR Joint Undertaking, but consist in a temporary reinforcement of the SJU capacities in the Financial, the Legal and the Procurement sectors through the support of 2 contractual agents (1 with financial background and 1 with legal background) exclusively during the 2016 and 2017 exercises.

¹ The following table has been extracted from the MSPP 2016 – 2018 as adopted by the ADB in June 2015 (ADB(D)09-2015).

Category and grade	Establishment plan in EU Budget 2014		Modifications in 2013 in application of flexibility rule ²		Establishment plan in voted EU Budget 2015		Modifications in 2015 in application of flexibility rule		Establishment plan in Draft EU Budget 2016		Establishment plan 2017		Establishment plan 2018	
	officials	TA	officials	TA	officials	TA	officials	TA	officials	TA	officials	TA	officials	TA
AD 16														
AD 15														
AD 14		1				1		1		1		1		1
AD 13														
AD 12		4				4		4		4		4		4
AD 11														
AD 10		5				5		5		5		5		5
AD 9														
AD 8		5				5		5		5		5		5
AD 7		4				4		4		4		4		4
AD 6		4				4		4		4		4		4
AD 5		10				10		10		10		10		10
Total AD		33				33		33		33		33		33
AST 11														
AST 10														
AST 9														
AST 8														
AST 7		1				1		1		1		1		1
AST 6														
AST 5		1				1		1		1		1		1
AST 4														
AST 3		2				2		2		2		2		2
AST 2														
AST 1		2				2		2		2		2		2
Total AST		6				6		6		6		6		6
TOTAL		39				39		39		39		39		39

² In line with Article 32 (1) of the framework Financial Regulation, the management board may modify, under certain conditions, the establishment plan by in principle up to 10% of posts authorised, unless the financial rules of the body concerned allows for a different % rate.



Budget 2015

11 December 2015

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1 Legal Basis

This Budget 2015 is established in accordance with Article 33.8 of the SJU Financial Rules approved by the Administrative Board on provisional basis on 12 December 2013.¹

2 Background

In accordance with Article 33.8 of the SJU Financial Rules the *“the Executive Director shall prepare the draft budget for the following year (N) and submit it to the Administrative Board for adoption. The draft budget shall be submitted to the Administrative Board no later than 30 September of the preceding year (N-1)”*.

Furthermore, in accordance with the SJU Financial Rules, the 2015 Provisional Draft Budget was submitted to the European Commission and the Budget Authority (the European Parliament and the Council of the European Union) at the end of March 2014 together with the Annual Activity Report 2013 and an outline of the AWP 2015. The amounts indicated in the present document in terms of European Union revenue payments are extracted from the European Commission Draft Budget and are still subject to the approval of the Budget Authority.

On 16 June 2014, the Council of Ministers of the European Union adopted Council Regulation (EU) 721/2014 which extends the legal duration of the SJU until 2024 and entrusts the SJU with EUR 585 million from the European Union Horizon 2020 Programme to pursue the Research and Innovation (R&I) in view of delivering the necessary technologies and operational procedures to ensure the execution and completion of the European ATM Master Plan (Master Plan). In view of this extension and the establishment of the next SESAR Programme in parallel to the existing first Programme until end of 2016, this Budget 2015 will be presented in two sections:

- **Section 1 (“SESAR1”):**
Revenues, Commitments and Payments related to the current Programme and the Running Cost of the Joint Undertaking will be presented in the usual way. It should be noted that the European Union commitment revenues – up to EUR 700 million – were received by the SJU and that all funds related to the Programme have been committed towards the Members by the end of 2013.
- **Section 2 (“SESAR2020”):**
A first estimate of Revenues, Commitment and Payment appropriations related to the launch of the SESAR 2020 Programme activities from the Provisional Draft Budget will be restated. It should be noted that these are exclusive of any Running Costs and that at this stage still no detailed provisions are available. Further refinement and a revision of the Budget during the course of 2015 might be needed. For the same reason, no In-kind Contributions in relation to SESAR2020 have been included into Annex I and II yet, and the Summary Schedule of payments refers only to SESAR1 by the moment.

The Budget 2015 contains all the estimated revenues, expenditures and staff resources needed to be committed and paid calculated on the basis of the information available at the end of November 2014.

¹ On 12 December 2013 the SJU Administrative Board has adopted on provisional basis new Financial Rules (ref. ADB(D) 14-2013) in order to be aligned with the new Framework Financial Regulation for bodies referred to in Article 208 of Regulation (EU, EURATOM) No 966/2012 of the European Parliament and of the Council. The adoption and the entry into force of the new SJU Financial Rules is subject to the favourable opinion and decision of the European Commission on the derogations asked by the SJU compared to Commission Delegated Regulation (EU) of 30 September 2013 on the framework financial regulation for the bodies referred to in Article 208 of Regulation (EU, Euratom) No 966/2012. Until the formal consent of the European Commission on such derogations is confirmed or until a complete new set of Financial Rules -currently prepared by the SJU to accommodate the extension of the Joint Undertaking until 2024- is adopted by the Administrative Board, the SJU will continue to apply these Financial Rules on a provisional basis. The SJU will make sure that this will be done only to the extent that (1) these are consistent and compatible with the former Financial Rules and derogations (adopted on 31 December 2010) for which the Commission has already given its consent, and (2) as long as they do not contradict the Horizon 2020 rules, where applicable (cf. item 5a ADB(M)031- MoM).

3 2014 Key Facts

The draft Annual Activity Report 2014, that will be submitted to the Administrative Board on 31 January 2015, will contain a detailed picture of 2014. At this stage, the following key facts need to be mentioned:

- a. During 2014, the Programme continued its full execution phase: all Projects have been launched and are effective. While Releases 1, 2 and 3 results are now in the phase to become part of the SESAR Solution Packs, Release 4 execution is ongoing and several exercises are in execution in the last months of 2014. As regards Release 5, the last release of the current SESAR Programme, its definition has been based on a top-down approach, ensuring that exercises answer the “Strategic Priority Business Needs” and the Pilot Common Projects’ proposal;
- b. Following the Tiger Team work conducted in 2012, the structure of the Programme started to be progressively aligned with the “Strategic Priority Business Needs” derived from the European ATM Master Plan 2012. In 2013, the inclusion at operational level of those priorities required an in depth analysis of the programme resources; following the results of the Reallocation and IBAFO III processes aiming at increasing its effectiveness and efficiency through the merger of some projects and elimination of few others. The Programme today consists of about 250 interrelated projects, grouped into 16 Work Packages, each encompassing a particular domain of Air Traffic Management.
- c. With regard to the Programme reporting, the SJU receives from the Members a structured quarterly reporting based on effort consumption and percentage of completion. At the end of the second quarter 2014, the level of resources consumed is stabilizing at above 80% of the planned in line with the previous quarters. In addition the percentage of completion of the work has stabilised as well above 80% of the planned work;
- d. A call for RPAS demonstrations activities has been launched in March 2013 and resulted in a commitment of EUR 4.8 million for 9 projects which are currently starting their execution phase. The pre-financing of the above projects have been already engaged for an amount of EUR 0.9 million;
- e. The assessment process of the Members’ Interim Financial Statements 2013 is ongoing. Despite the late submission of some of them, and although a small number of cost statements will be submitted by the Members only in the last quarter 2014, the objective to finalize the cycle by year end is still at reach with co-financing disbursements at the end of the year or beginning 2015 for an estimated total amount of EUR 73.4 million;
- f. Furthermore, during 2014, 12 of the 15 Project Audits planned have been already executed while 2 will be launched before the end of year and 1 will be cancelled. The activity is performed either directly by the SJU Project Audit Sector or by an external contractor. No issue brought in the Project Audit results is of such a materiality to be brought to the attention of the Administrative Board, although the overall error rate from the latest set of audits requires the implementation of corrective actions with the concerned Members. The first Performance Audit on a closed project is ongoing;
- g. During 2014, the SJU managed the recruitment of the Executive Director (Mr Guillermet), 1 Head of Verification/Validation, 1 ATM Expert, 1 Legal Officer and 1 CNS & Avionics Expert. 3 other recruitments are in the final phase before signature: Head of Administration (TA), Performance Analysis Expert (TA), Expert in ATM Operations (SNE). The Budget is established on the assumption that all positions will be filled in 2014. 2 other recruitments are expected to be finalized end 2014/early 2015: 1 assistant (TA) and 1 Seconded National Expert (SNE).
- h. The European Council Regulation (EC) 721/2014 extends the SJU until 2024 in order to perform the activities established in the European ATM Master Plan, and to achieve Steps 2 and 3.

- i. On 9 July 2014 the SJU launched a call for Expression of Interest to become candidate member of the SESAR Joint Undertaking in relation to the SESAR Research and Innovation Programme 2020 (SESAR2020). Negotiations with the selected candidates will start in Q4 2014.

4 Budget 2015

In line with the SJU's Financial Rules, the budget consists of the statements of revenue and expenditure, together with the staff establishment plan as well as a summary of the schedule of payments due in the subsequent years.

The document is presented in accordance with the SJU Financial Rules. In this respect, the revenue and expenditure related to the in kind contributions of the SJU Members are reported in an annex to the main Budget document (Annex I), while Annex II summarizes the total revenue and expenditure of the SJU (cash and in kind revenues and expenditures). An additional Annex III is included for a consolidated view of the SESAR1 and SESAR2020 Programmes, however, only for information purposes and only related to cash revenues and expenditures.

4.1 Section 1 (SESAR1)

4.1.1 Revenues (cash)

The revenues of the SJU come from contributions from its Members and other revenues.

European Union (Title 1)

- a. The cumulative commitment appropriations from the funds of the 7th Framework Programme for Research and Development (hereinafter FP7) amounted to EUR 350.0 million and to EUR 350.0 million from the funds of the multi-annual budget of the Trans European Networks-T (hereinafter TEN-T) at the end of 2013 respectively. Consequently, there are no more revenue commitments foreseen.
- b. In terms of payment appropriations, the SJU has received during 2014 already EUR 94.5 million from the EU (EUR 47.25 million from FP7 and EUR 47.25 from TEN-T, net of the interest that the SJU yielded on the EU funds in 2013 for a total of EUR 0.12 million); a remaining amount of EUR 2.5 million from FP7 and TEN-T is expected to be received in January 2015. For 2015, it is expected at this stage that the EU will contribute with additional EUR 43.8 million in terms of FP7 funds and with EUR 39.0 million as TEN-T funds.

The General Agreement between the EU and the SJU governs all the provisions related to the payment requests from the SJU to the EU, where the SJU, for a maximum period of 6 months, shall justify the use of the previous resources, the planning of the expenditure for the next 6 months as well as a detailed description of the achievements in relation to the activities of the Annual Work Plan.²

The commitments and payments appropriations of the EU are subject to the approval of the EU Budget 2015 by the European Parliament and the Council of the European Union, which is expected before year-end 2014, while the EFTA contribution, part of the FP7 funds, is subject to the approval of the EFTA States.

² Following the extension of the SJU until 2024, the General Agreement is currently being prepared for amendment in order to accommodate H2020 provisions and -where possible- to align and simplify the reporting requirements to existing reporting obligations from the SJU Regulation and Financial Rules.

With regard to the EU contribution to the SJU Running Expenditure (Title 1 and 2) which is limited to EUR 35 million, please refer to section 4.1.2.1.

Revenue Commitments	2007 - 2013 <u>Total</u>	2014 <u>budget</u>	2007 - 2014 <u>Total</u>	2015 <u>budget</u>	2007 - 2015 <u>Total</u>	2016 <u>budget</u>	2007 - 2016 <u>Total</u>
FP7	350,00	0,00	350,00	0,00	350,00	0,00	350,00
TEN-T	350,00	0,00	350,00	0,00	350,00	0,00	350,00
Total	700,00	0,00	700,00	0,00	700,00	0,00	700,00

Revenue Payment received	2007 - 2013 <u>Total</u>	2014 <u>budget</u>	2007 - 2014 <u>Total</u>	2015 <u>budget</u>	2007 - 2015 <u>Total</u>	2016 <u>budget</u>	2007 - 2016 <u>Total</u>
FP7	147,38	48,48	195,86	43,80	239,66	110,34	350,00
TEN-T	197,42	48,48	245,90	39,00	284,90	65,10	350,00
Total	344,80	96,95	441,75	82,80	524,55	175,45	700,00

Eurocontrol (Title 2)

- a. For the year 2015, the cash contributions from EUROCONTROL are estimated at EUR 20.6 million:
 - EUR 2.0 million cash to co-finance WPs 7,13,16 and C.
 - EUR 8.7 million for WP 11,
 - EUR 4.7 million for WP E,
 - EUR 4.1 million related to Military, Professional Staff Associations and Airspace Users,
 - EUR 1.0 million related to the IT and administrative support provided to the SJU.
- b. In terms of payments, the SJU is expected to recognise as cash contribution related to 2014 from EUROCONTROL an amount of EUR 18.1 million EUR contributions:
 - EUR 2.0 million cash to co-finance WPs 7,13,16 and C.
 - EUR 4.3 million for WP 11,
 - EUR 6.6 million for WP E,
 - EUR 4.1 million related to Military, Professional Staff Associations and Airspace Users,
 - EUR 1.0 million related to the IT and administrative support provided to the SJU,
 - EUR 0.1 million related to one secondment.

Revenue Commitments	2007 - 2013 <u>Total</u>	2014 <u>budget</u>	2007 - 2014 <u>Total</u>	2015 <u>budget</u>	2007 - 2015 <u>Total</u>	2016 <u>budget</u>	2007 - 2016 <u>Total</u>
Cash	103,59	3,15	106,75	20,56	127,31	37,69	165,00

Revenue Payment received	2007 - 2013 <u>Total</u>	2014 <u>budget</u>	2007 - 2014 <u>Total</u>	2015 <u>budget</u>	2007 - 2015 <u>Total</u>	2016 <u>budget</u>	2007 - 2016 <u>Total</u>
Cash	82,73	15,12	97,85	18,02	115,86	49,14	165,00

Other Members (Title 3)

The other Members have to pay the annual instalment of the cash contribution, for a total of EUR 4.2 million, corresponding to $\frac{1}{7^{\text{th}}}$ of 5% of the Members' net in-kind contributions related to IBAFO I and II (the adjustments for IBAFO3 and the Reallocation2 exercise is expected to be done together with the final balance of the actual cash contributions in 2016).

Other revenues (Title 4)

The other revenues include interests yielded by the cash contributions paid to the SJU.

4.1.2 Expenditure (cash)

4.1.2.1 Overview of the contribution to the SJU Running Costs

Running Expend Commitments	Actual 2007-2008	Actual 2009	Actual 2010	Actual 2011	Actual 2012	Actual 2013	Budget 2014	Budget 2015	Total 2007 - 2015
Title 1	3,2	4,0	5,0	5,4	5,3	5,6	6,2	6,0	40,6
Title 2	1,5	3,9	3,0	3,1	2,9	3,1	3,2	3,3	24,1
Total	4,7	7,9	8,0	8,5	8,2	8,7	9,4	9,3	64,7

Funded with

EU	FP7	4,0	5,5	-	-	2,2	3,3	4,8	2,4	22,2
	TEN-T	-	-	-	-	-	-	-	-	-
	Total	4,0	5,5	-	-	2,2	3,3	4,8	2,4	22,2
Eurocontrol		0,7	2,4	8,0	5,8	1,1	1,2	1,2	1,0	21,3
Other Members		-	-	-	2,7	4,9	4,2	3,5	5,9	21,2
Total		4,7	7,9	8,0	8,5	8,2	8,7	9,4	9,3	64,7

4.1.2.2 Staff Expenditure (Title 1)

This title includes the expenditure related to the SJU personnel in the broad sense of the term, covering the SJU staff under EU Staff Regulations (temporary and contractual agents, respectively chapters 1.1 and 1.2), the staff seconded to the SJU by its Members (chapter 1.3) and SNEs (chapter 1.4) together with the associated costs (missions, training, etc. – chapters 1.5 and 1.6).

In accordance with the Multi-Annual Staff Policy Plan, the staff establishment plan 2015 of the SJU includes 39 posts³:

Human Resources	2013		2014	2015
	Authorised under the EU Budget	Actually filled as of 31/12/2013	Authorised under the EU Budget	DB request
Establishment plan posts:				
AD	33	32	33	33
AST	6	6	6	6

³ The present tables are taken from Chapter 2 of the Multi-Annual Staff Policy Plan 2015-2017. It should be noted that they do not take into consideration the reclassification exercise for 2014 that shall be within the limits defined in Annex I of the EC Staff Regulations (see also text below).

Total Establishment plan posts	39	38	39	39
<i>Of which:</i>				
- <i>Temporary Agents</i>	32	29	36	36
- <i>Secondment from SJU Members *</i>	7	6	3	3
- <i>Contract Agents</i>	0	3	0	0
Seconded National Experts	3	2	3	3
Total staff	42	40	42	42

Category and grade	Establishment plan in EU Budget 2013		Modifications in 2013 in application of flexibility rule		Establishment plan in voted EU Budget 2014		Modifications in 2014 in application of flexibility rule		Establishment plan in Draft EU Budget 2015	
	officials	TA	officials	TA	officials	TA	officials	TA	officials	TA
AD 16										
AD 15										
AD 14		1				1				1
AD 13										
AD 12		4				4				4
AD 11										
AD 10		5				5				5
AD 9										
AD 8		5				5				5
AD 7		4				4				4
AD 6		4				4				4
AD 5		10				10				10
Total AD		33				33				33
AST 11										
AST 10										
AST 9										
AST 8										
AST 7		1				1				1
AST 6										
AST 5		1				1				1
AST 4										
AST 3		2				2				2
AST 2										
AST 1		2				2				2
Total AST		6				6				6
TOTAL		39				39				39

The Budget 2015 is estimated based on the assumption that the 39 positions will be fully occupied during the all year.

At the end of November 2014, 4 TA and 2 END positions are still vacant; it is expected that the recruitment process will be completed during the last quarter 2014 / early 2015.

The 2015 expenditure for staff is estimated at EUR 6.0 million. The staff costs have been determined considering an overall increase of the index of maximum 0.85%. It should be noted that there is a budget shift between lines 1.1 and 1.3 due to the replacement of posts previously filled with secondments from the Members with new TAs.

Concerning reclassification of TAs and CAs, no exercise has taken place during the previous years, due to the fact the SJU has been waiting the agreement of the Commission Services to adopt the appropriate implementing rules since 2011. Following the Extension of its mandate from 2016 to 2024, in line with the Multi-Annual Staff Policy Plan 2015-2017 and the Provisional Draft Budget 2015, the SJU has initiated a first reclassification exercise for its staff in accordance with the most recent implementing rules on the Staff Regulations. While at this stage the TAs reclassification exercises as from 2014 as such are not yet considered in the above staff establishment plan, the Budget for Lines 1.1 and 1.2 contains nevertheless already appropriate contingencies for the financial impact of the reclassifications.

With regard to the expenditure for missions (chapter 1.5 - EUR 0,5 million), the SJU adopted a policy to reduce the costs of the missions giving preference to web-conferencing and to video conferencing.

The "Other Staff Expenditure" (chapter 1.6 – EUR 0.2 million) includes the estimated expenditure for training and seminars (EUR 0.09 million), recruitment and related expenditure together with the European Commission PMO service fees (EUR 0.11 million).

4.1.2.3 Administrative Expenditure (Title 2)

The administrative expenditure, core to the support of the smooth running of the Programme and to ensure compliance with the EU regulations, is estimated at EUR 3.3 million, at the level of the Budget 2014.

The main differences concern:

- Chapter 2.2 – EUR 0,08 million one-off increase in furniture and related works is included in order to accommodate the office building for a longer use and with full staff following the extension;
- Chapter 2.8 – An annual amount of max. EUR 0,04 million is included in order to provide for the new External Auditor that the SJU is obliged to contract by the new Financial Regulation (in addition to the continuing audits by the Court of Auditors for which no fee is due);
- In order to maintain the overall Administrative Expenditure unchanged, mainly the expenditures for Telecommunications and Current Administrative Expenditure - Chapters 2.4 and 2.6 - have been revised and reduced where possible (e.g. new provider for Web-meetings).

With regard to the PR activities, over the course of 2015 the SJU Communications Sector will conduct the following PR activities in accordance with the PR strategic plan approved by the ADB in 2009:

- Organisation of SJU presence at World ATM conference, developing communications material for distribution.
- Organisation of SESAR solutions workshop (topic/location to be decided), developing communications material for distribution.
- Organisation of joint activities with the Deployment Manager and SESAR members at key events, such as at the 2015 World ATM Congress.
- Graphic design and publication of digital and printed communications material, including videos and animations, targeting specific ATM stakeholders.

Furthermore, following the positive experience of the first SESAR Solutions dissemination event (Remote Tower June 2014), two SESAR Solutions dissemination events are foreseen to take place in 2015. For this purpose a maximum increase of 10% (= EUR 0,03 million) has been added to the PR Budget Line from the beginning, while nevertheless maintaining the total costs of the Title 2 steady.

With regard to the IT Expenditure and Technical Facilities (chapter 2.7), it consists of the following elements:

- *through Eurocontrol as contribution "in cash"*
 - o the hosting of the IT services by an external provider, EUR 0.2 million;
 - o on site assistance, EUR 0.16 million;
 - o licenses, EUR 0.1 million;
 - o project management system (development, maintenance and coordination), EUR 0.4 million
 - o hardware EUR 0.08 million;
- *directly contracted by the SJU*
 - o ABAC, EUR 0.07 million;
 - o Website and others, EUR 0.2 million.

4.1.2.4 Studies and developments carried out by the SJU (Chapter 3.1)

The amounts of EUR 21.0 million in terms of new commitments and EUR 49.2 million in terms of payments (related to new commitments and, to the larger extend, to commitments carried forward from previous years) estimated for 2015 include the activities listed below, compared to those budgeted in 2014:

Million EUR	BUDGET 2015		
	Commitments Appropriations BUDGET 2014	Commitments Appropriations BUDGET 2015	Payment Appropriations BUDGET 2015
Airport Expertise (ACI)	0,3	-	0,3
Airspace Users (*)	-	3,5	3,5
Associates of the SJU	-	-	3,8
Demonstration Activities (call 2012)	-	-	0,7
Demonstration Activities (call 2013)	-	-	1,1
Demonstration Activities (call 2014)	-	-	13,1
Definition Phase RPAS (**)	-	-	1,0
Independent Experts	0,3	0,3	0,3
Industrial Support	-	-	6,1
NSA Advisory Group	-	-	0,2
Programme Support	0,8	1,0	1,5
Programme Audit Services	0,7	0,2	0,8
Programme Legal Services	0,1	0,1	0,2
Programme Strategy Advice	-	0,8	0,8
DMS/Technical support for SESAR2020 (**)	-	-	1,0
Scientific Committee	0,2	0,0	0,1
ATMPP Strategic Performance Partnership	0,1	-	0,0
Cyber Security	-	-	0,3
Ad hoc studies (in complement to the core working programme)	0,5	0,8	1,3
ACAS	-	0,3	0,4
Datalink VDL (**)	-	-	1,2
WP11 (*)	-	8,7	4,3
WPE (*)	-	4,7	6,6
Military and Professional Staff Associations (*)	-	0,6	0,6
Total	2,9	21,0	49,2

(*) In accordance with the SJU/Eurocontrol agreements, these are considered Eurocontrol cash contribution.

*(**) In accordance with ADB(D)05-2014 of 26 June 2014, the funds for these budget items are taken from unused Commitments of the 2013 Budget carried forward (i.e. Large Scale Demonstration activities and RPAS definition phase). They therefore do not appear as Budget 2014 or Budget 2015 Commitment Appropriations, while the call for tenders and respective activities are not due to start before late 2014 / early 2015.*

The AWP 2015 will provide the necessary details with regard to the studies and developments listed here above.

4.1.2.5 Studies & developments carried out by the Members (Chapter 3.3)

By the end of 2013, all Members' commitments were recorded by the SJU, taking into account the results of the Reallocation and BAFO III processes. In terms of payments, on the other hand, EUR 46.7 million are expected to be paid as Co-Financing during 2015 (while the actual Cost Claims to be received in 2015 are expected to be higher, the net amount cashed out to the members should be considerably lower due to the clearing of previous Pre-Financing payments for those projects and Members where the maximum cash ceilings are reached. The actual net amount to be paid to the Members during 2015 will therefore be closely monitored and a revised budget for this Budget Line will be presented if necessary and subject to the availability of additional funds from EU revenues).

The Annual Work Programme 2015 will detail the research and development activities which will be carried out in 2015.

Budget 2015 (Section 1 - SESAR1)

STATEMENT OF REVENUE

all figures in Euro

Title / Chapter	Programme estimates Sep '09	Commitment Appropriations			Payment Appropriations		
		Year 2013	Revised Budget 2014	Budget 2015	Year 2013	Revised Budget 2014	Budget 2015
1. European Union Contribution	700.000.000	59.881.720			77.535.515	96.953.383	82.800.000
1.1 7th Research and Dev. Framework Programme	350.000.000	59.881.720			42.940.846	48.476.692	43.800.000
1.2 Tran-European Network Programme	350.000.000				34.594.669	48.476.692	39.000.000
2. Contribution from Eurocontrol	165.000.000	6.337.415	3.154.000	20.558.736	7.681.057	15.120.000	18.018.148
2.1 contribution in cash	165.000.000	6.337.415	3.154.000	20.558.736	7.681.057	15.120.000	18.018.148
3. Contributions from Other Members	30.774.983	4.246.362	4.246.361	4.246.361	4.246.361	4.246.361	4.246.361
3.1 contribution in cash	30.774.983	4.246.362	4.246.361	4.246.361	4.246.361	4.246.361	4.246.361
4. Other Revenue		5.711.369	100.000	100.000	182.299	100.000	100.000
4.1 Revenue From Interests Yielded		20.192	400.000	100.000	186.561	400.000	100.000
4.2 Revenue From Taxes Recovered							
4.3 Programme revenues from non Members							
4.4 Exceptional Revenues - Decommitments		5.691.177			75.149		
4.5 Interest to be returned to the EU			(300.000)		(79.411)	(300.000)	
Budget Outturn previous year		7.964.671	20.074.906	14.455.667	15.840.788	5.523.016	
TOTAL REVENUE	895.774.983	84.141.537	27.575.267	39.360.764	105.486.020	121.942.760	105.164.509

STATEMENT OF EXPENDITURE

all figures in Euro

Title / Chapter	Programme estimates Sep '09	Commitment Appropriations			Payment Appropriations		
		Year 2013	Revised Budget 2014	Budget 2015	Year 2013	Revised Budget 2014	Budget 2015
1. Staff Expenditure	55.000.000	5.578.146	6.195.500	5.980.000	5.630.436	6.195.500	5.980.000
1.1. Staff Expenditure As Per Staff Establish. Plan	50.000.000	3.266.919	4.100.000	4.380.000	3.259.515	4.100.000	4.380.000
1.2. Contract Agents, Interim Staff		468.189	550.000	560.000	467.200	550.000	560.000
1.3. Secondments From Members	5.000.000	1.180.000	690.000	165.000	1.312.613	690.000	165.000
1.4. Seconded National Experts		103.038	180.000	180.000	103.038	180.000	180.000
1.5. Mission Costs		370.000	500.000	500.000	346.333	500.000	500.000
1.6. Other Staff Expenditure		190.000	175.500	195.000	141.737	175.500	195.000
2. Administrative Expenditure	45.774.983	3.086.733	3.246.500	3.278.000	2.723.917	3.246.500	3.278.000
2.1. Rental Of Buildings And Associated Costs		920.600	942.000	950.000	825.904	942.000	950.000
2.2. Movable Property And Associated Costs		50.000	54.000	128.000	31.752	54.000	128.000
2.3. Pr And Events		300.000	394.500	330.000	272.067	394.500	330.000
2.4. Postage And Telecommunications		206.000	141.000	195.000	171.747	141.000	195.000
2.5. Administrative Board Expenditure		4.000	20.000	20.000	4.637	20.000	20.000
2.6. Current Administrative Expenditure		134.500	311.000	291.000	104.166	311.000	291.000
2.7. It Expenditure And Technical Facilities		1.431.633	1.320.000	1.270.000	1.293.167	1.320.000	1.270.000
2.8. Administrative Support Services		40.000	64.000	94.000	20.477	64.000	94.000
3. Operating Expenditure	795.000.000	55.401.752	3.677.600	20.971.774	91.608.651	112.500.760	95.906.509
3.1. Studies/Development Conducted By The SJU	179.500.345	55.401.752	3.677.600	20.971.774	21.757.088	32.341.695	49.199.722
3.2. Studies/Development Conducted By EUROCONTROL							
3.3. Studies/Development Conducted By The Members	615.499.655				69.851.563	80.159.065	46.706.787
TOTAL EXPENDITURE	895.774.983	64.066.631	13.119.600	30.229.774	99.963.004	121.942.760	105.164.509
BALANCE OF BUDGET OUTTURN		20.074.906	14.455.667	9.130.990	5.523.016		

In the above and the following Budget tables and Annexes "Year 2013" refers to the final actual amounts recorded in the Final Annual Accounts of 1 July 2013.

4.2 Section 2 (SESAR2020)

4.2.1 Revenues (cash)

During 2015, the European Union is expected to contribute with EUR 50.0 million in terms of Horizon 2020 resources which will constitute the basis to launch the Programme 2020. The process to establish the new SESAR2020 Partnership will be completed by July 2015 and it is expected that the relative contracts are signed in late 2015 with the launch of the activities in the same period. The in kind contributions of the new SESAR2020 Members are expected to phase in by end of the year 2015. Out of the EUR 50.0 million, maximum EUR 35.0 million in cash are expected to be actually requested by the SJU in 2015, including EUR 10.0 million for Exploratory Research (see below).

4.2.2 Expenditure (cash)

The first estimate for Studies conducted by the Members expected to be financed by Horizon 2020 (Title 3.3) foresees an amount of EUR 50.0 million in terms of commitment appropriations to be fully dedicated to the launch of the activities under the SESAR Programme 2020.

In terms of payments, the SJU is expected to execute payments for the activities launched in the context of H2020 and the SESAR Programme 2020 for an estimated amount of maximum EUR 25.0 million.

Furthermore, it should be noted that still for 2014, the launch of *Exploratory Research Activities* (Title 3.1) under Horizon 2020 is intended. In this respect, a Revised Budget and a Revised Annual Work Plan 2014 have been adopted by the Administrative Board in its meeting on 23 October 2014⁴, allowing for commitment appropriations of EUR 20.6 million, however, no payments in 2014. EUR 10.0 million in terms of payment appropriations for first Pre-Financing and Interim payments are expected for 2015 and are consequently included here in the 2015 budget.

Budget 2015 (Section 2 - SESAR2020)

STATEMENT OF REVENUE

all figures in Euro

Title / Chapter

1. European Union Contribution
 - 1.1 7th Research and Dev. Framework Programme
 - 1.2 Tran-European Network Programme
 - 1.3 Horizon 2020 Programme

TOTAL REVENUE

Commitment Appropriations			Payment Appropriations		
Year 2013	Revised Budget 2014 *	Budget 2015	Year 2013	Revised Budget 2014 *	Budget 2015
	20.600.000	50.000.000			35.036.000
	20.600.000	50.000.000			35.036.000
	20.600.000	50.000.000			35.036.000

STATEMENT OF EXPENDITURE

all figures in Euro

Title / Chapter

3. Operating Expenditure
 - 3.1. Studies/Development Conducted By The SJU
 - 3.2. Studies/Development Conducted By EUROCONTROL
 - 3.3. Studies/Development Conducted By The Members

TOTAL EXPENDITURE

BALANCE OF BUDGET OUTTURN

Commitment Appropriations			Payment Appropriations		
Year 2013	Revised Budget 2014 *	Budget 2015	Year 2013	Revised Budget 2014 *	Budget 2015
	20.600.000	50.000.000			35.036.000
	20.600.000	50.000.000			10.000.000
		50.000.000			25.036.000
	20.600.000	50.000.000			35.036.000

* Subject to an amendment of the SJU-EC General Agreement

⁴ References SJU ADB(D)-11-2014 and SJU ADB(D)-12-2014

5 Annex I

Annex I contains the amounts of estimated in-kind contributions to be committed during 2015 in relation to the SESAR1 Programme.

With regard to EUROCONTROL, the amount of EUR 63.8 million refers to the specific resources dedicated to the Programme, of which EUR 1.8 million for the Programme Support Office staff.

With regard to Chapter 4.3 "Programme revenues from non Members", this chapter is created to include any possible Programme-related contributions in kind from non Members exceeding the co-financing made available by the SJU.

6 Annex II

Annex II contains the total amounts of cash and in-kind contributions and related costs to be committed during 2015 in relation to the SESAR1 Programme. This annex provides the ADB with the full revenues and costs of the Programme, for the full period as well as for 2014 and 2015.

7 Annex III

The new Annex III contains a consolidated version of the Budgets for Section 1 (SESAR1) and Section 2 (SESAR2020), for information purposes only.

**DECISION
ADB(D) 02-2015**

**concerning the adoption of
the SESAR Joint Undertaking ad hoc Financing Decision relating to the
'Exploratory Research 2020' Call for Proposals**

THE ADMINISTRATIVE BOARD OF THE SESAR JOINT UNDERTAKING (SJU),

Having regard to:

- the Treaty on the Functioning of the European Union;
- Regulation (EU) No 1291/2013 of the European Parliament and of the Council of 11 December 2013 establishing Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020) and repealing Decision No 1982/2006/EC¹, and in particular Article 5 thereof;
- Council Decision 2013/743/EU of 3 December 2013 establishing the specific programme implementing Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020) and repealing Decisions 2006/971/EC, 2006/972/EC, 2006/973/EC, 2006/974/EC and 2006/975/EC², and in particular Article 3 thereof;
- Council Regulation (EC) No 219/2007 of 27 February 2007 on the establishment of a Joint Undertaking to develop the new generation European air traffic management system (SESAR)³ in particular Article 5(1)(b) of Annex I thereof, as amended by Council Regulation (EC) No 1361/2008 of 16 December 2008⁴ and by Council Regulation (EU) No 721/2014 of 16 June 2014⁵;
- The SESAR Joint Undertaking Financial Rules⁶, in particular Article 68(2) thereof.

Whereas:

- In order to ensure implementation of the SESAR JU Exploratory Research 2020 work programme, it is necessary to adopt a financing decision for 2015;
- The information of the ad hoc financing decision would have placed most of ADB members in a situation of conflict of interest, the Written Procedure was addressed on the 6 March 2015 to the representatives of the European Commission only and concluded on 20 March 2015 with positive results;

¹ OJ L 162, 22.6.2007, p. 1-10.

² OJ L 347, 20.12.2013, p. 104-173.

³ OJ L 64, 2.3.2007, p. 1-11.

⁴ OJ L 352, 31.12.2008, p. 12-17.

⁵ OJ L 192, 1.7.2014, p. 1-8.

⁶ SJU-AB-028-13-DOC-06.

HAS DECIDED AS FOLLOWS:

Sole Article

This decision constitutes a financing decision, in the sense of Article 68(2) of the SJU Financial Rules, for the implementation of the Exploratory Research 2020 programme for the year 2015 as set out in the Annex to this Decision.

The maximum contribution set out in this decision is EUR 20.600.000 and shall be financed from the following line of SJU budget for 2015:

B03100: STUDIES/DEVELOPMENT CONDUCTED BY THE SJU

This decision shall enter into force on the date of its adoption.

Done in Brussels, 20 March 2015.

For the Administrative Board


João Aguiar Machado
The Chairperson

ANNEX

Ad hoc financing decision for the SESAR 2020 Call for Proposals for Exploratory Research (point 3.2.3 of the 2015 SESAR Joint Undertaking Work Programme¹)

I. Legal basis

Article 1(5) of Council Regulation (EC) No 219/2007 of 27 February 2007 on the establishment of a Joint Undertaking to develop the new generation European air traffic management system², as amended by Council Regulation (EC) No 1361/2008 of 16 December 2008³ and by Council Regulation (EU) No 721/2014 of 16 June 2014⁴.

II. Budget Line

Budget 2015	Commitment	Payment
B03100	EUR 20.6 million	EUR 10 million

III. Priorities of the year, objectives pursued and expected results

- 1) **The strategic priorities of the year** are to focus exploratory research projects on two Work Areas:
 - a) **ATM Excellent Science and Outreach**, aiming at bridging ATM research with the wider research community and at providing the necessary scientific support to ATM change, either directly or through connection to other funded research areas in other disciplines or sectors; and
 - b) **ATM application-oriented research**, aiming at supporting new concepts for ATM beyond those identified in the ATM master plan as well as at supporting the maturation of emerging technologies and methods to the level required to feed the applied research conducted in the SESAR JU.
- 2) **The objectives pursued** by the SESAR 2020 Exploratory Research Programme are to address the known yet unsolved problems across the ATM Research domain, taking on board these new challenges using traditional methods or new techniques, or transferring the results of past research and applying them to new applications and/or novel technologies in search of innovative and ground-breaking results.

The purpose of this first call for proposals, foreseen to be launched in March 2015, is to ensure the continuity of the Exploratory Research activities by building upon and ensuring transition of WP-E projects under the framework of SESAR1.
- 3) **The expected results from ATM Excellent Science & Outreach** will address the feasibility of transferring best practice scientific methodology and approaches from other domains outside ATM and demonstrating the potential applicability of these techniques in improving ATM performance in terms of safety, security, capacity,

¹ http://www.sesarju.eu/sites/default/files/documents/reports/AWP2015_adb_adopted.pdf?issuusl=ignore.

² OJ L 64, 2.3.2007, p. 1–11.

³ OJ L 352, 31.12.2008, p. 12–17.

⁴ OJ L 192, 1.7.2014, p. 1–8.

efficiency, etc.

These expected results will focus on the following pillars:

- a) Automation in ATM
 - b) Data Science in ATM
 - c) Information Management in ATM
 - d) Environment & meteorology in ATM
 - e) Economics & legal change in ATM
- 4) **The expected results from the ATM application-oriented research** will address the feasibility of advanced concepts in specific domains of ATM and their potential for delivering ATM system performance benefits. The suitability for transitioning into more advanced maturity levels through industrial research as a next step will also be assessed.

The topics under this Work Area are the following:

- a) High Performing Airport Operations – improved visualisation and awareness
- b) Separation Management and Separation Standards
- c) Communications, Navigation and Surveillance (CNS)
- d) Trajectory Based Operations (TBO)
- e) ATM Architecture
- f) ATM Performance

IV. Description of the activities to be funded under the call for proposals

SESAR Exploratory Research drives the development and evaluation of innovative or unconventional ideas, concepts, methods and technologies; that can define and deliver the performance required for the next generation of European ATM system.

The two work areas of this call are ATM Excellent Science & Outreach and ATM application-oriented research.

- 1) **The ATM Excellent Science & Outreach Work Area** aims at bridging ATM research with the wider research community. The research performed is typically curiosity driven and explores unknown research areas. This type of scientific research not only brings new knowledge, but also encourages young scientists to develop innovative ideas, concepts and theories that could be beneficial for the future ATM evolution.

The Topics relating to this Work Area are the following:

- a) **Automation in ATM** – will study the application of Automation that could provide the key to significant performance improvements across many aspects of ATM, which today rely on high levels of automation. The domains of robotics and autonomy may extend more traditional notions of automation to potentially open up new fields of research.
- b) **Data Science in ATM** – will study the potential application of the rapidly maturing techniques in complexity science and data science for the ATM domain. Complexity science deals with the application of complexity theory in the ATM

domain and will contribute to better understand how the ATM system works, in particular the interaction of its subsystems. The availability of 'big data' offers a range of research opportunities for data science in ATM and is an emerging field in ATM, concerned with managing and exploiting large data sets and its application to air traffic management.

- c) **Information Management in ATM** – will study the management and distribution of all types of information in ATM systems, including flight deck and cabin, with particular attention to scalability, stability and error promulgation that relate to the inherent conflict between consistency, availability and partition tolerance in a distributed computer based global ATM system.
- d) **Environment & Meteorology in ATM** – the research activities will aim to better understand the impact of aviation on the environment and the ways in which ATM can reduce these effects. Research activities may address research aimed at developing 4D trajectories that are optimised to take account of all environmental considerations. Research activities under meteorology for ATM will study enhanced meteorological capabilities and their integration into ATM planning processes for improving ATM efficiency.
- e) **Economics & Legal Change in ATM** – will study the economics and legal changes in ATM. These may originate from evolving market pressures, the emergence of new market entrants, innovation in business models or they may be a consequence of regulation. Research activities may study the relative efficacy of changes and the possibility to shorten the R&I lifecycle, driven by regulation compared with those derived from natural or forced economic incentives. A better understanding of costs, benefits and impacts of changes, actual and planned, is desirable.

2) **The ATM application-oriented research Work Area** will help mature new concepts for ATM beyond those identified in the ATM master plan as well as help mature emerging technologies and methods to the level of maturity required to feed the applied research conducted in the Industrial Research and Validation phase of SESAR; thus connecting the ATM Exploratory Research to the ATM Applied Research in the context of the European ATM Master Plan.

- a) **High Performing Airport Operations** – will study the improved visualisation and awareness for airport operations. As the pressure increases on airports, new technologies are emerging that may offer significant potential for improved situational awareness for tower controllers. Research activities will address new ways of displaying and presenting data on aircraft, vehicles and infrastructure in a manned airport visual control room. The main impact of this research will be increased safety on the surface and in the air in the vicinity of the airport as well as cost savings.
- b) **Separation Management and Separation Standards** - will study the aspects of separation management and separation standards, given the emerging SESAR environment, in order to make best use of available airspace resources.
- c) **CNS** – will study the use, or adaptation, of new technologies being developed outside ATM to support ATM CNS needs including analysis of the safety, performance and security implications for the ATM system. Research projects are expected to perform assessment of the benefits and risks resulting from an integrated CNS infrastructure in particular with regard to redundancy and

performance needs.

- d) **Trajectory Based Operations (TBO)** – will study a number of fundamental questions related to TBO. TBO is a key element of future ATM operating concepts. It is expected to provide the flexibility needed by airspace users to optimize their operations while simultaneously ensuring the predictability needed at ATM network level for maximum overall performance. It is therefore essential to fully understand the benefits and limitations of the TBO approach.
- e) **ATM Architecture** - will study innovative approaches to analysing ATM architecture. Research activities are expected to help better understanding and modeling how architectural and design choices influence the ATM system and its various behaviours. This may be done using existing or novel approaches from systems analysis, architecture or complexity science.
- f) **ATM Performance** – will study new effective methodologies and tools for micro and macro modelling of performance in ATM, capable of capturing the interdependencies between different Key Performance Areas (KPAs). Research activities may also cover the modelling and analysis of the current performance drivers underpinning each and every stakeholder's business model as well as their interactions. Projects may also propose innovative metrics and indicators capable of easily and comprehensively capturing the performance impact of ATM operations on the different stakeholders, as well as the tools, methods and procedures to collect and process the relevant data.

Further details are provided in the reference documents, respectively for **SESAR 2020 Programme**⁵ and for **Exploratory Research**⁶.

V. Essential eligibility, selection and award criteria

1. Eligibility criteria

A. List of countries, and applicable rules for funding

Legal entities established in the following countries and territories will be eligible to receive funding through Horizon 2020:

- a) The Member States of the European Union, including their overseas departments;
- b) The Overseas Countries and Territories (OCT) linked to the Member States⁷:
 - i. Anguilla, Aruba, Bermuda, Bonaire, British Virgin Islands, Cayman Islands, Curaçao, Falkland Islands, French Polynesia, Greenland, Montserrat, New Caledonia, Pitcairn Islands, Saba, Saint Barthélemy, Saint Helena, Saint Pierre and Miquelon, Sint Eustatius, Sint Maarten, Turks and Caicos Islands, Wallis and Futuna.
- c) The Countries Associated to Horizon 2020⁸: the latest information on

⁵ SESAR 2020 Draft Programme Definition Document (<http://www.sesarju.eu/procurement/archive>).

⁶ Exploratory Research Technical Programme [to be published when available - APR]

⁷ Entities from Overseas Countries and Territories (OCT) are eligible for funding under the same conditions as entities from the Member States to which the OCT in question is linked.

which countries are associated, or in the process of association to Horizon 2020 can be found in the online manual⁹, which includes the accession process of Switzerland.

- d) The following countries, except where this is explicitly excluded in the call text:

Afghanistan, Albania, Algeria, American Samoa, Angola, Argentina, Armenia, Azerbaijan, Bangladesh, Belarus, Belize, Benin, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, Central African Republic, Chad, Chile, Colombia, Comoros, Congo (Democratic People's Republic), Congo (Republic), Costa Rica, Côte d'Ivoire, Cuba, Djibouti, Dominica, Dominican Republic, Ecuador, Egypt, El Salvador, Eritrea, Ethiopia, Fiji, Gabon, Gambia, Georgia, Ghana, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Indonesia, Iran, Iraq, Jamaica, Jordan, Kazakhstan, Kenya, Kiribati, Korea (Democratic Republic), Kosovo¹⁰, Kyrgyz Republic, Lao, Lebanon, Lesotho, Liberia, Libya, former Yugoslav Republic of Macedonia, Madagascar, Malawi, Malaysia, Maldives, Mali, Marshall Islands, Mauritania, Mauritius, Micronesia, Moldova, Mongolia, Montenegro, Morocco, Mozambique, Myanmar, Namibia, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Palau, Palestine, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Rwanda, Samoa, Sao Tome and Principe, Senegal, Serbia, Seychelles, Sierra Leone, Solomon Islands, Somalia, South Africa, South Sudan, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Sudan, Suriname, Swaziland, Syrian Arab Republic, Tajikistan, Tanzania, Thailand, Timor-Leste, Togo, Tonga, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, Uzbekistan, Vanuatu, Uruguay, Venezuela, Vietnam, , Yemen, Zambia, Zimbabwe.

International European interest organisations¹¹ will also be eligible to receive funding from Horizon 2020.

Legal entities established in countries not listed above will be eligible for funding when such funding is explicitly foreseen in the relevant call text.

- e) In addition, legal entities established in countries not listed above and international organisations will be eligible for funding:
- When funding for such participants is provided for under a bilateral scientific and technological agreement or any other arrangement between the Union and an international organisation or a third country;
 - When the Commission deems participation of the entity essential for

⁸ Signed an agreement with the Union as identified in Article 7 of the Horizon 2020 Regulation.

⁹ http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/international-cooperation_en.htm.

¹⁰ This designation is without prejudice to positions on status and is in line with UNSCR 1244/99 and the ICJ Opinion on the Kosovo declaration of independence.

¹¹ These are international organisations, the majority of whose members are Member States or associated countries, and whose principal objective is to promote scientific and technological cooperation in Europe.

carrying out the action funded through Horizon 2020.

All proposals must conform to the conditions set out in the Rules for Participation. Furthermore, the following conditions apply unless they are supplemented or modified in the call conditions.

- B.** A proposal will only be considered eligible if:
- i. its content corresponds, wholly or in part, to the topic description against which it is submitted;
 - ii. it complies with the eligibility conditions for Research and Innovation Actions (RIAs), i.e. at least three legal entities. Each of the three shall be established in a different Member State or associated country. All three legal entities shall be independent of each other.

Description of Research and innovation actions (RIAs):

Action primarily consisting of activities aiming to establish new knowledge and/or to explore the feasibility of a new or improved technology, product, process, service or solution. For this purpose they may include basic and applied research, technology development and integration, testing and validation on a small-scale prototype in a laboratory or simulated environment.

Projects may contain closely connected but limited demonstration or pilot activities aiming to show technical feasibility in a near to operational environment.

2. Selection criteria

- a. Financial capacity: In line with the Financial Regulation and the Rules for Participation. At the proposal stage, coordinators will be invited to complete a self-assessment using an on-line tool.
- b. Operational capacity : As a distinct operation, carried out during the evaluation of the award criterion 'Quality and efficiency of the implementation', experts will indicate whether the participants meet the selection criterion related to operational capacity, to carry out the proposed work, based on the competence and experience of the individual participant(s).

3. Award criteria

Experts will evaluate on the basis of the criteria 'excellence', 'impact' and 'quality and efficiency of the implementation'. The aspects to be considered in each case depend on the types of action as set out in the table below, unless stated otherwise in the call conditions.

The award criteria for SESAR 2020 Exploratory Research research projects are the following:

Type of Actions	Excellence	Impact	Quality & efficiency of the implementation
	<i>The following aspects will be taken into account, to the extent that the proposed work corresponds to the topic description</i>	<i>The extent to which the outputs of the project should contribute at the European and/or International level to the expected impacts</i>	<i>The following aspects will be taken into account:</i>

Annex to the SJU 2015 'Exploratory Research 2020' Financing Decision

		<i>listed under the relevant topic</i>	
Research Innovation Actions (RIAs)	1. Clarity of targeted breakthrough and its specific science and technology contributions towards a long-term vision for the future evolution of the European ATM system. 2. Scientific interest, including a clear and complete description of the research questions to be addressed together with any relevant assumptions and the potential benefits to be derived from the Project. 3. Scientific quality and appropriateness of the proposed methodology. 4. Degree of innovation. Previous and current research is fully taken into account. Projects may propose research that follows on from existing projects, in this case bidders must carefully explain their assumptions, how they will access previous results etc. 5. Data, tools, equipment and additional expertise have been identified and plausible ways and means to obtain these are explained. 6. Clear explanation of possible outcomes and next steps towards implementation, especially with regard to industry links and the relationship to the SESAR work programme.	1. Alignment with the work areas under this first call. 2. The potential for the Project to contribute the SESAR state-of-the-art and bring SESAR benefits (safety, capacity, environment, cost-effectiveness). 3. Importance of the new ideas/concepts and technologies outcome with regards to its transformational impact on technology and/or society. 4. Quality of measures for achieving impact on science, technology on the future evolution of the European ATM system.	1. The work breakdown is clear and consistent with the needs of the project and clarity of intermediate targets. 2. Relevant expertise in the consortium. 3. Appropriate allocation and justification of resources (person-months, equipment, budget).

	Weight 60%	Weight: 20%	Weight: 20%
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VI. Implementation

The Exploratory Research Call for proposals will be managed by the SESAR Joint Undertaking under direct management.

VII. Indicative timetable and indicative amount of the call for proposals

The overall estimated budget over the period up to 2024 for the Exploratory Research Programme is EUR 85 Million. The estimated budget for the purpose of the first Call for Proposals to be launched in 2015 is EUR 20.6 million. Subsequent calls for Proposals relating to Exploratory Research are foreseen in the coming years. It is foreseen to launch the first Call for Proposals in March 2015.

It is expected to conclude between 30 and 50 Grant Agreements, depending on the number and the quality of the proposals received.

The Grant Agreements are expected to be signed by the end of 2015. Each Grant Agreement will be awarded for a maximum period of 24 months.

VIII. Maximum possible rate of co-financing of the eligible costs

The maximum rate of SJU co-financing for RIAs is 100 % of the eligible costs (cf. Article 28(4) of Regulation (EU) No 1290/2013).

Indirect costs are subject to a flat-rate of 25 % of the direct eligible costs.

DECISION

ADB(D)13 -2014

authorising negotiations with candidate members and entrusting the Executive Director to negotiate the conditions of accession

THE ADMINISTRATIVE BOARD OF THE SESAR JOINT UNDERTAKING (SJU),

Having regard to:

- Council Regulation (EC) No 219/2007 of 27 February 2007 on the establishment of a Joint Undertaking to develop the new generation of the European Air Traffic Management system (SESAR) as modified by Council Regulation (EC) No 1361/2008 of 16 December 2008 and amended by Council Regulation (EU) No 721/2014 of 16 June 2014;
- Regulation (EU) No 1291/2013 of the European Parliament and of the Council of 11 December 2013, establishing Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020) (Horizon 2020);

Whereas:

- The duration of the SJU has been extended up to 31 December 2024 to complete Step 2 and Step 3 of the European ATM Master Plan under the SESAR 2020 work Programme co-funded by Horizon 2020 for the European Union's 2014-2020 multi-annual financial framework;
- Membership in the SJU shall end by 31 December 2016 with regard to the SJU Members who, as of 1 January 2014, do not contribute to the SJU's SESAR 2020 work programme;
- In order to renew the SJU membership to ensure the implementation of the SESAR 2020 work Programme, an open call for expressions of interest to become candidate member of the SJU (Ref. SJU/LC/0110-CEI) was published on 9 July 2014;
- 24 valid applications were submitted in reply to the call for expression of interest and have been evaluated by the SJU;
- The Executive Director of the SJU (Executive Director) shall transmit the requests for accession to the membership to the Administrative Board, who shall then decide whether to authorise accession negotiations and, if authorisation is given, entrust the Executive Director to negotiate the conditions of accession;
- The Executive Director presented the *"Report of the Executive Director to the Administrative Board on the outcome of the call for expressions of interest to become candidate member of the SESAR Joint Undertaking"* (ref. SJU/LC/0110-CEI), to the SJU Administrative Board on 28 October 2014;
- In accordance with Article 9 of the SJU Administrative Board's Rules of Procedure, on 28 October 2014, the Board members were consulted through the written procedure, which was concluded with a positive result on 4 November 2014;

HAS DECIDED AS FOLLOWS:

Article 1

To endorse the conclusions and recommendations of the Executive Director as contained in Annex I of the *“Report of the Executive Director to the Administrative Board on the outcomes of the call for expressions of interest to become candidate member of the SESAR Joint Undertaking”* (ref. SJU/LC/0110-CEI).

Article 2

To authorise the Executive Director to negotiate the conditions of accession with the selected Candidate Members taking due consideration of the current SJU framework of operation, the protection of the financial interests of the Union and in compliance with Horizon 2020.

These conditions shall include, in particular, provisions relating to the candidate's financial contributions, including Eurocontrol's contribution and their representation in the Administrative Board.

This decision shall enter into force on the date of its adoption.

Done in Brussels, 4 November 2014.

For the Administrative Board

The Chairperson
João Aguiar Machado

