Annual Activity Report 2014

31 March 2015

Table of Contents

1 Introduction

As a result of the General Agreement with the European Commission[1] , the SESAR Joint Undertaking (SJU) is requested to draft an Annual Activity Report (AAR)[2].

Beside the Introduction (Chapter 1) the report is built on four sections:

1. Performance (Achievement of Objectives comparing achievement versus the Annual Work Plan 2014 (Chapters 2, 3, 4, 5, 6 and 7);
2. Budget Execution and Internal control systems (Chapters 8 and 9);
3. Reservations and their impact on the declaration of Assurance (Chapter 10);
4. The declaration of Assurance (Chapter 11).

1.1 The SJU

The SJU was established on 27 February 2007 by Council Regulation (EC) 219/2007, as modified by Council Regulation (EC) 1361/2008 (SJU Regulation) and last amended by the Council Regulation (EU) 721/2014.

The mission of the SJU, created under Article 187 of the Treaty on the Functioning of the European Union and co-founded by the European Union and Eurocontrol, the founding members, is to ensure the modernisation of the European air traffic management system by coordinating and concentrating all relevant research and development efforts undertaken by its Members and the related financing.

In particular, the SJU is responsible for the implementation of the European ATM Master Plan[3] and for carrying out specific activities aiming at developing the new generation of air traffic management system capable of ensuring the safety and fluidity of air transport worldwide over the next thirty years.

A substantial part of the benefit of the SESAR Research & Innovation Programme (hereafter the R&I Programme or Programme)[4] lays in the involvement of most of the European ATM stakeholders, complemented by contributions from non-EU key players, for the development of the operational and technical solutions which best meet the objectives set out in the European ATM Master Plan.

Following the launch of the "Call for expression of interest to become member of the SJU" by the European Commission on 27 June 2007 and the ensuing negotiations conducted by the Executive Director, the membership process was finalised with the selection of fifteen organisation representing industry and, at large extent, stakeholders of the European ATM. The signing of the Membership Agreement, the Agreement with Eurocontrol and the Multilateral Framework Agreement in summer 2009 formalised the rules concerning the participation of a Member to the SJU as well as the contribution and the rules governing the execution of and the commitment to the Programme.

[1] Article 16, General Agreement between the European Commission and the SESAR Joint Undertaking, 19 December 2014.
[2] The structure of the current Annual Activity Report follows the instructions contained in the Annex II of the General Agreement between the European Commission and SJU, signed on 7 December 2009.
[3] The ATM Master Plan is the agreed roadmap that links ATM research and innovation activities with deployment scenarios contributing to the achievement of the SES performance objectives through the modernisation of ATM technologies and procedures.
[4] With the current AAR 2014 the SJU refers to the SESAR Research and Innovation for the activities performed in the contest of the SJU Partnership in order to distinguish them for the future activities performed in the context of Deployment by the Deployment Manager.

In January 2010 the Administrative Board with its decision ADB 02-2010 approved the launching of the process for the creation of a new category of stakeholders in the Programme: the "Associate Partners of an SJU Member" with the purpose of securing the additional input and added value of critical partners in the ATM research and development activities.

In January 2011 the SJU launched an invitation to submit proposals for becoming "Associate partner of the SJU", specifically addressed to entities belonging to 4 categories: SMEs, Research Organisations, Universities and Institutes of higher education. This resulted in 10 legal groupings consisting of over 40 different entities being awarded across 5 Lots of activities.

The EC Regulation 721/2014 of June 16th extends the SJU up to 31 December 2024 to continue research and innovation on air traffic management ATM and in particular the coordinated approach in the context of the Single European Sky to achieve the performance targets there defined.
This decision was taken in recognition of the need to foster Research and Innovation on Air Traffic Management beyond the organisation's original mandate of 2016, as well as in appreciation of the SESAR partnership's ability to respond to evolving business needs and fast track technological and operational improvements in Europe's ATM system.

1.2 The SJU Governance

The SJU governance is composed of the Administrative Board and the Executive Director. The Executive Director is supported by the Programme Committee, the Scientific Committee and Strategic Performance Partnership.

1.2.1 The Administrative Board

The Administrative Board is composed of representatives from each of the Members of the Joint Undertaking and seven representatives from different stakeholders. The Administrative Board (ADB) is chaired by the representative of the European Union. The ADB had 4 meetings during 2014: one ad hoc meeting on 25th February for the appointment of the new Executive Director, and three ordinary meetings on 26th June, 23rd October, 11thDecember.

In 2014 several new representatives have been appointed, including the chairperson, the Board Member representing the European Union and the vice-chairperson, the representative of Eurocontrol.

At the Meeting of the 26th June, the European Commission confirmed the adoption of the Council Regulation extending the duration of the SJU. The Administrative Board then endorsed the second draft of the SESAR Programme 2020, which served as basis for the Call for Expression of Interest to become a candidate member of the SESAR Joint Undertaking launched on 9th of July.

1.2.2 The Executive Director

The Executive Director is the legal representative of the Joint Undertaking and is responsible for its day-to-day management. The Executive Director is supported by a Deputy Executive Director in charge of Corporate Affairs, by the Internal Audit, by a Senior Advisor for Military Affairs, and by 5 senior managers: the Chief Economist and Master Planning, the Chief ATM, the Chief Development and Delivery, the Chief Administrative Affaires and the Chief Strategy and External Affairs.

Following a selection process started in 2013, the Executive Director was appointed by the Administrative Board in February 2014 and was in position as of March 2014.

1.2.3 The Programme Committee

The Programme Committee (PC) is the group participating to the steering of the Industrial Research Programme and to support the executive Director at the highest Programme level. The Programme Committee held four meetings plus two ad hoc sessions and the discussion focused, among others, on:

- Monitoring the progress , risks and issues
- Identifying the impact of key issues and the related mitigating actions to be implemented,
- Monitoring the budget implementation,
- Providing strategic guidance and making recommendations on the management of the Programme ,
- Ensuring that the SESAR strategy for the Development Phase is fully applied during the activities performed under the SJU Public Private Partnership.

By representing their organisations, the PC Members commit them in the decision –making affecting the SESAR Programme on technical and contractual matters.

1.2.4 SJU Scientific Committee

The objective of the SJU Scientific Committee (SC) is to assist the Executive Director on all scientific aspects of the work programme reinforcing the SJU's innovative and scientific approach to research for the future ATM systems.

The scope of the SC is to:

a. Address technical & organisational challenges and scientific findings of the programme;
b. Promote appropriate level of innovation;
c. Recommend the means of developing participation of scientific community;
d. Provide specific advice and recommendations;
e. Provide advice on directions for long term and innovative research areas;
f. Provide opinions on any scientific matter concerning SJU activities.

During 2014 the SJU Scientific Committee met on three occasions and its main contribution was related to the definitions of the topics for the SESAR 2020 Exploratory Research call for proposal, to the analysis of WP E projects, in addition to presentations and papers on Software reliability threatens the future of SESAR, Human Performance Integration in the Safety Analysis of Complex Systems; CNS challenge as enabler of the SESAR concepts.

Regarding WP E, the Scientific Committee has a steering role in providing scientific advice on the content, the results and the management aspects. In this respect, the results of 18 projects of Work Package E - call 1 (see section 3.4.15) were presented and discussed in their specific themes:

- Legal Aspects of the paradigm Shift,
- Toward Higher Level of Automation in ATM,
- Mastering complex System Safely
- Economics and Performance

Other projects relating to the call 2 are ongoing.

1.2.5 SESAR Performance Partnership (SPP)

The primary role of the SESAR Performance Partnership is assisting the SJU Executive Director in monitoring the objectives and results of the SESAR Development Phase Work Programme, ensuring transparency, common understanding, participation and consequent commitment (buy-in) of all stakeholders to changes to the ATM Master Plan and transition from Development to Deployment.

During 2014 the primary focus of the SPP was concentrated on supporting the SJU Executive Director in its decision making process related the preparation of the European ATM Master Plan in 2015. The SPP also focused on cross-checking R&I developments against the PCP[5] objectives as well as the level of ambition of the Step 2 Concept of Operations.

1.3 The SESAR R& I Programme

As part of the Membership process, work has been allocated to the selected Members on the basis of a Description of Work (DOW 4.0) and on the offers made through the IBAFO[6] I and IBAFO II which were finalised on 26 March 2009 and 14 December 2009 respectively. Furthermore, in order to ensure the alignment of the Members' contributions to the development of the Programme results, during 2011 a resources' "reallocation" exercise was performed in compliance with the SJU Financial Rules and MFA[7] and within the ceilings established in the MA[8]. The Administrative Board adopted the new reallocated resources as of 1 January 2012.
The identification of "Priority Strategic Business Needs" in the European ATM Master Plan 2012, highlighted the need to re-focus the SESAR Programme activities in view of the completion of its overarching objectives.

In this respect, mid 2013, the SJU launched a second Reallocation Process of the Programme resources. In addition, to complement the Programme work, a limited number of key projects were submitted to tender in the context of an IBAFO III. The Reallocation 2013 and IBAFO III processes were performed by the Partnership during 2013 and completed by a decision of the Administrative Board on 12 December 2013. This resulted in the release of resources previously committed to the core Programme to allow the launch of the call for proposals for Large Scale Demonstration activities and the Definition Phase of the RPAS integration in non-segregated airspace (calls launched on 19 December 2013, see section 4.8).

At the end of 2014, considering the results of Reallocation 2013 and IBAFO III, the R&I Programme consists of 295 projects in execution phase organised in Work Packages as follows:

- WPB (Target Concept and Architecture Maintenance),
- WPC (Master Plan Maintenance),
- WP3 (Validation Infrastructure Adaptation Integration),
- WP4 (En-Route Operations),
- WP5 (TMA Operations),
- WP6 (Airport Operations),
- WP7[9] (Network Operations),
- WP8 (Information Management),

[5] See Chapter 6.2
[6] IBAFO, Invitation to submit a binding and final offer.
[7] Multilateral Framework Agreement.
[8] Membership Agreement.
[9] In 2014 WP7 and WP 13 have been merged.

- WP9 (Aircraft),
- WP10 (En-Route & Approach ATC Systems),
- WP11[10] (Flight Operations and Centre System)
- WP12 (Airborne Systems),
- WP13 (Network Information Management System)
- WP14 (SWIM Technical Architecture),
- WP15 (Non Avionic CNS System),
- WP16 (R&I Transversal Areas)
- WPE (Long term and Innovative Research Programme)

The Work Packages structure is set up in a manner to allow the adequate monitoring of the R&I activities performed by the Members but separates the operational and system elements of key SESAR concepts. From the strategic point of view, since 2012 the Programme and its deliverables are structured around the concept of Operational Focus Areas (bringing together related operational and system projects to focus on the common objective) targeted to the achievement of the Priority Strategic Business Needs (see section 3.2.1). The picture below describes the links between the Programme Management view and more strategic approach.

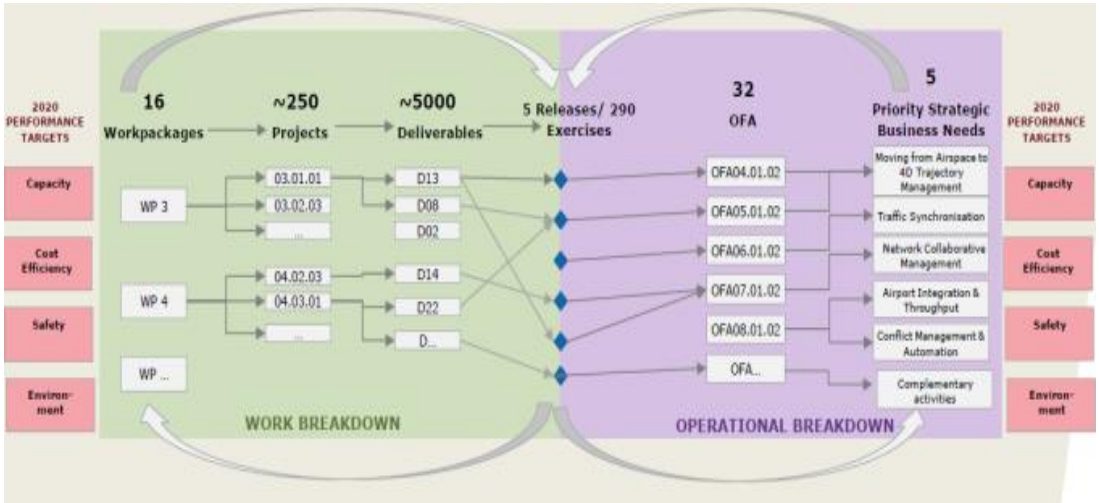


Fig. 1.

The Reallocation 2013 and IBAFO III confirmed that the Programme activities are focused to deliver Step 1 and part of Step 2 of the European ATM Master Plan. All SJU resources are committed to the achievement of the objectives defined in the ongoing Programme for an amount of almost EUR 2.1 billion, by 2016. The Programme financials, including details per Work Package/Member and sources of funding are available in Annexes 1.a and 1.b. Section 3.4 presents the details of scope, objectives and 2014 report for each WP.

1.3.1 Summary of the Projects status

Overall the number of R&I and Management Projects is 369 of which 45 belong to WP E Long Term Research, 9 to the WP 11 Flight Operations and Centre System and Meteorological Services, and 12 are resulting from the IBAFO III. All the projects have been initiated, 5 have been closed and 48 Projects were merged as a result of the Reallocation 2013 (see table below).

[10] Work Package 11 and E have been outsourced; however Members provide inputs.

	As of 31.12.2014	
Total number of Projects in the R&I Programme	**369**	**100,00%**
Projects cancelled before being initiated	3	0,81%
Projects initiated	**366**	**99,19%**
of which cancelled projects	3	0,82%
suspended projects	15	4,10%
still under initiation	0	0,00%
closed due to merger into others	48	13,11%
closed projects	5	1,37%
Projects in execution phase	***295***	***80,60%***
Projects to be initiated	***0***	***0,00%***

1.3.2 Highlights on SESAR 2020

The current Programme planned for completion in 2016 addresses all the elements of the European Master Plan relating to step 1 and part of the step 2. The Council Regulation 721/2014 extends the SJU to the 2024 and within the EU Framework "Horizon 2020", entrusts it to launch a new programme, the SESAR 2020, to address the remaining elements of Master Plan step 2, those of step 3 and with Exploratory Research to go beyond this timeframe and concept.

The costs of the Programme activities are estimated in EUR 1585 million including EUR 85 million for Exploratory Research, EUR 1200 million for Applied Research and Pre-Industrial Development, and EUR 300 million for Large Scale Demonstrations.

Except from the Exploratory Research (see section 5.3) which will be fully paid from EU funds, the programme will be co-funded through the EU budget and contributions from industry and Eurocontrol under the new SJU Regulation 721/2014 and the provisions of the (EC) Regulation 1290/2013 laying down the rules for participation and dissemination in "Horizon 2020".

In order to encourage the widest possible participation and representation of stakeholders in the Partnership, including small and medium enterprises, the SJU launched on July 9th a call for "Expression of Interest to become candidate member of the SESAR Joint Undertaking" (see section 5.1).

The high level structure of the Programme aiming at "Delivering best in class, globally interoperable and high performing Air Transport for Airspace Users and Citizens" is based on four main elements:

- High performing Airport Operations
- Optimised ATM Network services
- Advanced Air Traffic services and
- Enabling the Aviation Infrastructure

Fig.2.

Research activity is structured into three maturity phases[11]:

- Phase 1 concerns Exploratory Research and covers two types of research, firstly fundamental research under Excellent Science and Outreach and secondly Application-Oriented Research that investigates initial applications for ATM and is delivered through open calls ;
- Phase 2 includes Applied Research, Pre-Industrial Development and Validation and it is delivered through the Public-Private Partnership (PPP);
- Phase 3 covers Very Large Scale Demonstrations (VLD) to help fill the gap between development and deployment phases and consists of demonstrating key SESAR concepts and technologies to raise awareness regarding SESAR activities related to ATM performance issues and their results as well as assessing full-scale deployment readiness and is delivered through a combination of the PPP and open calls.

In addition there are transversal activities including ATM Design, Performance, European Master Plan Maintenance and the platforms to be used for validating and demonstrating.

2 Vision and medium term Objectives

The SJU management established the objectives to be reached in 2014 in line with the Medium term vision 2012/2014 which were adopted by the ADB:

The SJU partnership has successfully introduced innovations, bringing measurable performance benefits to the worldwide aviation community

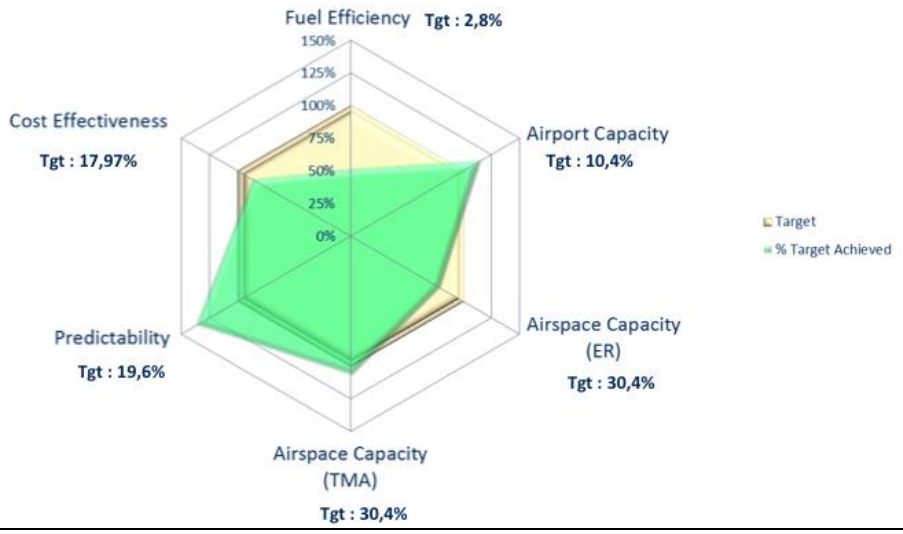
[11] A full description of the programme is in the "SESAR 2020 R&I Programme" document annexed to the call for expression of interest to become candidate member of the SJU – SESAR Research and Innovation Programme 2020.

The planned activities leading to the long term Programme's objectives have been broken down to ensure that the R&I Programme was focused not only on the achievement of its mission but on concrete research and innovation progress, including quick wins. The activities and objectives are aligned with the European ATM Master plan 2012, the Pilot Common Project and the results of the Programme review.

The strategic objectives set for the 2014 are reported in the table below together with an assessment of the achievement at year-end 2014. It should be noted however that the "Actual Result achieved" is based on the Release 3 assessment whereas that on R4 will be performed in June 2015 and published in September. This will enable a better evaluation of the 2014 achievements versus plan.

Objective description	1. *SESAR procedures, technology/tools and airspace design solutions enabled by the Initial 4D capability have demonstrated performance benefits in terms of efficiency, safety, capacity and predictability*
Success measurement indicators	Step 1 fuel efficiency target with significant improvements for other KPA´s (see picture below)
Progress to be achieved	Target 2014 100% **Revised target 60%**
Actual results achieved	Actual completion 60%. The analysis of the Step 1 performance results (see below), demonstrate a potential fuel reduction of circa 1,5% that represents a 53% achievement compared to the Step 1target for fuel efficiency. This result is close to the revised target of 60% and the result achieved on other KPAs show significant improvement, in some cases above the target. It must be noticed that even if i4D is the major contributor to those achievements it is not the only one, other SESAR Solutions[12] such as Extended AMAN, CDA in complex TMA, enhanced decision making tools and so on, contribute as well to this achievement. More detail on the analysis of the individual contribution of each solution is under work but is not fully completed at the time of publishing this report. Furthermore, it is important to stress that the results of the SESAR validation activities show the need for trade-offs between the different KPAs and that all targets cannot be achieved simultaneously.

[12] Solutions are operational and technological improvements developed by SESAR members and partners which aim to contribute to the modernisation of the European and global ATM system.
Through the SESAR Release process, solutions are systematically validated in real operational environments in order to have conclusive and sufficient proof to support a decision for their industrialisation.
Since 2011, SESAR has been performing these validation exercises and has so far generated 15 solutions (end 2013). Further solutions will be developed and validated between now and 2016.

	
Objective description	2. *Technological and operational innovations in the airport domain are ready for deployment and SESAR AOP/AOC/NOP integration has demonstrated positive network performance.*
Success measurement indicators	At least 10 Airports demonstrates increased predictability and less delays (MTS)
Progress to be achieved	Target 2014 100%
Actual results achieved	Actual completion 60%. Close to 40% of the SESAR Solutions available at the end of 2014 are airport related. Those solutions are ready for deployment; some of those solutions are already embedded in the first deployment package (Pilot Common Project – AF#4) while others are already being deployed locally. Examples are the Airport Operations Center (APOC), the first version of its fully SESAR Step 1 compliant version having been inaugurated at London Heathrow airport in Q4 2014 and the Remote Tower at the Örnsköldsvik Airport in Sweden. The combination of local deployment and PCP support the expectation that full target will be achieved in 2015/2016.

Objective description	3. *SESARJU members commit to SESAR Project innovative technological / operational results in their medium term investment plans.*
Success measurement indicators	> 5 projects
Progress to be achieved	Target100%
Actual results achieved	Actual completion 90%. The very successful set-up of the Pilot Common Project focusing on ATM Functionality **AF1 Extended AMAN and PBN in high density TMAs**, to improve the precision of approach trajectory as well as to facilitate traffic sequencing at earlier stage, thus allowing to reduce fuel consumption and environmental impact in descent/arrival phases; **AF2 - Airport Integration and Throughput,** to improve runway safety and throughput, ensuring benefits in terms of fuel consumption and delay reduction as well as airport and airspace capacity;

	and of the SESAR Deployment sequence indicates in principle a full achievement of this particular target. However, considering that the various investment plans as presented to the Performance Review Body for Reporting Period 2 do not indicate yet a full up-take of the SESAR Solutions and despite the fact that this is not under the control of the SJU, the overall achievement for this objective is set to 90%.

Objective description	4. *Demonstrate that SWIM-based applications contribute to efficient implementation of Airspace Users preferred flight routes and profiles.*
Success measurement indicators	SWIM benefits demonstrated for Airline Operation Centres-Air Traffic Control services leading to Step 1 improvement of flight predictability
Progress to be achieved	**Target 100%**
Actual results achieved	Actual completion 40%. The SESAR activities and validation exercises related to the SWIM exchange of trajectory between Airline Operations and the Network Manager have demonstrated positive results in ensuring an optimized usage of the route network and have contributed to successful demonstration results in the domain of Free-Routing (e.g. Framak, WeFree see section 4.7.1). The validation of the ground-ground trajectory exchange, on the other hand, have suffered very significant delay in the 2012-2014 period; mitigation measures and recovery plans have recently been implemented by the SJU and its Members and progress should be back on track as of 2015. Consequently the target is considered to be 40% (in proportion to the number of Operational Improvements and Enablers covered by this objective).

Objective description	5. *The SESAR Controller Working Position prototype demonstrates performance gains through its adaptability to efficiently integrate new functionality.*
Success measurement indicators	SESAR CWP supports 4D trajectory management and complies with Human Factors requirements; and at least 5 service providers will start investing in CWP new functionalities
Progress to be achieved	**Target 100%**
Actual results achieved	Actual completion 80%. In 2014 activities focused on validating the integration of new functionalities and decision-making tools in the human machine interface of the controller working position. All the activities planned in 2014 in relation to the CWP have been completed and specific activities on the CWP interface were launched as well. It is confirmed that up to 3 ANSPs out of the 5 in the objective, are currently considering the upgrade of their CWP and one more is close to follow leading to a 80% completion of the objective.

Objective description	6. *SESAR material to support standards has been proposed to the EC, ICAO and Industry Standardisation bodies for development into published standards and policies.*
Success measurement indicators	> 10 standards proposed

Progress to be achieved	***Target 100%***
Actual results achieved	Actual completion 100%. In 2014 the following standards have been published by EUROCAE with contributions by SESAR or the SESAR members: ED-75d, ED-87c, ED-92b, ED-110b, ED-129b, ED194a, ED-228, ED-229, ED-230, ED-231, ED-232, ED-233, ER-011 The achievement exceeded the target.

Objective description	7. *Through the SJU PPP, SESARJU Staff and Members have become world leaders in creating a culture of innovation, cooperation and accountability to deliver.*
Measurement indicators	Positive result of Stakeholder, Staff & Member Survey (satisfaction rate>75%)
Progress to be achieved	Success of SJU participation to CANSO World ATM Congress, and SESAR Going Global-ICAO
Actual results achieved	Actual completion 100%. In 2014 the SJU heavily build on the outcome of ANC 12 to promote the SESAR concept of operations and participated successfully to the CANSO World ATM Congress and to the ATC Global event with an objective to showcase the SESAR Solutions.From the 17-19 September 2014, the SJU and its members organised a dedicated SESAR Solutions workshop and a stand at ATC Global in Beijing, China (see section 9.2). In addition, the SJU performed its first SESAR results dissemination event with a workshop on Remote Tower Services on the 12 and 13 June, which was hosted by the Dublin Airport Authority (DAA). Finally, the successful cooperation with the FAA on NextGen led to the establishment of the "State of Harmonisation document" that highlighted the status and progress of the two initiatives on key areas such as CNS and Interoperability. All these have progressively consolidated the position of SESAR as a leading actor in ATM Research and Innovation and the SJU reputation is widely recognized.

Objective description	8. *Results from SESAR long term research activities are embedded into the rest of the SESAR Programme and prove the effective link between Innovation and R&I.*
Measurement indicators	Ongoing WPE process of research networks and projects have made a positive impact in other WP´s (Three networks fully operating and delivering see section 4.5)
Progress to be achieved	**ongoing**
Actual result achieved	Actual Completion 50%. The current structure of the Exploratory Research activities didn't enable so far a successful connection between those activities and the applied and pre-industrial research, except on a limited number of cases (e.g. trajectory management, automation see section 3.4.16). In 2014, the SJU identified with the support of its Scientific Committee a number of lessons learnt from the current set-up and established a significantly different approach in view of preparing the SESAR 2020 Programme. It must be noted as well that some of the results of the Exploratory

	Research activities have recently been identified to be transited to the Applied and Pre-Industrial part of SESAR 2020, demonstrating the progressive set-up of an R&I pipeline through all technology maturity phases. Overall these results lead to a 50% achievement of this specific target.

As a driving element for the drafting of the Annual Work plan 2015, the SJU's Management has set a new Medium Term vision for the period 2015/2016 which was endorsed by the ADB:

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 has been declined into strategic objectives related to the closing of the SESAR 1 Programme, but also constituting a solid basis for the SESAR 2020 Programme being launched.

3 Programme Execution 2014

3.1 Programme Overview: a top down Release definition

A yearly Release encompasses SESAR solutions expected to reach a maturity V3 (ready for industrialisation) within the reference year. The content of the Release 4 was defined with a top down approach to concentrate the resources to progress on the five Priority Strategic Business Needs[13]. As the Programme approaches its completion, the activities encompassed in the Releases represent a growing share of the total activities; however it should be noted that 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.

3.2 Release 4 implementation

Release 4, to be performed in 2014, included **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.

[13] 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.

12 exercises have been completed at the end of 2014 and 4 exercises are still in preparation and will be completed by the beginning of 2015. 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 (this exercise has been removed out of the hereafter tables). Another exercise has been postponed to 2015 in order to better develop the validation platform, and two exercises have been downgraded to maturity level V2 and will be executed in 2015 (preparatory activities for Release 5 exercises covering the same validation objectives).

Results stemming from release 4 will be reviewed through the System Engineering Review scheduled early June 2015. In the meantime, the projects will analyze the validation results and consolidate them in the required deliverables to be tabled at that review session.

As a result of the review, six SESAR Solutions are expected to be confirmed out of Release 4:

- GBAS procedures for CAT II/III precision approaches,
- Advanced LPV procedures,
- Basic AMAN-SMAN-DMAN integration,
- Extended AMAN Horizon

And

- Enhanced slot swapping between different airlines,
- Display and use of the downlinked ACAS Resolution Advisory on Controller Working position

Looking forward, beyond the 2014 horizon, the table below gives an overall view of the operational improvements to be achieved through successive Releases to fulfill the Priority Strategic Business Needs and the contribution to the Pilot Common Project elements. The table shows actual deliveries as regards R1, R2 & R3 expected deliveries for R4& R5.

Priority Business Need	Operational Sub-Package	OFA	R1	R2	R3	R4	R5
Airport Integration and Throughput	SPC01.01 Weather Resilience	01.01.01 LVPs using GBAS				AO-0505-A	
	SPC01.03 Enhanced Runway Throughput	01.03.01 Enhanced Runway Throughput		AO-0303			
					AUO-0702		
	SPC01.02 Airport Safety	01.02.01 Airport Safety Nets					
							AO-0209 AO-0104-A
					AO-0201-A		AO-0105 AO-0204
	SPC04.02 Integrated Surface management	04.02.01 Integrated Surface Management					AO-0205
							AO-0206 AO-0215
							AO-0222 AO-0223
							AUO-0603-A AUO-0308
	SPC05.01 Demand and Capacity Balancing Airports	05.01.01 Airport Operations Management	DCB-0304				AO-0801 AO-0803 AO-0804 DCB-0309
Network Collaborative Management and Dynamic and Capacity Balancing	SPC05.03 Demand and Capacity Balancing En-Route	05.03.06 UDPP				AUO-0101-A AUO-0103	
		05.03.03 Dynamic sectorisation and Constraint management		CM-0102-A			
		05.03.04 Enhanced ATFM Processes					DCB-0208 DCB-0308 CM-0103-A CM-0104-A
		05.03.07 Network Operations Planning					DCB-0103-A
		05.03.01 Airspace Management and AFUA					AOM-0206-A AOM-0202-A
Traffic Synchronisation	SPC02.01 Enhanced Route Structures	02.01.01 Optimised 2D/3D Routes	AOM-0603	AOM-0601			AOM-0702-A
							AOM-0705-A
				TS-0102			AOM-0404
			AOM-0605 (LPV Procedures)			AOM-0605 (Enhanced terminal operations with LPV procedures)	AOM-0605 (RNP transition to GLS/ILS)
	SPC03.02 Airborne Spacing and Separation	OFA03.02.01 ASPA S&M					TS-0105-A
	SPC04.01 Traffic Synchronization	04.01.02 Enhanced Arrival & Departure Management in TMA and En Route				TS-0305-A	TS-0303 TS-0103
		04.01.01 Integrated Arrival/Departure Management at Airports				TS-0202 TS-0308	TS-0309 TS-0203
Moving from Airspace to 4D Trajectory Management	SPC03.01 4D Trajectory Management	03.01.04 Business and Mission Trajectory					AUO-0203-A (Extended Flight Plan)
		03.01.03 Free Routing					AOM-0500 AOM-0501
Conflict management and automation	SPC03.03 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-0207-A CM-0201-A
		OFA03.03.02 Ground Based Separation Provision in the TMA					
	SPC03.04 Air Safety Nets	OFA03.04.01 Enhanced Ground Based Safety Nets	CM-0811		CM-0807-A		
		OFA03.04.02 Enhanced ACAS Operations	CM-0803			CM-0802	
Complementary Activities	SPC06.03 CWP Airport	06.01.01 CWP Airport					
	SPC06.03 Remotely provided Air Traffic Services for aerodromes	06.03.01 Remote Tower			SDM-0201 (Small size airports)	SDM-0205 (Small size airports)	SDM-0201 (Medium airports) SDM-0204
	ENB02.01 SWIM	ENB02.01.01 SWIM					IS-0901-A
		ENB02.01.02 AIM/MET					MET-0101 IS-0201-A
	ENB03.01 TMF	ENB03.01.01 Trajectory Management Framework and System Interoperability with air and ground data sharing		IS-0301			
							IS-0303-A (EPP)

3.2.1 Programme Achievements by Business Needs

3.2.1.1 Priority Strategic Business Need: Airport Integration and Throughput

Release 4 OFA01.01.01 - LVP using GBAS

OFA contents
Ground Based Augmentation System (GBAS) Operational Implementation from (airport) CAT I to initial and full CAT II/III capability
Bad weather conditions reduce runway and therefore airport capacity. Landing rate resilience suffers from weather conditions, particularly in low-visibility conditions. This forces constraints on scheduled demand and can lead to delays and flight cancellations.

Related OI : AO-0505-A
Use GBAS CAT II/III based on GPS L1 for precision approaches

The main benefit is the increased runway capacity in poor weather conditions as the glide path and azimuth signals will face hardly any interference from previous landing aircraft or other obstacles.
More sustained accuracy in aircraft guidance on final approach.

Achievement	Increased runway throughput in low visibility operations thanks to the use of GBAS stations (Ground Based Augmentation System based on GNSS) enabling Cat II/III approaches.	V3
Deliverables	VALR, OSED, TS.	
Contributing Projects	06.08.05, 09.12, 15.03.06, 03.03.03	
Contributing AU(s)	(TBC)	

Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-06.08.05-VP-563	AO-0505-A	Real Time Simulation	ECTRL eDEP Brétigny	N/A	October 2014
EXE-15.03.06-VP-236	AO-0505-A	Flight Trial	DSNA Blagnac GBAS Airbus Flight test Aircraft	15.03.06-D10-THALES-GBAS ground station, THALES. 09.12-AIRBUS-Airborne GBAS CAT2-3 capability, AIRBUS	October 2014

3.2.1.2 Priority Strategic Business Need: Network Collaborative Management and Dynamic/Capacity Balancing

Release 4 OFA 05.03.04 - Enhanced ATFCM processes

OFA contents
Evolution of Demand Capacity Balancing (DCB) process (including Dynamic DCB processes) and systems from today's Air Traffic Flow Capacity Management (ATFCM) baseline towards the SESAR Target Operational Concept. The process is single continuous and seamless covering all phases of the Network management Planning Phase and fully integrated with the planning and execution aspects of airports, en-route environment and airspace users.

Definition of metrics and algorithms for predicting, detecting and assessing traffic complexity, at short-term planning and execution phases, and development of new associated functionalities to asses Dynamic Airspace Management and Resource Allocation measures e.g. dynamic sector configuration, Multi Sector Planning allocation and Traffic Management measures (e.g. re-routing, level capping) to solve complexity problems. This includes the definition and refinement of associated processes, roles, responsibilities, functionalities and information exchanges required to perform Complexity Management activities.

Related OI CM-0103-A; DCB-0308

CM-0103-A
Automated tools continuously monitor sector demand and evaluate traffic complexity (by applying predefined complexity metrics) according to a predetermined qualitative scale. Forecast complexity coupled with demand enables ATFCM to take timely action to adjust capacity, or demand profiles through various means, in collaboration with ATC and airspace users

DCB - 0308
ATFCM Measures relying on improved predictability enable ANSPs to adopt and improve the tactical capacity management procedures to optimise traffic throughput (with the use of Short Term ATFCM Measures -STAM). The tactical capacity management procedures will be supported by automated tools for hot spot detections in the network view, and for promulgation and implementation of STAM including CDM. These tools are envisaged to be at local and regional network management function level for information sharing and CDM. dDCB is a high confidence measure with primary focus on local planning at Tactical level applied to current flight plan pre or post departure.

Advanced ATFCM measures are built on the basis of STAM deployment (hotspot, coordination tool, occupancy traffic monitoring values (OTMV)). The enhancements foreseen focus on improved predictability of operations, including iSBT/iRBT supported traffic and complexity prediction, weather, airport operations (departure sequences, ground handling, gate management, runway usage, etc.), What-if function and network view capabilities

Achievement	Validated procedures and tool for a complexity prediction based on statistical analysis of historical data. Validated process for STAM (operational procedure, roles & responsibilities, tooling supporting co-ordination workflow).	V3
Deliverables	VALR, OSED, SPR, INTEROP, TS.	
Contributing Projects	04.07.01, 10.08.01, 13.02.03, 03.03.02, 03.03.03.	
Contributing AU(s)	TBD	

Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-04.07.01-VP-002 *	CM-0103-A CM0201-A	Shadow Mode	DSNA Coflight-Based IBP, Toulouse	10.08.01-D07-THALES	October 2014
EXE-07.03.02-VP-522 *	DCB-0308 DCB- 0103-A	Live trial	ECTRL ENMVP Brussels or Brétigny	13.02.03-ECTRL 13.02.03-D81-NATS	October 2014

Release 4 OFA 05.03.01 - Airspace Management and AFUA

OFA contents
Harmonised design of ad hoc airspace structures, definition of procedures for sharing airspace or those ad hoc structures and their context of use, taking into account the military's need for flexibility with regard to meteorological and/or operational constraints. Optimization of the trade-off between civil and military requirements by defining the types of airspace structures and the reservation processes (CDM) that will facilitate the sharing of airspace between civil and military airspace users.

Related OI AOM-0202; AOM- 0206-A

AOM-0202
Real-time coordination is further enhanced through what-if functionalities and automated support to airspace booking and airspace management (e.g. integrated toolset allowing Airspace Military Cells (AMC)and other parties to design, allocate, open and close military airspace structures on the day of operations).

AOM-0206-A
The activation of ad hoc airspace configurations (Airspace REServation ARES) within predefined structures at short notice is offered to respond to short-term airspace users' requirements. In step 1, changes in the airspace status are not uplinked to the pilot yet but are shared with all other concerned airspace users by the system, i.e. Network Manager (ASM and ATFCM functions), ANSPs, civil and military Airspace Users (FOC/WOC).

Achievement	Enhanced real-time civil military coordination for airspace use based on real-time data exchange between ASM support system, NM systems and ATC system. Validated procedures for a modular planning and activation of the ARES based on Variable Profile Area principle.	V3
Deliverables	VALR	
Contributing Projects	07-05-04	
Contributing AU(s)	*TBD*	

Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-07.05.02-VP-710	AOM-0202 DCD-0103-A AOM-0204	Live Trial	ECTRL NMVP,Bretigny DFS ENR IBP Langen 1	13.02.01-TBD-DFS-STANLY ACOS, INDRA 13.02.01-TBD-DFS-STANLY ACOS, ECTRL	Postponed to Release 5
EXE-07.05.02-VP-717	AOM-0206-A	Fast Time Simulation	ECTRL SAAM,Bretigny	ECTRL-NEST	Executed in January 2015

Release 4 OFA 05.03.06 - UDPP

OFA contents
Design and development of a feasible User Driven Prioritization Process (UDPP) and associated procedures and technology ensuring its conformity with Airspace Users Needs and considering ATM constraints

Related OI : AUO-0101-A

The swapping of regulated flights on departure, on arrival, and en-route, that is already possible for the flights of the same Airspace User (AU) sharing the same Most Penalising Regulation (MPR), will be extended to all regulated flights without any constraints due to AU. Changing of flight priority between 2 flights where at least one flight is not regulated will also be possible. The AUs requests for these changes in flight priority will be introduced at the initiative of the AUs themselves, of the airport authorities or of the Network Management function. The Network Management function may propose ATFM slot exchanges that satisfy the network performance targets. The Network Management function will supervise the swapping or changing of flight priority requests

Achievement	Enhanced Slot Swapping service enabling slot swap between different Airlines.	V3
Deliverables	VALR	
Contributing Projects	07.06.02	
Contributing AU(s)	*TBD*	

Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-07.06.04-VP-712	AUO-0101-A DCB-0103-A	Real Time Simulation & Live Trial	*ECTRL NMVP*	*07.06.02*	To be executed in February 2015

3.2.1.3 Priority Strategic Business Need: Traffic Synchronisation

Release 4 Multi-OFA Integrated Validation
OFA04.01.02 Enhanced Arrival & Departure Management content
Extension of arrival management horizon into the En-Route phase including the arrival management for multiple airports and the integration of departing traffic from airports within the extended arrival management horizon, especially in complex Terminal Manoeuvring Areas (TMAs).

OFA03.02.01 ASAS Spacing content
Development and consolidation of the "Airborne SPacing Sequencing & Merging Application" (ASPA S&M), including full integration of lateral and vertical aspects with the longitudinal dimension and Controller Pilot Data Link Computer (CPDLC) from both air and ground perspectives, and its combination with Arrival Management, Continuous Descent Approach and a P-RNAV route structure

Related OI: TS-0103; TS-0105-A; TS-0305-A

TS-0103
All ATM partners work towards achieving Controlled Time of Arrival (CTA) with enhanced accuracy to optimize arrival sequence. Datalink may be used in some cases.
The CTA is an ATM imposed time constraint on a defined merging point associated to an arrival runway. The CTA (which may include wake vortex optimisation) is calculated after the flight is airborne taking into account the on-board Estimate Time of Arrival (ETA) min/max report and published to the relevant controllers, arrival airport systems Arrival Management (AMAN) System and feedback or any update to the Stand allocation management, Taxi-in profile, user systems and the pilot.

TS-0105-A
The ASAS Sequencing and Merging applications require the flight crew to achieve and maintain a given spacing with designated aircraft, as specified in a new ATC instruction. The spacing could be in time or distance. Although the flight crew is given new task, separation provision is still the controllers' responsibility and applicable separation minima are unchanged. The three applications envisaged for step 1 are Remain behind, Merge behind and an instruction of Path stretching still to be defined in details. Linked to CONOPS. E.2.6.2.3.3

TS-0305-A
'The system integrates information from arrival management systems operating out to a certain distance (beyond the typical Step 0 E-TMA horizon into En-Route) to provide an enhanced and more consistent arrival sequence. The system helps to reduce holding by absorbing some of the queuing time further upstream well into En-Route. In Step 1, the "newly" impacted En-Route sectors are expected to contribute to the sequencing towards a single TMA

Achievement	Enhanced Arrival Management procedures thanks to the integration of Airborne Spacing manoeuvres in an i4D+CTA and AMAN Extended Horizon environment.	V3
Deliverables	VALR, TS	
Contributing Projects	05.03, 09.01, 09.05, 10.03.02, 10.04.04, 10.10.03, 03.03.02, 03.03.03	
Contributing AU(s)	*TBD*	

Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-05.03-VP-708	TS-0103 TS-0105-A TS-0305-A	Real Time Simulation	ENAV IBP Rome AIRBUS Integration Simulator, Toulouse	10.03.02-D27-SELEX-ASPA S&M 10.04.04-D11-SELEX-TBS 10.10.03-D65-SELEX-CWP 09.05-D18-AIRBUS 09.01-D23-AIRBUS-Integrated Airborne i4D simulator II	To be executed in February 2015

Release 4 OFA 04.01.01 - Integrated Arrival/Departure Management

OFA contents
Development of coupled Arrival Management (AMAN) and Departure Management (DMAN) functions integrating surface management constraints

Related OI: AO-0303; TS-0202; TS-0308

AO-0303
The application of time based wake turbulence radar separation rules on final approach (TBS) provides a consistent time spacing between arriving aircraft in order to maintain runway approach capacity independently of any headwind component. The final approach controller and the Tower runway controller are to be provided with the necessary TBS tool support to enable consistent and accurate delivery to the TBS rules on final approach. The minimum radar separation and runway related spacing constraints will be required to be respected when applying the TBS rules.

TS-0202
Pre-Departure management has the objective of delivering an optimal traffic flow to the runway. Accurate taxi time forecasts provided by route planning are taken into account for Target Start up Approval Time (TSAT)-Calculation while the flight is off-block. Pre-Departure sequence (TSAT sequence) is set up by Tower Clearance Delivery Controllers who will follow TSAT-window when issuing start-up approval.

TS-0308
Integrated Arrival and Departure management aims at increasing throughput and predictability at an airport by improved co-ordination between Approach and Tower controllers. Arrival and Departure flows to the same runway (or for dependent runways) are integrated by setting up fixed arrival-departure pattern for defined periods. The successive pattern might be chosen by the operators or provided by an optimization algorithm considering arrival and departure demand. Departure flow to the runway is managed by pre-departure sequencing (integrating route planning) while arrival flow to the runway is managed by arrival metering.

Achievement	Enhanced pre-departure sequence established thanks to the integration of arrival and departure flows situation set up through the combined use of AMAN, DMAN, A-SMGCS and TBS.	V3
Deliverables	VALR, OSED, SPR, INTEROP	
Contributing Projects	06.08.04	
Contributing AU(s)	*TBD*	

Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-06.08.04-VP-453	AO-0303 TS-0202 TS-0308	Shadow Mode	NATS CTC,Gatwick	06.08.04-NATS (BARCO/ATRICS)	October 2014

Release 4 OFA 04.01.02 - Enhanced Arrival & Departure Management

OFA contents
Extension of arrival management horizon into the En-Route phase including the arrival management for multiple airports and the integration of departing traffic from airports within the extended arrival management horizon, especially in complex Terminal Manoeuvring Areas (TMAs).

Related OI :TS-0103; TS-0305-A

TS-0103
All ATM partners work towards achieving Controlled Time of Arrival (CTA) through use of datalink and with enhanced accuracy to optimize arrival sequence.
The CTA is an ATM imposed time constraint on a defined merging point (in the airspace close to the airport) associated to an arrival runway. The CTA (which may include wake vortex optimisation) is calculated after the flight is airborne taking into account the on-board Estimate Time of Arrival (ETA) min/max report, and published to the relevant controllers, arrival airport systems AMAN System and feedback or any update to the Stand allocation management, Taxi-in profile , user systems and the pilot.

TS-0305-A
The system integrates information from arrival management systems operating out to a certain distance (beyond the typical Step 0 E-TMA horizon into En-Route) to provide an enhanced and more consistent arrival sequence. The system helps to reduce holding by absorbing some of the queuing time further upstream well into En-Route. In Step 1, the "newly" impacted En-Route sectors are expected to contribute to the sequencing towards a single TMA

Achievement	Validated operational procedures (for ATCO and Flight Crews) for the use of the i4D+CTA concept in the TMA environment. It encompasses the use of an Extended AMAN Horizon for cross-border arrival management.	V3
Deliverables	VALR, OSED, TS	
Contributing Projects	05.06.01, 05.06.04, 05.06.07, 09.01, 10.02.01, 10.07.01, 10.09.02, 03.03.02, 03.03.03	
Contributing AU(s)	*TBD*	

Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-05.06.01-VP-478	TS-0103	Flight Trial	NORACON IBP Thales,Malmö AIRBUS Flight Test Aircraft	09.01-D23-AIRBUS-Integrated Airborne i4D simulator II 10.07.01-D12-THALES-ATS Datalink	March 2014
EXE-05.06.07-VP-695	TS-0305-A	Live Trial	DSNA TBD,Reims	10.09.02-D08-THALES-AMAN	December 2014
EXE-04.03-VP-472*	TS-0103	Flight Trial	AIRBUS Flight Test Aircraft ECTRL MUAC	09.01-D23-AIRBUS-i4D Test Aircraft 10.07.01-D11 (updated for Step C)-INDRA-ATS Datalink 10.07.01-D44 (updated for Step C)-ECTRL-ATS Datalink	March 2014

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

No exercises were foreseen in Release 4

3.2.1.5 Priority Strategic Business Need: Conflict management and automation

Release 4 OFA 03.04.02 - Enhanced ACAS

OFA contents
Upgrade and enhancement of Airborne Collision Avoidance System (ACAS) by using trajectory information. Introducing ACAS modification including those for use in future separation modes through:
* modifying autopilot laws for altitude capture (reducing the number of nuisance ACAS Resolution Advisories (RAs));
* linking ACAS to auto-flight systems;
* using of Automatic Dependent Surveillance Broadcast (ADS-B) information by airborne Safety NET (SNETs);
* paving the way to global standardization within ICAO in coordination with NEXTGEN (USA Programme).

Related OI: CM-0802
Controllers are automatically informed when ACAS generates an RA (resolution advisory). This improvement is intended to complement the voice report by the pilot.

Achievement	Set of Requirements for ACAS X adaptation to European future operations relying on quantitative safety benefits analysis. Requirements (on operational procedures and CWP support) for ACAS RAs downlinked information display on Controller Working Position (CWP).	V3
Deliverables	VALR, OSED	
Contributing Projects	04.08.02, 04.08.03, 10.04.03, 03.03.02, 03.03.03	
Contributing AU(s)	*TBD*	

Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-04.08.03-VP-066	CM-0802	Real Time Simulation	1. DFS ENR IBP Langen 1, Frankfurt	TBD, INDRA	To be executed in January 2015

Release 4 OFA 03.03.01 - Ground Based Separation Provision in En Route

Describe OFA contents
Design, development and validation of an Automated Support tool chain (complementary set of conflict detection and resolution tools) for assisting ATC in aircraft trajectory conformance monitoring and preventing, detecting and resolving conflicts in En Route and Terminal Area Operations

Related OI : CM-0205
The system provides real-time assistance to the En route controllers in conflict detection and resolution using trajectory data in Predefined or User Preferred Routes environments and provides resolution support information based upon predicted conflict detection and associated monitoring features.
The objective is to provide the controller (Planner or Tactical) with an automated Conflict Detection and Resolution tool using an enhanced Trajectory Prediction model through the use of improved data (e.g. extended flight plan data, real-time on board trajectory data, met data). Trajectory data may be made available via extended flight plans and new IOP capabilities

Achievement	Enhanced Medium Term Conflict detection and resolution tools and functions provided to Planning and Tactical controllers operating in an En-Route sector and considering i4D flights and mixed flights, and what-if capability.	V3
Deliverables	VALR	
Contributing Projects	04.07.02, 10.04.01, 03.03.03	
Contributing AU(s)	*TBD*	

Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-04.07.02-VP-500	CM-0205	Real Time Simulation	NATS CTC	10.04.01-TBD-INDRA	Downgraded as V2 activity, this exercise will be executed in April 2015 It will be a preparatory exercise for Exe 501 covering the same objectives and part of Release 5

3.2.1.6 Other Validation Exercises

Release 4 OFA 02.02.04 - Approach Procedures with Vertical Guidance

OFA contents
Development and consolidation of improved approach procedures, including vertical guidance e.g. APV SBAS and improved lateral performance for supporting curved and segmented approaches.

Related OI : AOM-0605
Advanced transitions with curved procedures connecting directly to the final approach can provide improved access in obstacle rich environments and can reduce environmental impact.

Achievement	Enhanced Terminal operations based on automated RNP transition to LPV thanks to improved flight procedures and upgraded avionics support for regional airplane.	V3
Deliverables	VALR, OSED, SPR, INTEROP, TS	
Contributing Projects	05.06.03, 09.10	
Contributing AU(s)	*TBD*	

Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-05.06.03-VP-483	AOM-0605	Flight Trial	ALENIA ATR-Aircraft Research Simulator,ALENIA Flight Test Center	09.10-D11, THALES	May 2014

Release 4 OFA 06.01.01 - CWP Airport

OFA contents
Integration of the different systems and elements from the airport air side into one homogenous set of configurable and customizable Tower Controller Working Position (CWP) and development of associated operational procedures, accommodating the wide range of controller's skill levels and experience.

Related OI : AO-0208-A
The integration and exploitation of new ATC functions such as routing, guidance, virtual stop bars (during LVP), BTV and alerts, with current elements such as surveillance and Electronic Flight strips into an Advanced Integrated Controller Working Position (A-ICWP) will result in enhanced situational awareness for ATCOs and flight crews, improved safety nets and will integrate the Tower with external units such as the TMA and the Network.

Achievement	Validation of integrated CWP HMI functions for airport considering new features for surface management operations (focussing on routing and guidance, Airport Ground Light procedures and D-TAXI).	V3
Deliverables	VALR, OSED	
Contributing Projects	06.09.02, 12.05.04, 03.03.02	
Contributing AU(s)	*TBD*	

Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-06.09.02-VP-678	AO-0208-A	Real Time Simulation	ECTRL eDEP, Bretigny	12.05.04-D05-FREQUENTIS/ DFS	December 2014

Release 4 OFA 06.03.01 - Remote Tower

OFA contents
Development and assessment of an operational concept that enables the cost effective provision of Air Traffic Services (ATS) at one or more airports from a control facility that is not located in the local ATS Tower.

Related OI : SDM-0201; SDM-0205
SDM-0201
Aerodrome Control Service or Aerodrome Flight Information Service for an aerodrome is provided from a remote location, i.e. not from a control tower local to the aerodrome. The Air Traffic Controller Officer (ATCO) or Aerodrome Flight Information Service Officer (AFISO) in this facility performs the remote ATS for the concerned aerodrome.

SDM-0205
Aerodrome Control Service or Aerodrome Flight Information Service for more than one aerodrome is provided by a single ATCO/AFISO from a remote location, i.e. not from a control tower local to any of the aerodromes. The ATCO (or AFISO) in this facility performs the remote ATS for the concerned aerodromes.

Achievement	Validated Remote Tower ATS procedures for a single airport in the Core Area. Validated Remote Tower AFIS procedures for Multiple Airports.	V3
Deliverables	VALR	
Contributing Projects	06.08.04, 06.09.03, 12.04.07	
Contributing AU(s)	*TBD*	

Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-06.08.04-VP-639	SDM-0201	Shadow Mode	DFS TBD		Downgraded as V2 activity, this exercise will be executed in April 2015 It will be a preparatory exercise for Exe 640 covering the same objectives and part of Release 5
EXE-06.09.03-VP-063	SDM-0205	Shadow Mode	NORACON IBP SAAB,Vaeroy / Bodö	12.04.07-D15-NATMIG	December 2014

Release 4 ENB02.01.02 AIM/MET OFA contents The objective is to improve the quality and the usability of the aeronautical and meteorological information presented to the pilot, flight dispatchers and air traffic controllers for all phases of flight, through the use of digital aeronautical data (including Digital NOTAM) and digital MET data. The provision of digital data shall radically enhance the information services and products: easier to understand, better filtered, in-flight updates, workload reduction. **Related OI:** IS-0204 - Facilitated Aeronautical Data Exchanges through Digitalised/Electronic Information IS-0901-A - SWIM for Step1 IS-0201-A - Digital Integrated Briefing		
Achievement	Digitally enhanced pre-flight briefing services (ePIB) thanks to the provision of Digital NOTAM and digital MET data.	V3
Deliverables	VALR	
Contributing Projects	13.02.02	
Contributing AU(s)	*TBD*	

Exercise	OIs	Validation Technique	Validation Platform	Prototype	Exercise Completed
EXE-13.02.02-VP-462	-	Live Trial	FREQUENTIS Vienna	13.02.02-D13-FREQUENTIS	December 2014

3.3 Release 5 definition

The definition of Release 5 started in mid-2014 to ensure the continuous progress of the Research and Innovation activities; this Release extends over 2015 and 2016 and is the last of the SESAR 1 Programme.

As described in the "Release 5 Plan V1.0", Release 5 has been endorsed by the Administrative Board at its meeting on December 11th enabling to launch its execution early 2015. The definition and content of the different validation exercises that are proposed to be part of Release 5 have been assessed by SJU from a quality perspective to ensure they will achieve the expected objectives.

Release 5 addresses **33** potential SESAR Solutions (including Initial SWIM elements) validated through **38** exercises (among which 1 is moved from Release 3 and 1 is moved from Release 4). Release 5 covers **44** OIs belonging to **13** OFAs & **2** ENs included in the **5** Priority Business Needs. This is further described in the SJU Annual Work Programme 2015.

3.4 Programme achievements: results by WPs

As already mentioned, in order to ensure the adequate functioning and supervision of the R&I activities, the Programme is organised in Work Packages (WPs), Sub-Work Packages and Projects (fig.3).

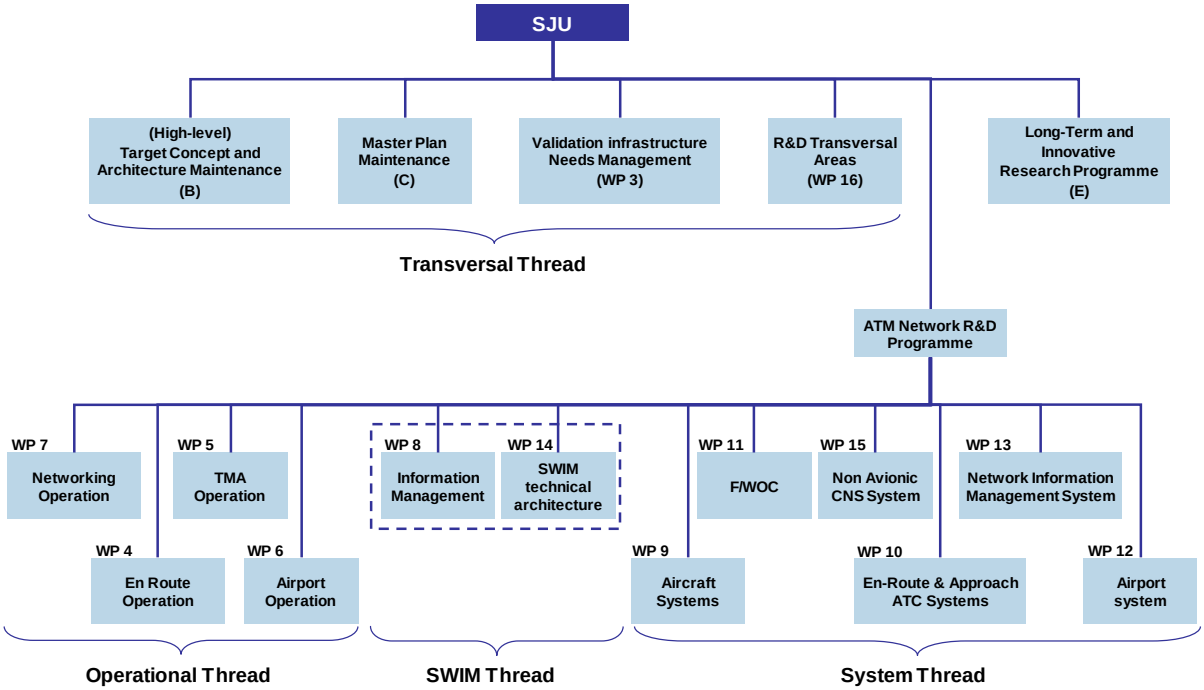


Fig.3.

In detail, the Programme is split in 4 different threads:

- Operational considerations are addressed under WPs 4, 5, 6 and 7,
- System considerations are addressed under WPs 9, 10, 11, 12, 13 and 15,
- System Wide Information Management considerations are addressed under WPs 8 and 14,
- "Transverse activities", such as validation infrastructure, development of safety, security, environment and human performance cases, European ATM Master Plan, Target concept and architecture maintenance, are dealt by a number of additional WPs (i.e. B, C, 3, 16).

The figure below (fig.4) refers to the advancement status (actual versus plan) of the WPs as of 31 December 2014. The Programme progress status is regularly monitored at the level of the Programme Control Group and Programme Committee ensuring that assessments are conducted at due time and corrective actions taken.

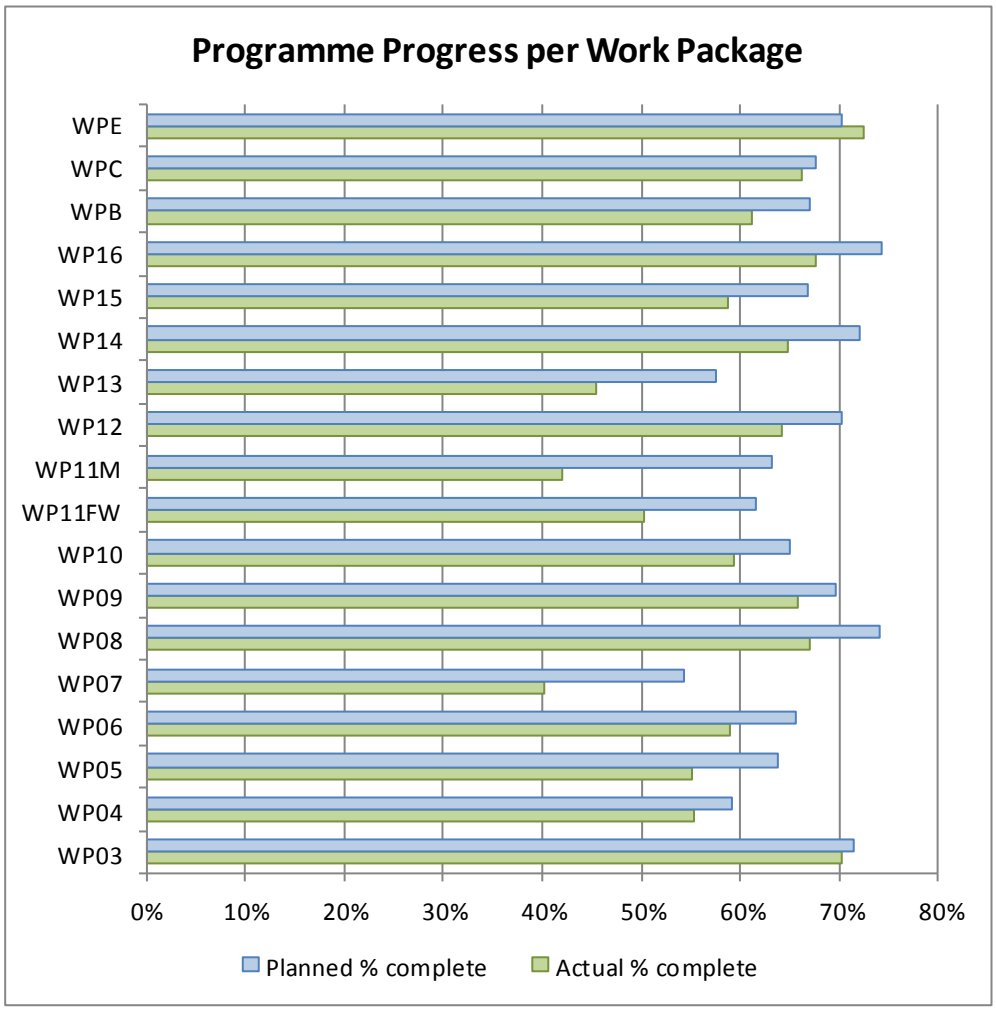


Fig.4.

Some WPs are in line with their plan, the majority show a limited delay, partly due to lower resources availability (see section 4.2). Few of them show more delay where the development of operational requirements and concepts in the context of operational projects required deeper work and analysis compared to the initial expectations, to allow the identification of the most adequate, effective and efficient solutions. As a consequence, it was possible to produce technical specifications only at the completion of the operational work with some cascading effect on the system projects (see Work Packages detailed analysis). In the same context, this created some bottleneck in the development and validation of prototypes, where some industry partners experienced simultaneous demands for prototypes and platforms to support operational validations – in some cases, these platforms were also used to support operational testing.

The Reallocation 2013 was decided and subsequently implemented in 2014 exactly to address the need to re-focus the efforts and resources in the areas where weaknesses were identified. This decision allowed filling some resource gaps and re-aligning actual completion with plan. In particular, following the last re-allocation of 2013, WP7 and WP 13 have been merged to address this situation and mitigate the risk of delay propagation in the domain of Network Management Operations and Systems; this new structure was implemented in 2014.

3.4.1 WP 3 – Validation Infrastructure Adaptation and Integration

Scope

The scope of WP3 is defined by the evolution of required Industry-Based/Pre-Operational Verification and Validation Platforms to include simulation, shadow mode and/or live trials capabilities. Combined with the connection/integration of the necessary test tools, this allows these platforms to be used for verification and validation activities.

WP3 also has the responsibility of SESAR Verification and Validation Infrastructure (V&VI) that includes the set of preparation/analysis tools, Validation and Verification facilities, and test equipment.

Objectives

The objective of WP3 is to support the SESAR Partners and the Operational and Technical Threads to properly define and coordinate the timely evolution and setting up of Verification and Validation Platforms along with the required support to adaptation and integration of the relevant tools and prototypes focusing on V2 and V3 maturity phases.

2014 Report

WP3 continued to take an active part in the collection of information for the V&V Roadmap as well as supporting SJU in the analysis of completeness, correctness and coherency of the V&V data. In the context of Release 4, WP3 led successfully the System Engineering Review 2 following the validation exercises life cycle. WP3 supported SJU in the definition of the Release R5 exercises and prepared the R5SE#2 guidance taking into account the increased exercises complexity and the increased number of candidate exercises.

For validation exercises (either R4 or no-release exercises) WP3 has been supporting operational, system and transversal projects at different stages of the validation chain by:

- capturing the V&V needs,
- supporting the development and/or the adaptation of the Validation Industrial Platforms (IBPs), the V&VI infrastructure and the measurement tools,
- integrating the prototypes made available by the primary system projects into the IBPs, doing their technical acceptance in order to ensure their readiness for validation exercise execution.

In Release 4, for the first time, WP3 assessed 3 exercises SWIM enabled in the SE#2. The lessons learnt from these exercises have been considered by the SJU in the preparation of guidance material for the R5SE#2 and for the SWIM enabled exercises in general.

WP3 has established recognised system engineering and information methodology within the programme for all aspects linked to the V&V Platforms evolution, including its verification. The steadily increasing number of projects requesting for WP3 support for their validation activities confirms it.

The activities planned by WP3 were conducted in due time and quality, the planned tasks progress being continuously monitored.

The list of deliverables made available to the SJU for assessment is in Annex 2.

3.4.2 WP 4 – En-Route Operations

Scope

The scope of Work Package (WP) 4 is to provide the operational concept description for the En Route Operations and perform its validation. The term "En Route" includes both 'continental' and 'oceanic' applications. Also, the applications of 4D and performance-based operations are seen as a cornerstone of future En-route operations.

Objectives

The objectives of WP4 are to:

- Develop, refine and update the En Route concept, based upon the SESAR CONOPS and ensure consistency with other elements of the work programme,
- Define and perform the necessary validation activities including operability, safety & performance assessment at all levels;
- Demonstrate the operational feasibility of the En Route Operations concept in a complete ATM environment (including systems) in order to:
    - Improve the provision of the Separation service through the development of concept using advanced RNP capabilities, full aircraft capabilities in terms of 4D while optimizing the controller work (evaluating the concept of Multi Sector Planners for improve sector productivity);
    - Improve the ground safety nets functionalities considering the proposed operational functionalities such as used of Downlink Aircraft Parameters, or the improved air-ground collaboration;
    - Improve the airborne safety nets in order to reduce false alerts and to consider latest evolutions.

These objectives are being achieved through a portfolio of 16 R&Iprojects.

2014 Report

One of the major achievements in 2014 is the launch of a new project dealing with General Aviation and Rotorcraft operations (P04.10). In addition the 4 OFAs under WP 04 coordination have made significant improvement:

- ENB 03.01.01 Trajectory Management Framework & System Interoperability with air and ground data sharing has clarified its scope and objective; it is now an Enabling capability supporting all other OFA in WP04 & WP05 rather than a standalone OFA; Major non-regression validation of existing Interoperability capability have been validated using the new Flight Object (SWIM Yellow profile based);
- OFA 03.03.01 Ground Based Separation Provision in En-Route has clarified the 2 SESAR solutions it is targeting to matured:
    - MTCD and conformance monitoring tools and Automated Assistance to Controller for Seamless Coordination,
    - Transfer and Dialogue through improved trajectory data sharing;
- OFA 03.04.01 Enhanced Ground Safety Nets has finalised its work on 'Enhanced Ground-based Safety Nets using Mode S EHS data' and 'Display and Use of ACAS RAs downlinked on the Controller Working Position';

- OFA 03.04.02 Enhanced ACAS has actively contributed to the maturity of ACAS X solution in cooperation with FAA.

With all projects in their execution phase (4.7.4-a, 4.7.5 and 4.8.4), 2014 has seen the continuation of the definition of V2 and V3 requirements through the publication and the delivery of OSED and SPR for all En Route functionalities (Operational Improvements).

Several validations (V2 and V3) of these requirements have been performed e.g. Complexity Assessment and Resolution, Controlled Time of Arrival with i4D, Enhanced Ground Safety Nets, Sector Team Operations for Multi Sector Planner, System Interoperability with Air and Ground Data Sharing for ATC to ATC Interoperability. These validation exercises were performed in cooperation with WP10 system mirror projects and some WP9 projects.

Large number of these validation activities was part of the Release 4, where a series of exercises were performed involving MUAC platform (for i4D), DFS platform (for ACAS RA), DSNA platform (for Complexity Assessment) and multi-platform interconnection between MUAC, DSNA and DFS (for IOP validation). The initial results of these exercises have been encouraging, with further exercises to take place in 2015 to finalise the maturity of the concepts.

WP 04 contributed to key SESAR Solutions leading implementation such as:

- Complexity prediction based on statistical probability ;
- Display and Use of ACAS RAs downlinked on the Controller Working Position.

The engagement of the Airspace Users and Staff Association's representatives within projects and validation exercises has been fruitful, with positive feedback from both projects and the representatives concerned.

The quality of deliverables submitted by WP4 projects has improved significantly in 2014 with the vast majority having been assessed by the SJU as either Green (no reservation) or Amber (minor clarification or amendment required).

The list deliverables made available to the SJU for assessment is in Annex 2.

3.4.3 WP 5 – TMA Operations

Scope

Work Package 5 manages and performs all Research, Development and Validation activities required to define the Terminal Manoeuvring Area (TMA) ATM Target Concept (i.e. Concept of Operations, System Architecture & enabling technologies). This covers all phases of planning and execution of flights/trajectories and the identification of supporting technical systems/functions necessary for TMA Operations. TMA Operations are considered as those from 'top-of-descent' until landing and from take-off until 'top-of-climb'. Also, the applications of 4D, time-based operations are seen as a cornerstone of future TMA and En-route operations.

Objectives

The objectives of WP5 are to:

- Refine the concept definition at TMA operational context level and for co-ordinating and consolidating the various projects and sub work packages that encompasses Terminal Airspace Operations;
- Define and perform the necessary validation activities including operability, safety & performance assessment at all levels;
- Demonstrate the operational feasibility of the TMA Operations concept in a complete ATM environment (including systems);
- Consider the potential for operational trials and the early introduction of SESAR Concepts in a TMA environment;
- Develop, refine and update the TMA concept, based upon the SESAR CONOPS and ensure consistency with other elements of the work programme;
- Define and perform the necessary validation activities including operability, safety & performance assessment at all levels;
- Demonstrate the operational feasibility of the TMA Operations concept in a complete ATM environment (including systems) in order to:
    - Improve the Traffic Synchronisation service through the development of concept using advanced RNP capabilities, full aircraft capabilities in terms of 4D while optimizing the controller work by evaluating the concept of Multi Sector Planners for improve sector productivity;
    - Improve the Vertical Profile management functionalities considering the RNAV aircraft capabilities;
- Improve the Controller Working Position for both En Route and TMA Operations.

2014 Report

With all projects in their execution phases (included 5.7.3 that started by end of 2014), 2014 has seen the continuation of the definition of V2 and V3 requirements through the publication and the delivery of OSED and SPR for all TMA functionalities (Operational Improvements).

In previous years, 2 projects have already been closed after having achieved their scope of work:

- P 05.05.02 (Improved Airline Flight Plan Information into ATC Trajectory Prediction (TP) tools), and
- P 05.07.04 (Full Implementation of PRNAV in TMA).

Several validations (V2 and V3) of Controlled Time of Arrival with i4D, Extended AMAN Horizon, LPV procedures, ASAS Sequencing & Merging have been performed. These validation exercises were performed in cooperation of WP10 system mirror projects and some WP9 projects.

Several of these validation activities were part of the Release 4, where a series of exercises were performed involving Noracom, MUAC and ENAV platforms coupled with airborne platform but also live trials with DSNA platform. The initial results of these exercises have been encouraging, with further exercises to take place in 2015 to deliver robust SESAR solutions.

The consolidation at OFA level, for example, for common requirements has significantly progressed in 2014, in particular, for the very complex OFA 04.01.02 (Enhanced Arrival and Departure Management) and the newly re-organised OFA 02.01.01 (Optimized 2D/3D Routes).

WP 05 contributed to key SESAR Solutions leading to implementation such as:

- Extended AMAN;
- Approach Procedure with Vertical Guidance;

The engagement of the Airspace Users and Staff Association's representatives within projects and validation exercises has been fruitful, with positive feedback from both projects and the representatives concerned.

The quality of deliverables submitted by WP5 projects has continued to be of a high standard, with the vast majority having been assessed by the SJU as either Green (no reservation) or Amber (minor clarification or amendment required).

The list of deliverables made available to the SJU for assessment is in Annex 2.

3.4.4 WP 6 – Airport Operations

Scope

The Airport Operations Work Package is addressing developments associated with the 'airside' elements of airport operations. To ensure effective planning and management, 'landside' elements (such as passenger and baggage handling) are also being taken into consideration, but with associated developments being undertaken outside SESAR.

Objectives

The objectives of WP6 are to:

- Develop, refine and update the Airport Operations concept, based upon the SESAR CONOPS and ensure consistency with other elements of the work programme,
- Develop collaborative airport planning, including development of the Airport Operations Plan (AOP) and of the Airport Operations Centre (APOC), as well as improvements to Airport CDM,
- Improve the management of airport surface traffic (which includes aircraft and vehicle traffic) through the definition of safety nets to prevent conflicts and collisions, as well as the better routing, guidance and tactical planning of traffic movements under all weather conditions,
- Improve runway management through enhanced procedures, dynamic separations (including wake vortex) and the definition of associated system operational requirements (both ground and airborne). The focus is on improving runway throughput at all times, whilst preventing runway incursions and reducing queuing,
- Improve the provision of aerodrome control services at remote or small airports through the development of concepts for 'remote and virtual towers'

These objectives are being achieved through a portfolio of 17 R&I projects.

2014 Report

2014 saw the refinement of the operational concept and many validation activities allowing most of the R&I topics in WP06 to reach full V2 maturity level and sometimes V3. All the operational projects, within their respective OFA, consolidated their V&V roadmap until the end of SESAR 1, identifying the SESAR Solutions that should come out of Release 5.

In the Low Visibility Procedures (LVPs) using Ground-Based Augmentation System (GBAS) OFA, a real time simulation confirmed the operational benefits of using GBAS based on GPS L1 for precision approaches in CAT II/III. In parallel, two series of flight trials at Frankfurt and Toulouse airports demonstrated the ground and airborne system performance such a solution.

In the Airport Safety Nets OFA, V2 exercises validated the feasibility of the alerts for vehicle drivers and traffic alerts for pilots. Two Release 3 validations investigated the relevance of alerts associated to the airport safety nets for air traffic controllers as well as the integration of these alerts in the controller working position. Further work on airport safety nets for air traffic controllers, a PCP related topic, is planned in Release 5.

The Enhanced Runway Throughput OFA worked on the consolidation of the different concept elements contributing to increase runway throughput. A Release 3 live trial exercise demonstrated that optimised breaking systems could reduce runway occupancy time. However, the validation also showed that this technique was only operationally applicable by ANSPs if supported by air/ground data-link communication, which is not mature yet.

In the Integrated Arrival/Departure Management at Airports OFA, an exercise in Release 4 that took place in 2014 should validate at V3 maturity level the basic integration of AMAN and DMAN using fixed traffic patterns. The same exercise should also validate at V3 maturity level the pre-departure sequencing supported by route planning, a PCP related SESAR Solution.

The Integrated Surface Management OFA consolidated the concept elements it addresses in an OFA level document. Amongst these concept elements, surface routing and datalink taxi service (D-TAXI) were brought to a V2 maturity level through a series of validation exercises.

In the Airport Operations Management OFA, the concept reached a full V2 maturity thanks to several validation exercises. Moreover, a Release 3 exercise showed the potential benefits of improved exchanges between the airport and the Network Manager through Target Time of Arrivals, contributing to the PCP.

In the Controller Working Position – Airport OFA, two Release 3 exercises and one Release 4 exercise continued to improve advanced and integrated HMIs for ATCOs at airports.

In the Remote Tower OFA a Release 3 shadow mode trial allowed the Programme to deliver the SESAR Solution 'remote air traffic services for a single airport with low density traffic'. A Release 4 shadow mode trial on remote provision of AFIS for multiple airports with low density / complexity traffic showed positive results. Finally, the concept and technical enablers for the remote provision of ATS for multiple airports (small and medium airports) and remote provision of contingency ATS continued their developments in V2.

The list of deliverables made available to the SJU for assessment is in Annex 2.

3.4.5 WP 7 & 13 – Network Operations

Scope

The scope of the Network Operations Work Package covers the evolution of services taking place in the business development and planning phases to prepare and support trajectory-based operations including airspace management, collaborative flight planning, demand capacity balancing and Network Operations Plan (NOP). It encompasses the services included in the execution phase to facilitate trajectory-based operations in case of capacity issues.

Objectives

The objectives of the Network Operations Work Package are to:

- Develop, refine and update the Network Operations concept and architecture, based upon the SESAR CONOPS and ensure consistency with other elements of the work programme;
- Develop the methodologies for airspace management and organisation, including processes for an improved flexible use of airspace, the accommodation of user preferred routes and dynamic airspace configurations;
- Develop the Business/Mission Trajectory management (including the Shared Business Trajectory, used for advanced planning and the Reference Business trajectory, which is the final and agreed trajectory);
- Define and develop the User Driven Prioritisation Process (UDPP), whereby operators can apply their own priorities during periods of capacity shortfall, based upon a CDM approach.
- Further develop the Network Operations Plan (NOP), a dynamic rolling plan providing a detailed overview (past, current and forecast) of the European ATM environment to those concerned;
- Improve Demand Capacity Balancing (DCB) process to ensure that the ATM network is able to meet the demands of all users, taking into account the 4D trajectories, described through Reference Business Trajectories (RBT);
- Develop improved flight briefings for pilots and flight dispatchers, through the use of integrated digital Aeronautical (including Digital NOTAM) and MET data.

2014 Report

Further to the BAFO 1-2 reallocation exercise, the previous WP7 and 13 work packages have been combined into a single work package, Network Operations. Moreover, the total number of projects has been reduced from 25 to 7 (1 Management, 1 Federating and 5 R&I) covering both operational and system aspects. This has resulted in a number of benefits, including an improved oversight for the SJU.

During 2014, WP7&13 has been proactive in the preparation and execution of SESAR Releases, and in the definition of the Validation and Verification Roadmap for the activities to be performed until end 2016. With regards to the Release 4 activities performed in 2014 and early 2015, most of the validation reports are planned in the first quarter 2015.

Notwithstanding a number of important achievements in 2014, it is clear that, in a number of cases, progress is being affected by factors such as uncertainty about the scope and maturity of concepts (e.g. Target Time Management), the availability of resources (human and platform), and

dependencies with other activities. Looking forward to 2015, it will be essential to establish an integrated approach for the SESAR 1 and SESAR 2020 activities.

The main achievements in 2014 include:

- Under the umbrella of Project 07.02, changes have been implemented on the Network Management (NM) Validation Infrastructure in order to better support the WP7&13 V2 and V3 validation exercises. The main components of the validation infrastructure are the fast-time simulation tool (AirTOp), the modelling simulation tool (R-NEST), the industry based platform (NMVP), and the rapid prototyping platform (INNOVE).
- Project 07.02 (Network Federating) has progressed the concept development and validation strategy work for both Step 1 and Step 2, albeit with some delays due to factors like the Target Time Management issue. The Step 1 architecture work has experienced significant delays principally due to the need to align with the overall B4.architecture and the use of the EATMA model.
- Within Project 07.05.04 (Flexible Airspace Management), the Release 4 VP717 fast-time simulation is validating the use of Variable Profile Areas (VPAs) in a Free Route (Step 1) environment. The Release 5 VP710 exercise will validate the sharing of the real-time airspace status using a Collaborative Decision Making (CDM) process. First expert groups (VP531) addressing the step 2 concept of Dynamic Mobile Areas were also organized.

- Further to the BAFO 1-2 reallocation, NATS have taken over the leadership of Project 07.06.01 (Network Operations Planning) from EUROCONTROL. Further to a close coordination with other projects, important NOP objectives are planned to be validated in Release 5, including: AOP-NOP integration (in VP749; and MET status monitoring and Network key performance indicators in VP700.
- Project 07.06.02 (Optimised Airspace User Operations) is the lead project for OFA 03.01.04 (Business and Mission Trajectory (BMT)) and OFA 05.03.06 (User Driven Prioritisation Process (UDPP)). Concerning BMT, the Release 5 VP713 exercise will perform a final validation of the Extended Flight Plan. In addition, concept development and validation activities are ongoing for OAT flight plan, the Flight-Object (technical verification VP731 completed in Reims) and Step 2 Shared Business Trajectory (SBT)/ Reference Business Trajectory (RBT). During 2014, Project 07.06.02 actively contributed to ICAO standardisation activities, including cooperation with the FAA on FIXM and FF-ICE
- Concerning UDPP, the Release 4 VP712 exercise and the performance assessment VP726 have validated enhanced slot swapping. The bulk of the validation exercises for pre-departure sequence were performed in the DFLEX Large Scale Demonstration (LSD). The SJU has received very positive feedback from airspace users regarding their participation in UDPP activities. Several step 2 validations are scheduled for 2015.
- Within Project 13.02.02 (Aeronautical Information Management (AIM)), the Release 4 VP462 exercise has validated enhanced pre-flight briefing for AIM in an Air Traffic Services Reporting Office (ARO). The Release 5 VP461 exercise will validate improved flight briefings for pilots and flight dispatchers, through the use of integrated digital Aeronautical (including Digital NOTAM) and MET data.
- Within Project 13.02.03 (Enhanced Demand Capacity Balancing), the Release 4 VP522 exercise has validated Short-Term ATFCM Measures (STAM) using enhanced tools and an increased

number of ANSPs (compared to the previous Release 2 VP314 exercise. A final STAM exercise, VP700 in Release 5, will validate the use of local tools connected through SWIM. As a follow-up of the fast time simulation (VP723) completed in 2014, the Release 5 VP749 exercise will validate the use of target times (CTOT with TTA) and the AOP/NOP integration. During 2014 a series of gaming exercises (VP772) to validate with different ANSPs, Airports and Airspace Users an harmonized procedure for massive aircraft diversion at European level and the associated CDM tool.

3.4.6 WP 8 – Information Management

Scope

In order to realise the concept of SWIM (System Wide Information Management) for ATM, which is needed to achieve interoperability and inter-system seamless operations, WP8 primarily defines the ATM Information Reference Model (AIRM) and the Information Service Model (ISRM) to be used by the various ATM services and necessary to develop the SWIM specifications and test platforms.

Objectives

The Objectives of WP 8 are to:

- Describe the performance and operational requirements of ATM wide information sharing;
- Strongly contribute to the definition of the Information View of the European ATM Architectural Framework and the ATM Information Model;
- Develop and document the European ATM Information Reference Model (AIRM);
- Support the standardisation of ATM Information;
- Secure semantic and syntactic interoperability within ATM for Europe and support to an overall global commitment in the same field;
- Be responsible for ensuring the effectiveness and integrity of the functional architecture for Information Management;
- Integrate the ATM world in the information sense, a necessary step towards the realisation of Service Oriented Approach (SoA);
- Produce and document (ATM) Information Service in support to a variety of system WPs or other Industry segments;
- Directly drive the operational requirements for the technical system architecture of Information Management to be developed in the SWIM Work Package (WP 14);
- Validate deliverables from various Operational WPs in order to align, harmonise and structure the different levels of ATM Information Services.

2014 Report

Project 08.03.01 has been closed while WP-B addresses first the need for SWIM supervision at the system level.

In order to optimize the coordination and management activities and reduce the unnecessary ‘complexity’ of the SWP 08.01.x and 08.03.x projects, the listed projects were consolidated into single projects;

- 08.01.01 and 08.03.02 projects were merged into 08.01.01 for the main task; SWIM governance.

- Projects from 08.01.03 to 08.01.10 were merged into 08.01.03 for the main task; information modelling.
- Projects from 08.03.03 to 08.03.10 were merged into 08.03.10 for the main task; service development.

WP8 has been in 'steady production mode' in 2014 following the implementation of the IBAFO reallocation activities.

The SWIM compliance framework was updated by 08.01.01 for R4 SWIM enabled exercises. Framework has been implemented for 3 SWIM enabled exercises. 08.01.01 project gathered the feedback during the compliance checks and R2SE2 reviews to be used for the improvement of the SWIM compliance framework. The development on the SWIM registry has continued in 2014. A prototype Registry has been presented in the second SEMG meeting.

An update of the SWIM Concept of Operations and IM Functions documents were produced by project 08.01.01. These documents are considered to be one of the important outputs of the SESAR programme for the first SWIM deployment. It is revealed during the assessment of these documents that improvements are still needed to reach a certain maturity level. It is decided to use the experience of implementing and operating the SWIM Evolution Management function within the programme to achieve this goal.

In general 08.01.03 has been steadily progressing according to plan. Two AIRM releases were delivered providing a baseline vocabulary for the operational projects. Although positive feedbacks on the use of the AIRM vocabulary were noted (e.g. Free Route Airspace), the further and consistent use of this standard vocabulary remains a point of attention for the programme. Sometimes this also reflects the maturity of the concepts under discussion but in general the use of the AIRM then leads the operational communities to a more precise and shared understanding. The SWIM Concept as defined by project 08.01.01 contributed to a significant extent to the realisation of the “ICAO Manual on SWIM Concept” under the umbrella of the ICAO ATMRPP proceedings. The AIRM governance has reached a mature level of operations allowing a controlled and traceable evolution of the AIRM. Also the AIRM Foundation Rulebook has been delivered as a separate deliverable.

The main change for the project 08.03.10 was the introduction of the new project structure ensuring better control over project resources and allowing the project to make better prioritizations between tasks. The role and responsibilities of the new 08.03.10 were defined more strictly and agreed with WP8 management. The new established Service Modelling Team (SMT) met regularly to check the status of the work progress and to decrease the amount of differences and/or faults found in the consolidation work which is late in the process. Communication and planning processes were improved, especially to avoid the late deliveries. 08.03.10 has delivered two releases of the Information Service Reference Model (ISRM 1.1 and 1.2). Assessment of the delivered models indicated that the maturity level of the ISRM deliveries was increased progressively.

WP08 participated to the SCG meetings and keep their AIRM and ISRM development plans up to date according to the service roadmap (R4, R5 validation activities). An analysis will be provided to the SCG for achieving full coverage on the development of the required services for the PCP.

The MOSIA contract, to provide complementary activities mainly in support of WP08 (and somewhat to support WP14 too) was %95 completed.

The list of deliverables made available to the SJU for assessment is in Annex 2.

3.4.7 WP 9 – Aircraft Systems

Scope

The scope of the Aircraft System Work Package covers the required evolutions of the aircraft platform, in particular to progressively introduce 4D Trajectory management functions in mainline, regional and business aircraft to provide 4D trajectory management capabilities. The work package will address:

- Developing and validating at aircraft level all airborne functions identified in the SESAR ATM Master Plan aircraft Capabilities Levels 2, 3 & 4;
- Ensuring operational & functional consistency across stakeholder airborne segments (Commercial Aircraft, Business Aviation, General Aviation, Military Aircraft, UAS, etc.);
- Identifying technical solutions for different airborne platform types such as Mainline aircraft, Regional aircraft and Business Jets;
- Ensuring global interoperability and coordination with important external initiatives such as NextGen in the U.S.

Objectives

The objectives of WP9 are to:

- Achieve a greater integration of the aircraft in heart of the performance-based European ATM system allowing an optimum exploitation of the increasing aircraft capabilities;
- Introduce progressively the 4D Trajectory management functions. Initial 4D Trajectory capabilities will require, first, the downlink airborne computed predictions on the ground to establish a sequence on a merging point, and, second, improved time constraints management capabilities both contributing to first generalise Continuous Descent Approaches from Top to Descent in mid and high density areas. A further step will allow the full exploitation of 4D Trajectory through ensuring that the aircraft is able to compute and to share reliable gate to gate 4D trajectory predictions with the ground and execute the agreed reference trajectory with possibly imposed times constraints;
- Enhance On-board approach functionalities and validate them to provide improved and all weather operations. This will allow initial CAT II/III GBAS L1 approach for new aircraft, providing rapid benefits under low visibility conditions. A second step will address the implementation of full multi-constellation (GPS, GALILEO) GBAS Cat II/III in the airborne equipment;
- Develop future on-board surveillance systems, including dedicated wake encounter and significant weather (e.g. clear air turbulence) avoidance functions, to reduce the risk of severe upsets due to atmospheric disturbances;
- Address environmental impact through Advanced Continuous Descent Approach aiming at minimising fuel burning and emissions, and decreasing noise;
- Improve surface movement operations through the introduction of functions to initially provide guidance and then alerting on traffic;
- Ensure interoperability between civil “Business trajectories” and military “Mission Trajectories” to allow the conformance of military aircraft with new operational concepts and to enable military aircraft to fly with the same performance level than civil aircraft to better exploit airspace resource avoiding restricting part of it for military use only;
- Provide a globally compatible avionics transition roadmap supporting the different SESAR Steps, to be used as a reference by avionics and airframe manufacturers for development planning, hence minimising the number of transition steps for a better cost efficiency;
- Develop a gradual evolution of Airborne Separation Assistance services allowing first to an aircraft to establish and maintain time spacing from a target aircraft designated by the Air Traffic

Controller (ASAS-Spacing). On-board functions will be further validated to gradually introduce ASAS Separation Crossing and Passing (C&P) manoeuvres with the aim to help controllers in resolving conflicts between aircraft by temporarily delegating to the Pilots the responsibility to do the requested manoeuvre (e.g. vertical or lateral C&P) and maintaining separation during that manoeuvre.

In order to support the above evolutions, enhancement and additions to the CNS Technologies are foreseen, including updates to ADS-B, Airport datalink and Flexible communication avionics and improved navigation positioning technologies while addressing the different types of airborne platforms.

2014 Report

In 2014, twenty-eight projects were under execution (with 25 projects remaining at the end of the year. Of these, the three projects that have been formally closed in the period September to December 2014 include P09.06, P09.21 and P09.40. Project "P09.21 ADS-B - 1090 Higher Performance Study" had successfully completed its full remit; "P09.40 Long-term CDA & Steeper Approach Airborne Architecture" was closed due to lack of operational inputs and "P09.06 ASAS ASEP" after completion of its V1 activities.

A number of projects were transferred into Operational Focus Areas, namely P09.01, P09.03 and P09.05 into OFA04.01.02, P09.09 and P09.10 into OFA03.02.01, P09.31 into OFA04.02.01 and P09.39 into OFA03.03.01.

The remaining WP09 projects are being grouped with WP15 projects for incorporation within three Enablers consisting of ENB01.01.03 for Communication, ENB01.01.04 for Navigation and ENB01.01.05 for Surveillance.

In terms of progress and maturity:

- Three projects are progressing in V3 (P09.01, P09.05 and P09.33) and developing core airborne functions. These are used to perform a large number of operational validation activities with several operational projects and partners;
- Two airport related projects (P09.13 and P09.14) have significantly progressed in both V2 (operational evaluations) and V3 with planned validation activities;
- Two Technology projects (P09.12 and P09.16) have developed prototypes and completed testing against ground equipment;
- Further progress on SESAR Technical Solutions – Airport Surface Data Link AeroMACS (09.16 / 15.02.07) and Hybrid Surveillance (P09.47) and SESAR Operational and Technical Solution GBAS CAT II/III GPS L1 (P9.12, P15.3.6).

- 09.01. Further to the Operational evaluations that successfully demonstrated the technical feasibility of the i4D concept within the Airborne Initial 4D Trajectory Management project, the validation activities have been extended to 2016 in order to improve the airborne systems with enhanced ATM functions and to anticipate the Very Large Demonstration activities (2016 onwards). The EUROCAE ED75 standard on required navigation performance for area navigation has now been published and is in line with functional and performance requirements defined in SESAR prototypes;
- 09.02. The "Airborne Full 4D Trajectory Management & 4D contract capability" project has undertaken a 4D Operations on-board need analysis and workshop. The High Level Functional Requirement and Operational Assumptions Definition- Issue 1 is schedule for 2015 Q1;
- 09.05. ASAS-ASPA project has been supporting the Release for Exercises with Project 05.06.06. Identified areas for improvement with in the airborne ASAS S&M prototype are being evaluated,

to fully support the maturity of the corresponding SESAR Solution. The next Validation exercises includes updates of the airborne platform;

- Projects 09.09 and 09.10 addressing RNP to xLS have been integrated within the OFA 02.02.04 Approach Procedures with Vertical Guidance;
- Projects P09.11 has now incorporated P09.30;
- Project 09.21 "ADS-B Higher Performance Study" demonstrated a potential way forward for extension of service life of current 1090 MHz ADS-B link without necessity for changes on the waveform. Also, the mitigation techniques increase the integrity of the reception and decoding of the broadcasted messages in the highly congested areas. Project 09.22 "Mid & Full ADS-B Capability Research" initial results proved positive. It is suggested that the second phase of this project should continue with ADS-B ES evolution, namely with phase modulation of the 1090 Extended Squitter;
- Project 09.33 completed its original scope. The project has been extended as the focal project for the further development of the ATSU prototype through to 2016;
- Project 09.12 GBAS Cat II/III has included significant contributions to the definition of GBAS – GAST-D and to International standardisation. Good progress is being made within OFA 01.01.01;
- Military Data link accommodation contributions from 09.20, 09.24 and 15.02.08 are complete with flight trials performed in September 2014 and deliverables submitted for evaluation. The projects are planned for closure in 2015 Q1. The project outputs will contribute towards the 09.03 planned flight trials at the end of 2015;
- Continuous Climbing Cruise Project 09.39 has performed additional opportunity studies. The concept and its proposed savings are considered quite valuable by the airspace users. Given the conclusion of the comparison of CCC and EOT, it is looking at launching a validation/verification activity of an 'intermediate' concept on an avionic architecture based upon EFB called Multistep En-route Optimization Technique;
- Flexible Communication Avionics 09.44 demonstrated initial feasibility and benefits. The phase 2 activities to develop prototype elements for verification is progressing well with the initial radio nearly complete;
- 09.49 Global Interoperability – Airborne Architecture and Avionics Interoperability Roadmap. The next versions of the functional architecture and Avionics roadmap have been delivered. The multi-function (9.01, 9.05, 9.33) integration activities have been performed based on the Validation platform developed by Airbus. This will pave the way to the Multi-function evaluations - Cockpit integration exercise;
- Other projects have also satisfactorily progressed, producing functional requirements, functional architectures as well as technical studies to validate technical choices or to secure key points.

The majority of projects are also contributing to standardisation.
Airspace Users supported the projects and the added value was recognised both by project team and by airspace users.

The list of deliverables made available to the SJU for assessment is in Annex 2.

3.4.8 WP 10 - En-Route & Approach ATC Systems

Scope

The scope of this Work Package covers En-Route & TMA ATC System systems' changes, and related technical activities of phases V1-V3 of the development lifecycle reference model (i.e. up to the validation of system performance using pre-industrial prototypes). It addresses system/technical aspects such as functional and technical architecture, technical performance & safety requirements, technical interoperability requirements, associated specifications, models/simulation platforms and prototypes, technical validation and the development of inputs /proposals to technical standards groups.

Objectives

The objectives of WP 10 are:

- ATC system impact analysis of the operational improvements and identification of the induced system requirement to implement the evolution;
- Technical feasibility assessment of the operational changes from an architecture and technology point of view;
- Define, design, specify and validate the En-route & TMA ATC Systems needed to support the SESAR ATM target concept;
- Prototype development for system and operational validation

2014 Report

WP 10 contributed to key SESAR Solutions leading to implementation such as:

- Automated support for Dynamic sectorization, supporting En-Route Capacity improvement;
- Multi-Sector Planner (1P-2T) contributing to Cost Effectiveness improvement;
- AOC Data increasing Trajectory Prediction Accuracy for Safety benefits;
- P-RNAV procedures in complex TMAs using Point Merge, relieving Capacity Bottlenecks;
- AMAN and Point Merge to improve Predictability;

With all projects in their execution phases (except 10.02.03, 10.03.03, 14.04.03 and P10.05.01 that was closed previous year), 2014 has seen the continuation of the definition of V2 and V3 requirements through the publication and the delivery of Technical Architecture Document (TAD) and Technical Specification (TS) for all En Route and TMA functionalities (Enablers).

Several validations (V2 and V3) of these requirements have been performed in WP 4 or WP5. WP 10 contributed to these validations with Technical system development such as advanced AMAN tool, Complexity tools, and evolutions to Controller Working Position (CWP).

The quality of deliverables submitted by WP10 projects has continued to be of a high standard, with the vast majority having been assessed by the SJU as either Green (no reservation) or Amber (minor clarification or amendment required).

The incorporation of SWIM into the activities of WP10 has improved and there is now effective coordination with WP8 and WP14 through the development and implementation of SWIM based services for ATC to ATC IOP and AMAN/DMAN coupling.

The list of deliverables made available to the SJU for assessment is in Annex 2.

3.4.9 WP 11.01 - Flight Operations Centre

Scope

The scope of 11.01 covers Flight Operations Centres and Wing Operations Centres. Since WP11.01 is both an operational and a system work package, the e work covers concept development, validation, system development and verification.

Objectives

The objective of WP11.01 is to provide the system definition and contribution to operational validations for a generic FOC/WOC that meets the user needs operating in the SESAR target ATM network. A key aim is to promote effective collaboration and interoperability between the FOC/WOC and the rest of the ATM system.

2014 Report

FOC/WOC

During 2014, there has been significant progress in the integration of 11.01 activities with the rest of the SESAR Programme. Concretely, the Validation and Verification Roadmap defines 11 exercises addressing FOC/WOC aspects, of which 6 (3 MIL) exercises are led by 11.01. The exercises address Extended Flight Plan, User Driven Prioritisation Process, Mission Profiles, Advanced Flexible Use of Airspace (AFUA), Free Route, AOC and ATC collaboration, Flight object, flight briefing, and use of enhanced MET. A revised planning baseline has been implemented to support these activities, and this is reflected in the contract between EUROCONTROL and the consortium (Fly4D) performing the work.

The 11.01 work has strong dependencies with the rest of the SESAR Programme – for example with regards to the availability of the EUROCONTROL Network Management Validation Platform – and these dependencies will need to be closely monitored during 2015.

The main achievements for 2014 include:

- The VP774 V2 exercise has validated a typical State Airspace User's mission profile in a SESAR Step 1 environment, addressing the sharing of flight plan (OAT) and airspace reservation data between the WOC Airspace Management Cell (AMC). Further validation will be performed in the Release 5 VP789 V3 exercise for the integration of OAT Flight Plan within the Network Manager. This work has contributed to the development of the CAPS (Collaborative Airspace Provision Service) for which Airbus Defence and Space received a SWIM Best-in-Class award in late 2014.

- Further V2 validation activities have been performed on the Extended Flight Plan (EFPL). In close cooperation with the Network Manager, 11.01 will actively contribute to the Release 5 VP713 exercise which will validate the EFPL submission through B2B services, its impact on FPL validation and distribution, and traffic predictability.

- 11.01 participate actively in the UDPP Step 2 Concept development/Validation Activities. Compared to Step 1, UDPP Step 2 allows for an anticipative management of airspace users' schedules in situation of delays. For the VP730 V2 validation exercise led by EUROCONTROL, 11.01 will provide a FOC prototype to support a human-in-the-loop validation.

11.01 continue to promote FOC/WOC aspects both within the SESAR Programme and in globally (e.g. FIXM developments with ICAO).

The list of deliverables made available to the SJU for assessment is in Annex 2.

3.4.10 WP 11.02 – Meteorological Information Services

Scope

The scope of the standalone Work Package, 11.02, covers: promoting current and future MET capabilities with the aim of gathering robust and detailed requirements for MET data and services; the design and development of MET infrastructure (including MET prototypes and the 4DWxCube) to support validation.

Objectives

WP11.02 addresses the requirements for meteorology within the SESAR Programme, in particular in relation to the impact meteorology will have on 4D trajectory based systems of the future, and in managing predictability in an efficient way.

When considering the integration of MET with the rest of SESAR, a distinction should be made between the provision and exchange of MET information (the role of 11.02), and the integration and use of MET information (performed by the operational projects).

2014 Report

During 2014, there has been significant progress in the integration of 11.02 activities with the rest of the SESAR Programme. The Validation and Verification Roadmap identifies MET related exercises and, in particular, 11.02 plan to support 5 exercises in Release 5. A revised planning baseline for 11.02 activities – including an extension of activities into 2016 – has been established.

11.02 are highly dependent on other projects with regards to opportunities for validating the use of Met information. Within SESAR 1, it is clear that resource and time constraints will limit what can be achieved. Looking forward to 2015, it will be essential to establish an integrated approach for the MET related activities on SESAR 1 and SESAR 2020.

The main achievements during 2014 include:

- Further to a close coordination between B4.3 and 11.02, there is a close alignment between the 4DWxCube Technical Architecture Definition (TAD) and the overall SESAR Architecture Definition Document (ADD). The 4DWxCube is intended to provide meteorological information to partner systems attached to the SWIM-ATM infrastructure. Prototypes based on the 4DWxCube are being developed to support operational validations.

- Further to a series of workshops, 11.02 plans to contribute to 6 validation exercise addressing: de-icing management; advanced Short-Term ATFCM Measures; Enhanced flight briefing; airport operations management; use of global ensemble wind forecasts in flight planning. These exercises provide important opportunities to validate the integration and use of MET information with operational services. The provision of improved MET information to support Free Routing validations is under investigation.

The list of deliverables made available to the SJU for assessment is in Annex 2.

3.4.11 WP 12 - Airport Systems

Scope

The scope of the Airport Systems Work Package encompasses all Research & Development activities to define, design, specify and validate the airport systems needed to support the SESAR ATM target concept. It also addresses system/technical aspects such as functional and technical architecture, technical performance & safety requirements, technical interoperability requirements, associated specifications, models/simulation platforms and prototypes, technical validation and the development of inputs/proposals to technical standards groups.

WP 12 is undertaking technical developments and verification and support to validation, providing the ground-based system support to the new concepts, procedures and practices described by WP 6.

Objectives

The objectives of WP 12 are to:

- Support collaborative airport planning, including decision support and sequencing tools, meteorological observation and forecasting systems;
- Improve airport surface management, including advanced surveillance techniques, ground-based safety nets, ground-based routing and guidance systems as well as sequencing tools (e.g. SMAN and integrated AMAN/DMAN);
- Define and develop new runway management tools and systems supporting the dynamic application of wake vortex separations (i.e. wake vortex detection and prediction systems);
- Improve safety through the definition and development of ground-based safety nets, with a priority upon detecting runway incursions and preventing collisions;
- Define and develop the technical systems associated with the 'remote and virtual' towers, which will include appropriate surveillance systems.

All of these developments will be brought together so that they support the controller in his tasks by the prototyping of an advanced controller working position, through which a set of core HMI principles will be established.
These objectives are being achieved through a portfolio of 22 R&I projects.

2014 Report

The WP12 Projects actively supported the development of SESAR Solutions by developing and verifying prototypes that were then used in V2 and V3 validations. Those prototypes include:

- Non-conformance and conflicting clearance monitoring and alerting tools;
- Wake vortex detection/prediction tools;
- Integrated Arrival and departure manager;
- A-SMGCS planning, routing and guidance tools;
- Airport operations plan;
- Airport operations monitoring and management tools;
- Advanced airport controller working positions;
- Remote tower systems.

The list of deliverables made available to the SJU for assessment is in Annex 2.

3.4.12 WP 13 – Network Information Management System (NIMS)

Further to the BAFO 1/2 reallocation exercise, the previous WP7 and 13 work packages have been combined into a single work package, Network Operations. Moreover, the total number of projects has been reduced from 25 to 7 (1 Management, 1 Federating and 5 R&I) covering both operational and system aspects. This has resulted in a number of benefits, including an improved oversight for the SJU.

Please refer to WP7&13.

3.4.13 WP 14 - SWIM technical architecture

Scope

The SWIM technical architecture Work Package is the follow-up in the context of SESAR of the SWIM-SUIT European Commission FP6 project. It uses as an input the SWIM-SUIT deliverables and adapts them and/or further develops them to cope with the SESAR Work Programme components.

Objectives

The primary objectives of WP14 are to define and validate the technical infrastructure solution for SWIM addressing the requirements received from WP8and interfacing with all other System WPs (9-15). WP14 will in particular provide adequate support for SWIM exploitation to the other System WPs so as to ensure that system WPs can implement SWIM compliant services and service consuming applications.
In detail the objectives are to:

- Define and validate the infrastructure solution for SWIM addressing the requirement received from Information Management (WP8). The SWIM WP will have to interface with all other System WPs (9-15);
- Further develop the 'Intranet for ATM concept' by:
  - Performing an assessment of the Information Management needs of the SESAR CONOPS, as scoped by WP 8, to define the SWIM technical services that will be required,
  - Using the SWIM-SUIT results, to translate the results of the assessment into an architectural description, technological options and system solutions;
- Develop SWIM test platforms to support the operational and technical aspects of the SWIM validation and to provide regular SWIM demonstrations;
- Provide adequate support for SWIM exploitation to the other System WPs in order to ensure that system WPs can develop SWIM compliant services and service consuming applications.

2014 Report

The year 2014 saw the implementation of the reallocation of member efforts in order to align availability of resources with programme priorities. As a consequence some projects in WP14 were impacted by these reallocations. While project 14.02.01 had only just started in 2013, it had already faced challenges to deliver sound SWIM Air-Ground (A/G) solution developments. With SWIM A/G not being part of the initial SWIM (iSWIM) developments for the PCP, resources were pulled out of this project in favour of other SWIM TI developments and the project was closed.
Following the approval of the closure process, two other WP14 projects that were already 'on-hold', were formally closed. This concerns 14.01.02 and 14.02.03.

The remaining active projects in WP14 have worked in synchronised mode on two iterations (2.1 and 3.0) of the SWIM Technical Infrastructure design, specifications and prototyping.
Projects 14.01.03 and 14.01.04 delivered the iteration 2.1 of the SWIM Technical Infrastructure architecture (TAD), the SWIM TI Profiles and the Technical Specifications (TS). In parallel, project 14.02.02 continued its Security Risk Analysis (SRA) for the SWIM TI as input for the next iteration of SWIM Technical Infrastructure developments.

The 2013 activities of Project 14.04 and 14.02.09 of reaching out to the SESAR internal and external communities to inform them about SWIM were awarded with an IHS's Jane's ATC Award at the World ATM Congress in Madrid. Over the summer of 2014 a third successful 'SESAR SWIM Master Class' was organised. This third edition saw yet more services that could be used, and more services and applications being developed by teams from around the world. The Registry prototype from

WP08 provided again an important contribution by hosting all the service and application information for the development teams and by supporting the service development workflow and governance.

The list of deliverables made available to the SJU for assessment is in Annex 2.

3.4.14 WP 15 – Non Avionic CNS System

Scope

The Non Avionic CNS System Work Package addresses CNS technologies development and validation also considering their compatibility with the Military and General Aviation user needs. It identifies and defines the future mobile datalink systems to serve communication and surveillance services, the ground SWIM backbone system. It addresses the best combination of GNSS and non-GNSS Navigation technologies to support Performance Based Navigation and precision approach requirements. It proceeds to the optimisation of the ground Surveillance infrastructure, the evolution of the Ground surveillance station to introduce ADS-B information as well as the development of Airport weather information services.

Objectives

The objectives of WP15 are to:

- Address subjects concerning Spectrum Management for using the spectrum in the most efficient manner and for promoting CNS spectrum allocation at ITU allowing the future CNS SESAR Concept enablers to operate properly as well as undertaking the appropriate actions to minimise the impact on aeronautical spectrum from non-aeronautical systems;
- Define the future Mobile communication system supporting the SESAR Concept, capable to provide to all the types of users the required functions and quality of service, and to support Air/Ground and Air/Air services. It will be composed of a new ground-station-based system associated to complementary systems (a satellite communication system in close cooperation with and benefiting from a related activity at the European Space Agency, an aircraft communication system at the airport AeroMACS and a new terrestrial (continental) datalink e.g. LDACS). This set of systems will constitute the mobile part of the SWIM backbone. Interconnection of military aircraft through their specific datalink is also addressed. Enhancement of the Ground/Ground communications PENS infrastructure will also be progressed in order that it becomes the ground SWIM backbone;
- Define from a sub-system perspective, the best combination of GNSS and non-GNSS Navigation technologies to support Performance Based Navigation and precision approach requirements in a roadmap perspective as well as to enable transition from current terminal and en route operations (with a mixture of B-RNAV, P-RNAV and conventional) to a total PBN environment. In addition the refinement and validation of GNSS based precision approaches, in line with the evolution of the SESAR ATM capability levels will be performed based in a first step on GBAS Cat II/III GPS L1 and in a further step on GBAS Multi GNSS (GPS + Galileo) Cat II/III allowing rationalisation of the infrastructure and optimisation of the runway capacity under low visibility conditions;
- Consider the rationalisation of conventional terrestrial navigation aids;
- Proceed with enhancements to the ground Surveillance systems and introduction of new Surveillance systems and services (e.g. WAM, ADS-B applications beyond initial operational capabilities). Considering these enhancements and new means, the surveillance infrastructure will be rationalised by considering decommissioning legacy technologies (e.g. SSR) thus decreasing operating costs while balancing the necessary non-cooperative requirements in TMA and for military purposes;

- Decrease delays due to weather, prevent accidents, and help to improve long-term airport operation, relevant sensors matching airport category needs for detecting weather and weather related hazards as well as the integration of their complementary characteristics will be realised.

2014 Report

In 2014, nineteen projects were under execution (with 16 projects remaining at the end of the year). Of these, three projects have now been formally closed and include P15.04.01, P15.04.03 and P15.02.10). Four new projects that were agreed through the BAFO 3 process went into execution, namely the CNS Federating Project P15.01.07 – "CNS System of System Definition", two Surveillance Projects P15.04.02 – "Integrated Surveillance Sensor Technology" and P15.04.06 – "Improved 1090 MHz ADS-B Ground Station capability & Security" and Project P15.02.05 – "I4D Trajectory Exchange using SATCOM IRIS precursor".

In particular:

- Future Communication System (15.02.04) with a focus on the system elements has progressed and is issuing the Future Communication Infrastructure Operational Concept along with the Quality of Service Concept. The FCI Security Requirements having already been delivered. The VDL2 capacity study call is in progress and due for completion in 2015 Q2. The second VDLM2 call on Measurement, Analysis and Simulation campaign was issued and awarded. This contract is scheduled to start at the beginning of February 2015. The technology work (currently LDACS) will still need to be addressed as a separate issue and is being incorporated within SESAR2020. Early work still needs to be progressed wherever possible;
- I4D Trajectory Exchange using SatCOM IRIS Precursor (15.02.05) started into execution and has submitted the System Interface Document ATSU-SATCOM. Coordination with ESA and Inmarsat has started given the launch of the ESA Iris Precursor projects;
- Future Mobile Satellite Communication (15.02.06) has progressed key deliverables, namely the SATCOM Mission Requirements Definition and Iris Interface Control Document definition after coordination and alignment with P15.02.04 FCI. The proposed future work may be subject of a change request in the context of the ESA plans for ANTARES and the Precursor SATCOM developments;
- Airport Surface Data link (15.02.07) has completed its live trial in coordination with P09.16. The outcome is under consideration as a SESAR Technical Solution;
- Good progress continues with the three projects (15.03.01/02/04) working together on Navigation Infrastructure definition and optimisation. Phase 2 work addressing the consolidation of Phase 1 and the period 2020+ is in progress;
- GBAS Cat II/III L1 Approach (15.03.06) is progressing well with successful flight tests. Validation exercises are further planned at the beginning of 2015. Coordination has started with EASA on the regulatory aspects;
- Multi GNSS CAT II/III GBAS (15.03.07) project is progressing according to schedule;
- ACAS monitoring activity (15.04.03) has completed its development for the ACAS monitoring System prototype. The output is being considered as a potential SESAR Technical Solution;
- Surveillance ground station for ADS-B integration projects (15.4.5a and b). The Iteration 3 SDPD prototype was delivered by project 15.4.5b. The validation related activities are planned for early 2015;

- Project 15.04.09 was split into 3 elements. The final Project 15.04.09c on Weather Sensing Technologies is progressing in coordination with 11.02 and fully integrated into OFA 05.01.01 Airport Operations Management;
- Other projects have also satisfactorily progressed, producing functional requirements, functional architectures as well as technical studies to validate technical choices or to secure key points;

Most of the projects progressed according to their original schedule. The impact of the Closure earlier in 2016 is being evaluated, whilst planning to maintain the maximum scope of each project.

Due to the maturity of the CNS projects in WP15, most of the projects have contributed significantly to CNS standardisation activities within the ICAO framework or within industry standards bodies such as EUROCAE.

Airspace Users supported the projects on a number of activities and the added value was recognised both by project team and by airspace users.

The list of deliverables made available to the SJU for assessment is in Annex 2.

3.4.15 WP 16 – R&I Transversal Areas

Scope

The scope of the R&I Transversal Areas Work Package covers the improvements needed to adapt the Transversal Area (TA) (safety, security, environment, human performance and CBA/business Case) management system practices to SESAR as well as towards an integrated management system. WP16 also provides support and coordination for the consistent and coherent application of the already existing as well as newly developed TA-related practices to SESAR operational and system Work Packages.

Objectives

The Objectives of WP16 are to:

- TA R&I: Pro-actively provide SESAR projects with the best TA-related practices, guidelines, tools, methods, models and techniques (TA Reference Material),
- TA Support & Coordination Function (Safety, Security, Environment, HP): Ensure coordination & consistent approach of TA aspects and application of TA practices throughout SESAR Development Phase, including a contribution to validation acceptance for TA aspects, as well as coaching to support production of evidence on the acceptability of Operational Focus Areas (OFA) from a TA perspective,
- Manage the SESAR Cases per TA and TA assessment processes to identify and mitigate TA-related issues in projects.

2014 report

The implementation of the reallocation of member efforts to align availability of resources with programme priorities has also impacted WP16. The opportunity was used to rationalise and focus the remaining work in WP16, leading to the merging of several projects. In particular, all ATM security related projects 16.02.x were merged into 16.06.02 that continued to provide the ATM security support and coordination function as well as taking on board remaining activities of the merged projects. The same happened with the integration of the environmental impact projects in 16.03.x that were merged into 16.06.03.

Furthermore all the 16.04.x and 16.05.x projects dealing with human performance aspects have completed their work and are in the process of being closed.

The SWP 16.06 projects have continued to support the Work Programme TA assessment needs (focusing on TA assessment at OFA level). More specifically, 16.06.X projects have focused their activities to support primary projects (WP04-15) performing their Transversal Area assessment (safety, human performance, cost and benefits and security and environment when relevant). WP16 has extensively supported and provided coaching to WP04-15 projects for conducting their TA assessments.

16.06 Sub Work Package has chaired the System Engineering Review 3 for Release 3 and has initiated its preparation by contributing to the definition of the various roles and responsibilities as well as the criteria to run this review. WP16 has also contributed to the System Engineering Review 1 for Release 5 and to the system Engineering Reviews 2 for Release 4.

16.06.06 (CBA) has supported the interim update of the ATM Master Plan (Business View) taking into account the outcome of Sherpa team.

All Transversal Areas (Environment, Security, Human Performance) have further updated their methodologies (Reference Material) for developing Transversal Areas (TA) and Business Cases (BC) in order to make the latest developments available in due time as input for the definition of transversal activities in the SESAR 2020 programme.
SWP16.06 has also continued its support of the process for submitting SESAR deliverables for review to National Authorities and EASA.

The following further deliverables produced by the 16.01.X to 16.05.X projects in 2014 are highlighted:

- 16.01.01 Delivered the final version of the 'E-STAR' model that supports the analysis of the safety impact SESAR Operational Improvements
- 16.01.03 Completed the final version of the guidance for applying the dynamic Risk Modelling approach.
- 16.01.04 Provided a practical guide, in particular focussing on the interaction of projects with EASA and National Authorities, on how to prepare, seek approval and execute the very large demonstrations for a given SESAR solution involving air – ground integration.
- 16.04.03 Produced a number of final deliverables related to selection (SELAT) and training (TACAT) of ATC staff.
- 16.06.03 Delivered final deliverables on environmental impact metrics (GHG, Noise, Airport emissions, Open-ALAQS, V-PAT)

Project 16.06.06 did not produce any specific business cases in 2014, but addressed the preparation of the ATM Master Plan update campaign that started at the very end of the year.

The list of deliverables made available to the SJU for assessment is in Annex 2.

3.4.16 WP E – Long Term and Innovative Research Programme

WPE Scope

Long term/innovative research addresses knowledge creation and breakthrough technologies/concept elements beyond the current SESAR vision in the main stream of SESAR work programme; it has been launched in the framework of WP E to complement advanced research in aeronautics.

WP E encourages the ATM research that explores novel, unconventional areas involving new technologies, concepts or ideas. It stimulates long-term research thinking, creativity and innovation to help develop the scientific knowledge aimed at extending the SESAR vision and to complement existing SESAR activities, thus assuring the continuity in implementations beyond the existing horizons (both in time and scope).

WPE Objectives

The objectives of WPE are to establish Research Networks, PhDs and a portfolio of Research Projects to explore several topics (concept element and/or technology) extending the SESAR vision without any predefined time frame.

- Towards higher levels of Automation in ATM;
- Mastering complex systems safely;
- System Architecture & System Design;
- Information Management, Uncertainty & Optimisation
- Enabling Change in ATM

The research themes have been used to establish the work in WPE to date, consisting of three Research Networks, more than 20 PhDs and 40 Research Projects (details can be found on the SJU website).

The Research Networks, through involvement of a wide range of universities, research centres and industries, offer a structured way to build competence and capability that will not only continue to serve the needs of the ATM sector in the long term but will also be valuable for other sectors. They also select and manage the PhD activities in their area of competence.

Research Projects are selected by the SJU and assigned to a Research Network that provides ongoing scientific support.

Following the second call for projects, issued in 2013, the total amount of the indicative budget made available to WP-E has now been committed.

WP-E Call 1 Results analysis and Call 2

In 2014 an analysis of WP-E Call 1 projects was performed, this analysis was necessary in order to identify research gaps and topics for SESAR 2020 Exploratory Research programme[14] :

- Theme 1: Towards Higher levels of Automation in ATM - the importance of this topic is evident, nevertheless project results aimed at developing a framework for designing future levels of ATM automation. Theme 2: Mastering Complex Systems Safely – the project results

[14] SESAR Exploratory Research results from WP-E, March 2014, SJU Restricted.

demonstrated the importance of applying complexity science models in ATM Certain projects under this theme proposed new ways for data mining and traffic complexity metrics.

- Theme 3: System architecture and system design – three ongoing projects from Call 2
- Theme 4: Information Management, Uncertainty and Optimisation – three ongoing projects from Call 2
- Theme 5: Enabling Change – including
    - Legal aspects of Paradigm Shift - projects results demonstrated the importance of further evolving this topic by addressing legal issues and liability attribution in ATM
    - Economics and Performance – project results demonstrated the importance of defining passenger-metrics. This topics can further evolve in future research in trade-offs between passenger-centric and flight-centric metrics, as well as the feasibility to consider targets for passenger-centric metrics in future SES Reference Periods and in SESAR. Future research can also be related to investigating performance metrics (e.g. RPx delay targets), new rules, future traffic levels, aircraft sizes, traffic frequencies, new EU regulation impacts, performance of a given airline or specific network routes

In 2014 the SJU extended four projects from WP-E Call 1 projects. The extended projects are Multidimensional Framework of Advanced SESAR Automation (MUFASA), Complex Adaptative System for Optimisation of Performance in ATM (CASSIOPEIA), ELSA and Emerging network-wide effects of inventive operational approach in ATM (NEWO). The extension of four WP-E projects from the first call will provide significant research value to the ATM research community and the SJU at limited cost.

In 2014, WP-E Call 2 from the 22 projects, all running, and there were 16 Gates performed in which the SJU participated to assess the status of projects.

WPE 2014 Report on Research Networks

At the end of 2014 there are two research networks Higher Automation Level in ATM (HALA) and ComplexWorld and one small research network built from a project and focussed on legal matters (ALIAS).

- HALA network: submitted the final version of their Position Paper, organised the Summer School, submitted a number of scientific papers;
- ComplexWorld network: They updated their position papers and submitted a book about Complexity Science in ATM. transformed their position paper into a Wiki, organized 5 thematic workshops on uncertainty, resilience, network modelling, data science and non-classical metrics in ATM, two scientific publications and one book proposal in preparation.

In 2014 the SJU extended the activities of HALA and ComplexWorld network with one more year. The proposal is that each network is extended for a year beyond their initial four year period. They will then be able to complete their oversight of 20 PhDs and complete their coordination of research

activities which now includes the new batch of WP-E projects. Terminating the networks at the end of 2014, as per the current contract, would have a negative effect and cause loss of competencies accumulated so far.

The extension of their activities is recommended to provide continuity with the SJU Programme 2020 Exploratory Research, which will be up and running by the end of 2015.

WPE 2014 Report on PhDs

Twenty PhD students continued to work in ATM research in 2014 under WPE funding with the support and guidance of the two Research Networks

- HALA network oversees 13 PhDs
- ComplexWorld network oversees 7 PhDs and in 2013 launched a call for a new PhD student in the network, taking this number to 7.

The list of deliverables made available to the SJU for assessment is in Annex 2.

3.4.17 WP B – Target Concept and Architecture Maintenance

Scope

The scope of the Target Concept and Architecture Maintenance Work Package covers the maintenance and refinement of the high-level ATM Performance Target and Architecture including the Concept of Operations (CONOPS). Defining and ensuring ATM architecture consistency for all SESAR WPs. WPB also conducts performance analysis of the ATM Target Concept throughout the SESAR development phase.

Objectives

The role of WPB was revisited and PC13 agreed on the following updated objectives:

1. To develop proposals for ATM-related content in the following main areas:
   - Performance Framework
   - High level business model
   - High level concept of operations
   - High level architecture of the ATM technical systems
   - Architecture principles
2. Taking a top down approach, identify content inconsistencies in the programme and propose mitigating actions through:
   - Preparing, contributing to and performing SE Releases Reviews
   - Using the Enterprise Architecture (EATMA) as a tool to the relevant level and detail
   - Applying SESAR strategies in the evolution of European ATM
3. To focus on content produced by the federating projects.
4. To support the SJU in managing the release approach as laid down in the "SEMP Application Guidelines".

WP B is in charge of developing, where requested by the SJU, further guidance to support the application of the SESAR strategies. The guidance material produced will be used to support developments by operational, system and SWIM projects.

2014 report

B.01 : Datasets (DS) 12 & 13 of the Integrated Roadmap have been developed under the leadership of B.01 (together with C.01) to support the Work Programme R&I activities (e.g. Release 5 definition), the ATM-Master Plan level 3 update (ESSIP) and the "Step 2 level of ambition" work conducted in support of the SESAR 2020 DOWs. The adapted process to maintain and update the Integrated Roadmap has been successfully applied leading to process around 350 Change Requests per DS.

In support of SESAR Releases B.01 has chaired and prepared the Release 5 SE Review 1

B.04.01 : European ATM Architecture (EATMA) Versions 4 & 5 (based on DS's 12 & 13 respectively) have been released successfully via the EATMA Portal. Transitioning of the EATMA Portal Repository Manager role to Eurocontrol from SESAR Industrial Support has been completed successfully and coincided with the tools upgrade to MEGA. A strategic objective for architects integrated within projects is to enter and maintain their own content directly within the repository such that it is consistent across all programme deliverables.

B.04.01 has published a second edition of the Performance Framework. It comprises updated descriptions of the European performance framework context, the SESAR performance management process and new and updated elements of the performance framework structure for both existing and new performance focus areas, taking account of the Integrated Roadmap DS 13.

B.04.02 has produced an updated version of the Step 1 ConOps and a revised version of the Step2 ConOps which (in line with PC25 recommendations) incorporates DS13 of the Integrated Roadmap. DS13 was the target data set for inclusion of the "Step2 level of ambition" work carried out by the federating projects and the B layer and led by B.04.02.

B.04.03: The Service Coordination Group (SCG), is chaired by B.04.03, providing a coordination forum to reach agreement between the SESAR projects involved in service design and development.
A service roadmap has been elaborated with the group in the past year to assure that the service development process is aligned with the timing needs of the remaining Releases.

The project has also published an update of the Step1 ADD and contributed to Integrated Roadmap (DS12 & 13) updates, in particular with the system enabler "clean-up campaign". A technical issue management process is used to follow-up on identified issues linked to the technical architecture. A number of issues are currently being pursued, in particular 4D trajectory management and coupled AMAN-DMAN.

B.04.04 was set-up through IBAFO III and "kicked off" early 2014. The aim of project B.04.04 is to define a Controller Working Position Service Interface, with related data services, based on open standards. This will lead to a technical feasibility assessment of the "Virtual Centre" Model, promoting information provision from separate ATM Data Service Providers. The project's 2015 demonstration activities are still being finalised and the use of cross platform validation activities is at present foreseen.

B.04.05 was also set-up through IBAFO III and "kicked off" early 2014. The project's purpose is to examine Step1 & 2 and identify opportunities for the provision of Common Services, then to describe strategies for their delivery. This may include high level options for deployment of their business and technical architecture. The first deliverable 'Options on Common Services' has been submitted; it establishes processes for service selection, enabling the project to identify opportunities for the provision of common air navigation services or their related functions.

B.05's primary activity has been the delivery of the 2013 & 2014 Performance Assessment Reports, as well as contributing to system engineering reviews (in particular R3 SE#3 and R5 SE#1). Additionally B.05 has delivered updated guidelines for KPIs and data collection for use in validation activities, as defined by B.04.01. These activities will be iterated again in the coming year, in which a contribution will be made to the Master Plan update campaign in support of WP-C.

As part of the performance action plan on-going coordination takes place with B.04.01 & 16.06.06 in order to assure good and consistent awareness of performance with the X.02's, OFA's & Primary Projects.

The list of deliverables made available to the SJU for assessment is in Annex 2.

3.4.18 WP C – Master Plan Maintenance

Scope

The scope of the Master Plan Maintenance Work Package is to administrate the up-to-date maintenance of the European ATM Master Plan to monitor the progress of development and of implementation. It also maintains the standard and regulatory roadmaps.

Objectives

The Objectives of WP C are to:

- Maintain Master Plan information up to date and monitor the progress of development and of implementation of the Master Plan by reference to the baseline (including supporting the Integrated Roadmap Maintenance process),
- Administrate the overall process to keep the Master Plan up-to-date, and propose amendments to the SJU Administrative Board,
- Perform Performance Planning from an ATM Master Plan perspective and support when relevant the development and maintenance of the SESAR Business Case(s) (WP 16.6).
- Administrate the process that delivers the Single European Sky Implementation Plan and provides input for development of local/regional performance based implementation plans and targets;

- Monitor and report on the achievement of these local/regional plans and also derive the impact on system wide performance,
- Implement a comprehensive standards and regulatory management process, fully integrated within the SESAR Master Plan maintenance, and interfaced with the SJU work programme from the early identification of needs for new standards and regulations, to contributing to their definition, development and validation. .

2014 report

C.01 supported the update and maintenance of the Integrated Roadmap (website update, Change Request management process & tool) for DS12 & 13.

C.02 produced:

- The ESSIP report for 2013 and the ESSIP plan for 2014
- A Performance Plan (pan-European regional and national) for ATM-MP Ed. 3. This document generated comments from the SJU and was still being refined in January 2015, with the idea of strengthening the performance aspects of the 2015 Master Plan Edition.
- A report on the non-SJU States coordination for 2013.

C.02 also elaborated Deployment Packages and Scenarios in preparation for the 2015 Master Plan update campaign.

C.03 produced:

- A standardisation roadmap, containing standardisation needs identified to support mature system enablers.
- A roadmap of regulatory needs.

The SJU ADB having set the deadline for the next update of the ATM Master Plan to 30 June 2015, (deadline for the submission of a draft to SJU ADB for consultation and subsequent approval), WPC started in 2014 with the appropriate operations in preparing for the campaign. A Work Plan was

issued in October 2014, the Master Planning Group was reactivated and preparatory meetings were held at expert level, the official kick-off meeting being on 27 November 2014.

WPC also played an active role in the official SESAR JU Campaign Kick-off event on 16 December 2014 through the Organisation and operation of a Master Class on “Mastering the Master Plan”. The ATM content of the 2015 campaign will be based on DS13 (October 2014).

The list of deliverables made available to the SJU for assessment is in Annex 2.

4 Programme management achievements

4.1 Programme Management framework evolution

The Programme Committee recommendations of 2012 were taken into consideration leading to the publication of an updated Programme Management Plan V03 (PMP). The resulting top-down approach enables SESAR partners to continue delivering results that are aligned with the European ATM Master Plan objectives. It also allows focusing the Programme on the Strategic Priorities Business Needs. Furthermore care has been taken to ensure that all PCP needs be adequately reflected into the Programme and that the required validation activities be defined to ensure the delivery of the related functionalities.

4.2 Projects' Scheduling

The first Projects' schedules were elaborated and delivered to the SJU during the Initiation Phase. These schedules are, on the one hand, used to monitor the progress of the Projects in terms of timeliness, contractual obligations, coherence, and, on the other hand, regularly updated to ensure that the most recent developments are taken into account.

The table below show the evolution of the percentage of completion of the Programme over the 2014 period.

The positive trend recorded along the recent years is confirmed as shown in the figure below. The percentage of completion versus plan has reached 90% and can be explained by various factors:

- increasing level of maturity of programme management and of the partnership in general;
- better alignment of projects with programme objectives;
- positive outcome of the 2013 reallocation that was implemented in 2014
- overall positive "tension" created by the "deployment oriented" Release approach.

According to industry standards and, taking into account the R&I nature of the work done, this can be considered as an extremely good progress indicator.

The trend of data of the last six quarters (Q2 2013 to Q3 2014) shows a Programme completion of 4% per quarter on average. This leads to an actual % complete around 61% for the Q3 2014 compared to a planned percentage of 67%.

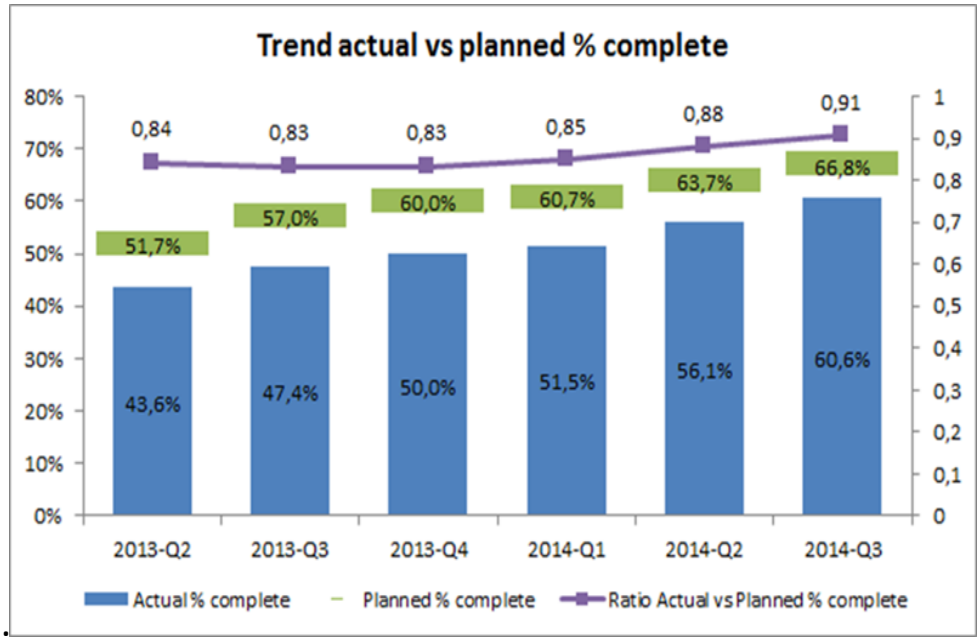


Fig. 5.

In terms of resource consumptions (FTE), the available data (2014-Q3) show an overall under consumption just between 10% to 15 compared to the planning. This is coherent with the results in terms of percentage of plan achieved reported above.

Resources re-allocation focused on increasing the efforts on priority projects adequately supporting the Priority Business needs; furthermore as the 2015 and 2016 will be the last two years of the SESAR 1 Programme, a further improvement of the actual activity results versus plan is expected to be achieved.

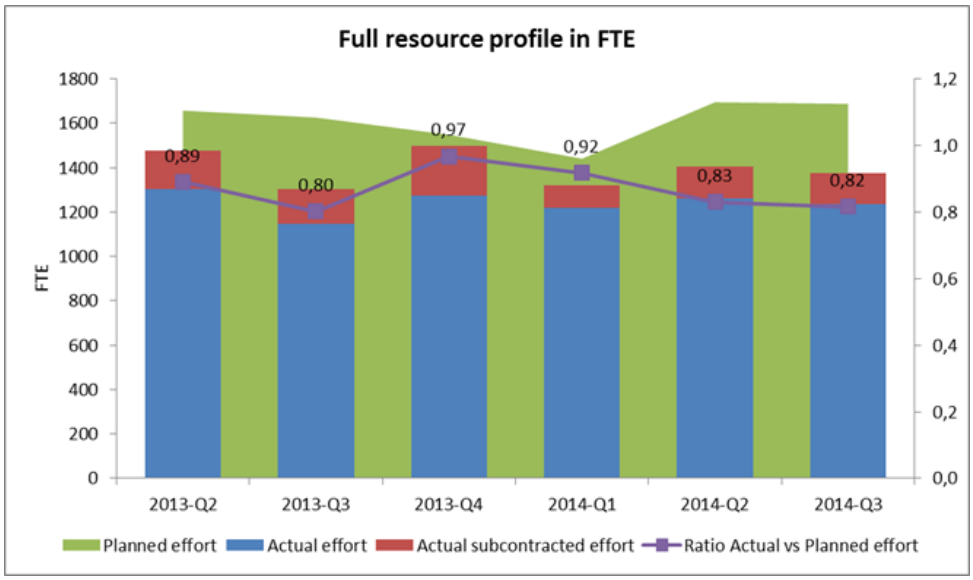


Fig.6.

A similar positive trend can be reported in terms of deliverables submission. Around 80% of the deliverables have been submitted to SJU on time since the Programmes' inception.

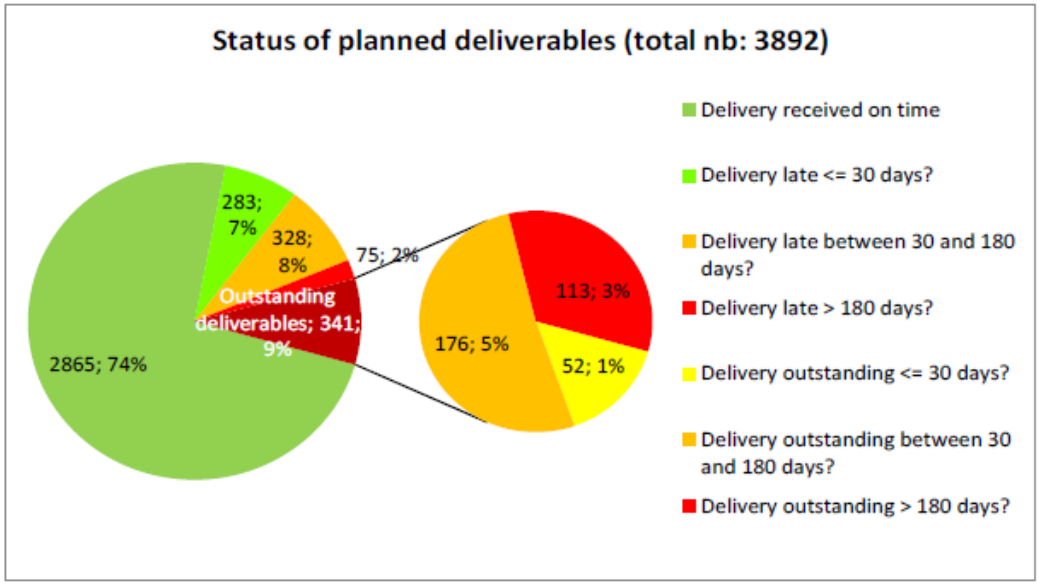


Fig. 7.

Looking ahead, it is expected that the Programme will deliver the expected output with more focused resources.

4.3 Programme Risk Management

The Risk Management approach followed by the SJU is inspired by the SJU Regulation – Council Regulation (EC) 219/2007, Article 1.5 – where it is established that the SJU is responsible for the execution of the ATM Master Plan; thus risk management is crucial to the successful execution of the ATM Master Plan.

During 2014, the SJU performed two major reviews to re-assess the main Programme risks and related mitigation actions. The process inlcudes the involvement of senior management and was both top down, focusing on Corporate and Programme risks, and bottom up focusing on information managed by SESAR project managers.

The process went through:

- Reviewing the list of risks,
- Reviewing the coherence with bottom-up assessment,
- Identifying and assessing additional risks related to the R&I activities,

The review resulted in a list of **33 Programme and SJU risks, of which 9 are considered "top risks"** due to their current criticality level (high or very high).

The distribution of risks per level of criticality is outlined in the following picture:

Criticality level (taking into account both likelihood and severity)	Distribution of risks per level of criticality	Main trend compared to last year	
Very high criticality	1	-	**Top 9 risks**
High criticality	8	-	
Medium criticality	21	+	
Low criticality	3	=	
Closed	2	=	

The major evolutions compared to the previous year assessments are the following:

The effects of the remedial actions implemented allowed reducing the Net Criticality of 3 risks:

- "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&I activities, compromising the achievement of the on-going SESAR work Programme"
  (Net Criticality from Very High to High). This was possible as result of the mitigating actions implemented in 2014: "Secure the extension of SJU (and stakeholders' involvement) and establish principles of SESAR 2020" and "Ensure commitment of SESAR 2020 candidates during design, preparation and phase-in of the programme"

- "Coordination and transversal activities are not effective, leading the R&I Programme to not deliver solutions that are really ready for the preparation of deployment" (Net Criticality from High to Medium). This was the result of two mitigating actions: "Launch of the Programme Committee Tiger Team to prepare the next ATM Master Plan campaign and formulate proposals to enhance the working arrangements involving transversal activities" and "Review WP 16 and implement recommendations";

- "R&I activities do not deliver solutions allowing reaching expected ATM performance" (Net Criticality from High to Medium). In this respect mitigating actions have been or are being implemented: "Launch of Large Scale Demonstration activities covering the period 2014-2016", "Implement the CONOPS Step 2" and "Ensure implementation of ATM Master Plan Tiger Team conclusions".

The Net Criticality of 2 risks have increased:

- "R&D activities do not meet target maturity dates" (Net Criticality from **Medium** to **High**);

- "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) (Net Criticality from **Medium** to **High**).

Specific mitigation actions are being identified for implementation.

3 new R&D Risks have been recorded:

- Inefficiency in the transition between SESAR I and SESAR 2020 leading to negative impacts on the R&D results (Net Criticality Medium);
- Large amount of both external and internal upcoming changes affects effectiveness and quality of the work performed" (Net Criticality High)This refers to the application of the of the Horizon 2020 principles to the SESAR 2020 and relating organizational impacts;
- 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 (Net Criticality Medium).

The matching matrix between Risks and Actions has been updated:

- 49 essential actions are defined of which 35 are completed, 3 are cancelled and 11 ongoing;
- 10 new actions have been created

The SJU's risk exposure will be reassessed in early 2015 in conjunction with the update of the European ATM Master Plan.

4.4 Quality Management

The quality management system is part of the Programme Management Plan (3rd edition) issued in April 2013.

In line with the approach identified as result of the experience on the progress of the Projects and the quality of their deliverables, the Programme Management Plan formalized the approach to assess the quality of around 40% of deliverables in a given year. The other 60% of deliverables, flagged below as "No reservation (P)", are assessed by the internal project quality management processes themselves and through cross-assessments. This approach is monitored and, where necessary, it would be adapted to ensure that the overall Programme quality delivers the defined results.

During 2014, 721 deliverables were handed over to the SJU, 307 were assessed with "No reservation (P)", 265 have been formally assessed by the SJU with the following distribution

- 0 are critically deficient
- 9 with majors reservations
- 27 with reservations requiring clarifications to be managed
- 229 without reservations

The remaining 149 will be managed in January/February 2015 (due to the 60 days period, the deliverables are not assessed immediately).

The graph below shows the status of assessment decisions cumulative (including previous years) up to December 2014 relating to all deliverables. As can be seen only a very small percentage of the deliverables fall in the categories "Critically Deficient" and Major Reservation/s" (2.5% cumulative).

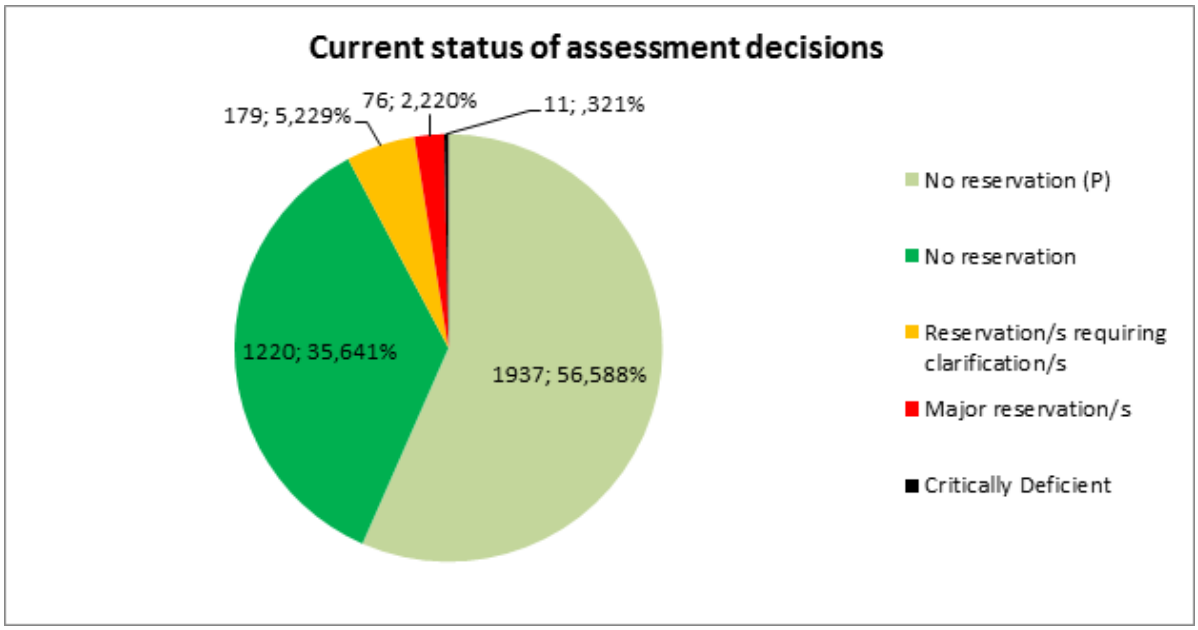


Fig.8.

This assessment of deliverables is based on the evidence provided by the Projects on the implementation of the internal quality controls prior to the submission of the deliverable to the SJU. The assessment made by the SJU itself leads to a common defined assessment status:

- Green: no reservations;
- Amber: reservation requiring clarification and/or rework;
- Red: reservation due to issues observed entailing critical risks for project execution with as consequence that the deliverable will not be disseminated through the Programme for future re-use. Additionally, the identified issues require major action(s) by the Project team, leading to significant changes to the Project plan such as partial or global tasks redefinition, suspension or cancellation to be decided at the next Project Control Gate.
- Black: the deliverable does not fulfil standard expectations and require major action(s) by the Project team, leading to significant changes to the Project plan such as partial or global tasks redefinition, suspension or cancellation to be decided at the next Project Control Gate. This also results in the non-eligibility of the cost associated with the deliverable.

Furthermore the SJU conducts on a yearly basis a Project Control Gate. The assessment of the Project performance at the Control Gate results as well in a status provided by the SJU:

- Green: the Project is under control and objectives to date have been achieved,
- Amber: during the Control Gate, significant issues have been identified which pose a significant threat to a successful outcome of the Project or Projects and its / their deliverables. The project has to implement a corrective action plan. The Programme Manager monitors the completion and impact of the corrective actions taken.

- Red: during the Control Gate, gross deficiencies have been identified with the Project's management and control and/or the technical quality and direction. It results in to the SJU taking action to either reorient drastically or close the project.

The overall quality of the Programme results is a combination of the Project Control Gate and deliverables. In fact, different scenario may result from the assessment of a Gate – for example Green – with some deliverable being Amber. At the same time, the fact that a Gate is Amber or Red does not imply that the quality of deliverables is poor, it can be related as well to some external factors impacting the project, like the management of the dependencies with another project.

4.5 Programme Management System (PMS)

The SJU has continued to develop and enhance the IT applications and adapt them to the way the Programme is executed. The Programme Management System is composed of the following three components:

- A collaboration component that ensures that all Members and partners in the programme can work together and exchange information within the partnership (Extranet);
- A central repository that collects and consolidates all information necessary to successful run the programme by monitoring and controlling progress, quality, costs and risks (SIR Info Repository);
- A central schedule management system that enables to consolidate individual project plans and inter-project related dependencies and consolidate the information at programme and release level (PMS).

4.6 Associate Partners of the SJU

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

Ten entities, assigned to 5 Lots (two for each lot) were appointed and awarded 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 Lot 3 was not awarded as no proposals were received and there is no plan at the moment to re-launch.

The award of work to the Associates is a progressive activity closely coupled to the needs of the Programme as well as of the SJU itself. During the course of 2014, 3 further Specific Agreements were awarded, increasing the engagement of the Associates expertise across the Programme, these agreements provided complementary support to the following:

Project 07.05.04 (Dynamic Airspace Configuration):

The objective of this Specific Agreement is provision of the modelling support to the SJU Members involved in Project 07.05.04 (Dynamic Airspace Configuration) for performance of the validation activities to be carried out in Step1 and Step2 of the ATM Master Plan:

- 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.

WPB – European ATM Architecture (2 Agreements):

The objective of these two specific agreements is to provide complementary support across 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.

During 2014 there were 8 specific agreements on-going under the scope of the Associate Partners, of which the support provided under project 07.03.02 awarded in 2013 was successfully completed and closed in 2014. A further 3 specific agreements are expected to be awarded during the course of 2015.

4.7 Demonstration activities

4.7.1 SESAR demonstration activities and AIRE

Following the 2012 call for tender on green flight trials and technological demonstration activities, there were 18 SESAR Demonstration activities on-going during 2014 across Europe and the North Atlantic, co-financed by the SJU.

The following tables describe in summary the objectives and the project achievements by end of 2014.

Large Demonstration Activities 2014 accomplishments

Project Name	Partners	Location	Main project achievements in 2014

Project Name	Partners	Location	Main project achievements in 2014
FAIR STREAM	DSNA DFS Skyguide Air France Lufthansa SWISS Airbus Prosky	FABEC area	The project aims at enhancing the predictability of flights into busy airports and reducing the need for stacking aircraft at an airports' TMA. 825 flights were analyzed by Fair stream project. Take-off time plays an essential role in the adherence to TTA. It was observed by the project that departure time is subject to many factors that influence its predictability and thus TTA's variability. It was observed that for operational reasons, unplanned DCTs (direct routes) are necessary and could affect the TTA adherence. The FAIR STREAM trial shows an increase of the predictability of the flights at the TTA fix, with all the actors in the loop and current technical on-board equipment. These activities are done with a significant support from ECTL through a close cooperation with WP7/13.
Dflex	Air France Aéroports de Paris Airbus Prosky/Metron DSNA EUROCONTROL FedEx	Paris	The project aims at incorporating enhanced flexibility measures into the Pre-Departure Sequencing process currently in operation at Paris CDG airport. More than 2000 flights were involved. The main flexibility function "Reordering (flight sequence reordering) - TSAT update according to the airline request" was tested, allowing airlines to swap the priority of 2 flights, with more than 50 flight involvement. Based on the success of the first trials, it was decided to keep the functions open allowing at demonstrating the DFlex benefits in disrupted situations encountered during the summer 2013. By November 2013, more than 500 flights had been involved. During the second phase, 2 other features were tested: ("ready to depart" reordering (the prioritization of a flight among all the other flights of the airline) and the substitution (ownership of departure order after cancellation - use of a departure slot belonging to a flight that the airline had previously

Project Name	Partners	Location	Main project achievements in 2014
			cancelled). The flight associated to a DFlex action got a significant improvement. And it is interesting to notice that the other flights (so-called the "impacted flights") were not penalized.
NewBridge	LFV Airbus Prosky Boeing Research & Technology Europe EANS EGIS AVIA Estonian Air EUROCONTROL GosNIAS TF NLR Novair RCF SAS Swedavia	Sweden Estonia	The project aims at providing extended coordination between airlines and air traffic control sectors to avoid the number of arrival procedures exceeding acceptance rates within an airport TMA. Project completed the preparations for the installation and integration of hardware and software in Malmö and Gothenburg and continued the work with the operational procedures and safety. Project is on-going.
FRAMAK	DFS DLH EUROCONTROL	Germany Belgium Luxembourg The Netherlands	The project aims at demonstrating that User Preferred Routes (UPR) allows aircraft operators to determine the most cost efficient routes, such as those that take advantage of tail wind inducing jet streams and turbulence avoidance. The effects of Cross-Border Directs have been assessed based on 466 FRAMAK Direct routing options which were made publicly available for flight planning. During 4 measurement periods of one week duration each Flight Plan information and track data of 17,295 flights in the AoR of Karlsruhe UAC and/or Maastricht UAC were collected. Public live trials provide evidence for the benefits of Cross-Border Direct routing options by demonstrating the reductions of FPL route length (-6.8 NM per flight or -0.6%) and actual flown track length (-3.7 NM per flight or -0.3%). Cross-Border UPR operations were investigated by means of 62 revenue flights operated by FRAMaK project partner Deutsche Lufthansa. In short haul between 1 NM and 16 NM flight

Project Name	Partners	Location	Main project achievements in 2014
			route length reduction were achieved, corresponding to fuel savings between 6 kg and 87 kg, on average 5.5 kg fuel was saved per NM. And in long haul between 12 NM and 25 NM flight route length reduction were achieved, corresponding to fuel savings between 280 kg and 618 kg, average fuel reduction is 23.6 kg per NM saved.
NASCIO	Pildo Labs Aeroports de Catalunya LPR CAT Helicopters CAA SK ONDA DHMI BULATSA	Switzerland Poland Slovakia Morrocco Turkey Bulgaria	The project aims at demonstrating new Performance Based navigation (PBN) specifications for rotorcrafts, general, business and regional fixed-wing operators. More than 60 approach and departure operations were executed. NASCIO has emphasized GNSS based RNAV and RNP benefits to the aircraft and airport operators, while supporting ANSP and regulators in achievement of the national PBN implementation plans. NASCIO involved end users from rotorcraft, general, business and regional aviation, regularly operating at less ground-equipped infrastructure where satellite navigation technology can provide major benefits.
TOPMET	Thales Air Systems Thales Avionics EUMETNET EIG DSNA Brussels Airlines	Belgium	The project aims at testing a new set of meteorological services tailored for use by ATM. Nearly 1000 flights were involved in the trial. Project achieved to improve the awareness of Aeronautical Users regarding new MET services, and collect their operational feedback in order to better focus the development of these services along their actual needs and priorities. The interoperability of the MISC (4DWxCube) between multiple MET providers (NMS) and multiple ATM and Aviation clients (Airlines Ground and Air segments, ANSPs), at different geographical scales (sub-regional –typically over the western EU airspace, or multi-regional – typically over the EU/Atlantic/Africa airspaces) and Air-Ground pre-SWIM operations in a non-safety-critical environment were demonstrated.

Project Name	Partners	Location	Main project achievements in 2014
TOPFLIGHT	NATS British Airways Plc NAV Canada	Gander & Shandwick Oceanic London	The project aims at demonstrating SESAR procedures designed to allow transatlantic flights to follow a trajectory as close as possible to their Reference Business Trajectory (RBT) while remaining de-conflicted and meeting their Arrival Manager (AMAN) sequenced times of arrival. More than 20000 flights were involved in the trials. TOPFLIGHT project demonstrated multiple elements of the SESAR concept in the gate-to-gate optimization of transatlantic. In Phase 1, 100 transatlantic flights were executed. Concept Elements; Reduced Engine Taxi, Oceanic Clearance Delivery for aircraft at gate, as a proxy for departures from a major airport to meet a CTO, Continuous Climb Operations, Business Trajectories, Advanced Flexible Use of Airspace, Optimized Oceanic Profiles including Continuous Cruise Climb and Variable Speeds and Continuous Descent Operations were demonstrated. 25% of the trial flights achieved full gate-to-gate optimization by the application of every single concept element. For 70% of the demonstration flights, more than 60% of the concepts in place were applied. It was reported that up to 834 kg fuel was saved in the westbound and 301 kg fuel was saved in the eastbound flights. In Phase 2 of TOPFLIGHT, which focused on demonstrating the feasibility and assessing the benefits of Extended AMAN / Cross Border AMAN (XMAN), up to 20,000 flights were involved in trials. The XMAN trials demonstrated that effective queue management can partially tackle ATM system inefficiencies causing delay, saving between 40 Kg to 150 Kg of fuel for each arrival, realized by the reduction of orbital holding time.
A.F.D: ATC Full DataLink	ENAV SELEX SITA NATS Airbus Prosky Air France Boeing Easyjet Airline	London Roma Milano	The project aims at proving that it is possible to leverage existing technology investments made by airlines and ANSPs across Europe that comply with the EU Implementing Rule on data link services. About 80 trials were performed in the Italian and UK Airspaces in between February and May 2014. The AFD trials have successfully shown that datalink can be used as a primary means of communication between controllers and pilots,

Project Name	Partners	Location	Main project achievements in 2014
			also on not en-route environment, where required actions need to be executed quickly. However, based on some observations and findings during the AFD trials combined with recent issues with LINK2000+ implementations in Europe, it would seem prudent to follow up in a number of areas where further investigation could benefit both planned and current deployments.
ICATS : Interoperability Cross-Atlantic TrialS	INDRA AENA NAV Portugal Lockheed Martin Air Europa CRIDA	Santa Maria & New York Oceanic Portugal Spain	The project aims at demonstrating, via flight trials, that the sharing of flight-related data between airlines and international air traffic control systems -oceanic and domestic- across both sides of the North Atlantic can result in flight efficiencies, as well as environmental, safety and capacity gains. More than 240 flights have been executed. ICATS Project has conducted two demonstration exercises supported by a ground infrastructure based in Flight Object Interoperability technology built on US/EU FIXM/ED-133 concepts and models, complemented by a inter regional Global Flight Object model developed specifically for the project. In the first trials, flights were optimized. The amount of fuel consumption and the CO2 emissions saved was 1,40%, higher than the expected 1% and the number of trajectory change requested and rejected was reduced by about 5% as expected. In addition after consulting pilots and controllers, their view is that the information exchanged through the IOP Chain provides clear benefits. In the second trials, considering only the cases where ICATS Data is better than PIV (current system) data, the analysis of the results show that ICATS accuracy of the sector load calculation and the unexpected sector overload is improved. In those cases, the results obtained clearly exceed the expected benefit defined in the project. An average improvement around 18 minutes in predictability and around 8 minutes in accuracy is obtained from the analysis.

Seven out the nine AIRE III projects were successful concluded; two were extended to 2015 due to unforeseen tasks and changes in external organizations.

AIRE III 2014 accomplishments

Project Name	Partners	Location	Main project achievements in 2014
AMBER	AirBaltic Quovadis LGS	Latvia	The project aimed at demonstrating the capability of turboprop aircraft to fly tailored Required Navigation Performance – Authorisation Required (RNP-AR) approaches together with Continuous Descent Operations (CDO) in order to shorten arrival tracks and to reduce both noise and associated CO2 emissions. Project completed in October 2014. The project has demonstrated that RNP AR technology is a positive step towards modernization of the airspace and reduction of environmental impact of commercial aviation around cities in Europe and the procedure is published for the runway used; Up to 20 NM and 230 kg of CO2 emissions saved.
Canarias	Quovadis AENA Easyjet Thomas Cook Air Berlin	Spain (Canarias Islands)	The project aimed at highlighting the benefits offered by dedicated Area Navigation Standard Terminal Arrival Route (RNAV STAR) and RNP-AR approaches into runways at Lanzarote and La Palma airports. The procedure design; charts procedure coding; and validation of the procedures in Airbus Simulators have been completed as well as the ATC training and Flight Operation Safety Assessments. Project completed in November 2014. Average savings of approximately 34-38NM and 292-313 Kg of Fuel at La Palma, and 14NM and 100 Kg of Fuel for Lanzarote.
REACT-Plus	Pildo Labs Hungarocontrol Wizzair	Hungary	The aim of the project is to perform CDO and CCO at and from Budapest Airport using a new tool. Implementation of CDA/CCD enablers (use of the merge strip tool) and start of flights trials during the 1st Quarter 2013. Project completed in September 2014. 474 CDOs + 3639 CCDs evaluated. 102.83 kg fuel per flight for CDOs (48,12% for the descent phase). MergeStrip, the enabler for CDO was implemented into the new OPS room - in operation since 1 March 2013; CDO and CCO have been successfully

Project Name	Partners	Location	Main project achievements in 2014
			implemented in Budapest airport (now offered for all airline operators);
OPTA-IN	INECO AENA Air Europa CRIDA INDRA	Spain (Balneares Island)	The project aim at investigating the means of developing fuel efficient flight profiles for a variety of RNP-equipped aircraft within current density airspace and equipped with air traffic control system. Project completed in September 2014. The potential for the concept to be implemented in an operational environment and its benefits have been demonstrated. Potential savings in the order of around *600€ x 100 a/c x day* (on an avg.300 flights per day).
WE-FREE	Air France ENAV SkyGuide DSNA Air France Regional Brit Air Alitalia	France Italy Switzerland	The project aims at demonstrating how the concept of free routing during weekend operations applied to city pairing routes can contribute to reducing emission in congested airspace. Project completed in September 2014. The project showed that, thanks to WE FREE routings, 925 NM, 140 min, 6,5 tons of Fuel, 20 tons of CO2 could be saved per day and that there is an horizontal deviation reduction of 1% compared to the current horizontal deviation. It was done with the support of ECTL/NM for the organisation (OPL) and the execution (IFPU operators) of the trial.
ENGAGE Phase II	Nav Canada Air France	Canada (Oceanic) UK (oceanic)	The project aims at demonstrating the safety of performing variable (Mach) speed and flight altitudes over the North Atlantic. Project completed in September 2014. Project designed the safety case application of variable mach and flight level in a multi-scenario model in the airspace across the North-Atlantic. The results were presented to the NAT Systems Planning Group (SPG) of ICAO in 2013 and 2014 – the group accepted the recommendation of removing of the mandatory provision of fixed Mach numbers in Oceanic clearances; An implementation roadmap has been produced.
SATISFIED	INECO AENA Air Europa Iberia SENASA	Canarias Sal Recife Dakar	The project introduces the free routing concept within oceanic corridors. Project completed in July 2014. 165 flights were flown of which 36 were optimized. The Project has delivered an insight on which changes are still necessary in order to implement free routing in the EUR-SAM corridor.

Project Name	Partners	Location	Main project achievements in 2014
SMART	NAV Portugal Air Europa Air France Iberia TAP SATA ADACEL INECO NOVABASE FAA	Portugal New York Oceanic	The project aims at sharing real-time data between airlines, ATM and systems in order to optimise oceanic flights and provide the most cost-efficient routes based on current and prevailing meteorological conditions. Projects extended to 2015. One of the main features of SMART is to develop a system that identifies of weather forecast changes affecting the flying aircraft using the World Area Forecast System (WAFS) forecasts and communicating them when they change to the AUs. In 2013 the WAF provider issued a notification indicating some major and unforeseen changes to their providing of forecasts. This entailed the need of NAV Portugal to perform some work to ensure the compatibility of the data with their existing and the SMART system causing a big delay to the project activities. The system will use the Internet to transmit the information to the AUs so a review of the necessary implementation requirements risks pointed that the security risks of the system also need to be mitigated. Because of this unplanned work the flights trials haven't yet took place.
MAGGO	NAV Portugal TAP SATA ADACEL	Portugal (Lisbon and St Maria)	The project aims at facilitating the adoption and implementation of operational improvements that benefit from the latest ATM system, taking account of automated future air navigation requirements. The MAGGO project has a lot of similarities with SMART. Most of the reasons for the SMART extension are similar (unforeseen system changes for the weather information).

During 2014 cooperation continued with the FAA.

In addition, following the adoption of the Reallocation 2013/IBAFO III results by the Board in December, the SJU has launched the last call for proposals for Large Scale Demonstration activities under the current Programme, on 19 December 2013. The proposals evaluation, performed during spring 2014, resulted in the selection of **15 Large Scale Demonstration projects** to be performed in the period 2014/2016 with a total amount of EUR 30 Mio co-financed by the SJU.

The projects are divided into two categories:

- **Projects paving the way for the wider scale deployment of the Pilot Common Project**

  These projects focus on solutions that are paving the way for the implementation of the PCP, the first set of Air traffic Management functionalities that have been identified for wide scale coordinated deployment.

- "Free solutions" the project aim at demonstrating that direct routes and initial free routing operations are possible in Europe helping to reduce flight time, congestion and positively impacting on the environment.

- "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.

- "Optimised Descent Profiles" the project aims at designing and validating cross-border arrival management procedures using Optimised and Continuous Descent Operations (CDO).

- "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 aircrafts equipped with prototype of the next generation flight management system (FMS) and data link communication systems.

- "Toplink –L1" the project aims at demonstrating the benefits of the deployment of System Wide Information Management (SWIM) based services, including MET, aeronautical, network and flight information services.

- **Projects focused on small and medium airports**

These projects focus on solutions targeting, but not necessarily limited to, small and medium sized airports including business and general aviation activities including rotorcraft. Remote Tower Services and satellite-based navigation procedures are the main solutions addressed by these projects.

- "Augmented Approaches to Land (AAL)" the project aims at demonstrating several augmented approach procedures for small and medium airport using advanced procedures based on four different technologies in order to pave the way for the uptake of these technologies to overcome the limitations of the current Instrument Landing System (ILS).

- "Budapest 2.0" the project will show that SESAR solutions can improve operational efficiency at small and medium sized airports.

- "European Connected Regional Airports (ECRA) the project will demonstrate that Airport Collaborative Decision Making (A-CDM) presently used in large airports hubs, can be deployed also at small and medium sized airports for a reduced cost using a pre-existing enhanced simulation platform.

- "Electronic Visibility via ADS-B (EVA)" the project aims at demonstrating in live conditions the feasibility and benefits of automatic dependent surveillance, broadcast ADS-B equipment, for use by general aviation.

- "PBN Rotorcraft Operations under Demonstration (PROuD)" the project aims at demonstrating how the use of satellite-based procedures can enhance helicopters operations, particularly for search and rescue and medical emergencies in Europe.

- "Remote Airport Concept of OperatioN (RACOON)" the project aims at demonstrating the viability and cost effectiveness of providing Remote Tower Services to multiple airports.

- "Remote Tower Shannon and Cork from Dublin" The projects seeks to enable the provision of Remote Tower Services at Shannon and Cork primarily in period of low traffic intensity from a remote facility in Dublin.
- "Remote Tower Operations (RTO)" the project will demonstrate Remote Tower Services (AFIS and ATC) at single tower location in the Netherlands, Sweden and Germany using live and shadow mode operations.
- "RNP Implementation Synchronisation in Europe (RISE)" the project aim at validating several PBN/RNP (Performance Based Navigation/Required Navigation Performance) procedures by conducting over 160 flights trials between ten European small and medium-sized airports.
- "TOPLINK 2" the project aims at conducting a total of 130 flight trials 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 services.

4.8 RPAS Demonstrations

By mid-2013, in anticipation and preparation of the SESAR 2020 RPAS Definition Phase, the SJU awarded nine "RPAS Demonstration Activities" projects for an amount of EUR 4.5 million in terms of co-financing. The objective is to capture best practices, experience and data through demonstration activities at flight test centres or centres of excellence with access to the required relevant airspace, bringing together RPAS operators, manufacturers, air navigation service providers and regulatory authorities to assess the state of the art of the integration of RPAS in non-segregated airspace.
Expected not later than November 2015, the final results of the nine projects will relay on safety, capacity and efficiency, airport integration & airspace throughput, as well as security.
The first findings based on simulation and pre-operational flight trials activities performed throughout 2014 allow already channelling the resources of the RPAS definition and R&I phases on the priority aspects.

Critical Review meetings were held in 2014 for the nine projects. Projects are progressing well and according to plan with some minor delay for few of them. Main findings so far include that RPAS could be managed as a light aircraft within a certain density of commercial traffic, but its flight performance is an important impacting factor; and that procedures for abnormal and emergency situations (e.g. C2 link loss) should be defined and exchanged together with ATC.

The status of the selected projects is the following:

1. AIRICA - ATM Innovative RPAS Integration for Coastguard Applications		
Coordinated by: Nationaal Lucht-en Ruimtevaartlaboratorium (NLR)	**Consortium Members:** Netherlands Coastguards Glasemann Systems GmbH Royal Netherlands Air Force Command (RNLAF)	**Status** Change of RPAS operator being finalised; Detect and avoid system development quite advanced.

2. ARIADNA - Activities on RPAS Integration Assistance and Demonstration for operations in Non-segregated Airspace		
Coordinated by: Indra Sistemas S.A.	**Consortium Members:** Aeropuertos Españoles y Navegación Aérea (AENA) Centro de Referencia de Investigación, Desarollo e Innovación ATM (CRIDA) Andalusian Foundation for Aerospace Development (FADA)FADA	**Status** Exercise 1: Draft procedures produced and being discussed with Spanish Air Force. Exercise 2: Integration of ADS-B in the three systems in progress; internal joint demo in preparation
3. CLAIRE - CiviL Airspace Integration of RPAS in Europe		
Coordinated by: THALES UK Limited	**Consortium Members:** NLR NATS (En Route) Plc	**Status** Simulations completed for ground operations and en-route flights in a mixed traffic, non-segregated airspace using an agreed set of flight scenarios in the existing airspace structure.
4. DEMORPAS – Demonstration Activities for Integration of RPAS in SESAR		
Coordinated by: Ingenieria de Sistemas para la Defensa de España (ISDEFE)	**Consortium Members:** AENA Instituto Nacional de Técnica Aeroespacial (INTA) Centro de Referencia de Investigación, Desarrollo e Innovación ATM, A.I.E (CRIDA) Fundación Andaluza para el Desarrollo Aeroespacial Aeroespaciales (FADA-CATEC)	**Status** Preparation work finalised - Trials to take place early 2015 – some difficulties related to get the approvals to carry out the trials
5. INSuRE - RPAS Integration into non-segregated ATM		
Coordinated by: IDS Ingegneria Dei Sistemi S.p.A.	**Consortium Members:** Sistemi Dinamici S.p.A. Air Navigation Services of the Czech Republic	**Status** Trials still to start – Safety and security requirements (also related to storage of the RPAS in BRNO airport premises prior and in between flights) have been identified.
6. MedALE - Mediterranean ATM Live Exercise		

Coordinated by: Alenia Aermacchi S.p.A	**Consortium Members:** Selex ES ENAV NIMBUS THALES ALENIA Space Italia	**Status** Simulations completed; Live Trial Requirements done. Sky-Y RPAS adaptation and getting the approvals for using Air Force Base and Operation Area for Live Trial in progress
7. ODREA – Operational Demonstration of RPAS in European Airspace		
Coordinated by: Rockwell Collins France (RCF)	**Consortium Members:** Direction Générale de l'Aviation Civile represented by Direction des Services de la Navigation Aérienne (DSNA) Ecole Nationale de l'Aviation Civile (ENAC) SAGEM Défense Sécurité	**Status** All exercises took place (including live trials) – results being analysed
8. RAID – RPAS ATM Integration Demonstration		
Coordinated by: Centro Italiano Ricerche Aerospaziali ScpA (C.I.R.A. ScpA)	**Consortium Members:** Deep Blue SRL Nextant S.p.A Nimbus SRL University of Malta (VoM) Malta Air Traffic Services (MATS)	**Status** Preparation of the Real Time Simulations platform; preparation of all documentation required to obtain the permit to fly for the evaluation system; and set-up of the Optionally Piloted Vehicle (OPV) Flare
9. TEMPAERIS - Testing Emergency Procedures in Approach and En Route Integration Simulation		
Coordinated by: DSNA	**Consortium Members:** Airbus ProSky Cassidian SAS STERIA Ecole Nationale de l'Aviation Civile (ENAC)	**Status** Everything prepared to carry out the live trials - permit to fly has been granted. Simulations platform also ready;

5 SESAR 2020

5.1 Membership accession process

The SESAR 2020 Membership process started on the 9th of July with the Call for Expression of Interest (CEI).
The selection of the renewed SJU membership is based:

- on the assessment of the proposed expressions of interests leading to a pre-selection of "candidate Members",
- on a dialogue to define their proposed contributions to the applied research/ pre-industrial activities and large scale demonstrations activities, in respect of technical content, contractual and financial conditions,
- on a detailed proposal for contributions to specific projects and associated activities.

Following the evaluation process 24 applications were pre-selected, of which 12 from previous Members, 3 from rearrangements in consortia composition and 9 new candidates. 19 proposals have been retained for the next phase.
In November 2014 the Administrative Board adopted a decision authorising negotiations with candidate members and entrusting the Executive Director to negotiate the conditions of accession.[15]
The dialogue has started and the process is expected to be completed by Q4 2015.

5.2 Preparation of the Industry Work Programme

Included within the Call for Expression of Interest was the draft work programme used for candidate Members to show where and how they propose to bring added value and impact toSESAR 2020. As part of the dialogue preparation started in 2014 the SJU is driving the work to perform the following actions:

- Finalize SESAR 2020 Definitions of Work(DOWs):
    - Production of the refined DOWs for , Industrial Research and Very Large Scale Demonstration Projects identified in SJU's SESAR 2020 Work Programme, covering Wave 1 and Wave 2 projects,
    - Delivery of the Extended Release Strategy addressing Wave 1 (R6/R7/R8/) & Wave 2 (R9/R10/R11)
    - Proposed Wave 1 Ramp-up Planning
    - Collection of Transversal Guidelines (safety, security, environment, business cases, etc).

- Define SESAR 2020 Programme Management Plan (PMP):
    - Identifying the Lessons Learned regarding SESAR 1 PMP;
    - The delivery of a document summarizing the process changes foreseen for SESAR 2020,

[15] ADB (D)13-2014.

- The delivery of a first version of SESAR 2020 Programme Management Plan, detailing the priority changes that need to be documented prior to the BAFO Call.

5.3 Preparation of the Scientific Research Programme

In support of a first call for Exploratory Research, the SJU has committed funds for EUR 20.6 million on the 2014 Budget, and prepared necessary elements to launch a call for Excellent Science activities and Application Oriented projects by the end of Q1 2015.
The objective of the SESAR 2020 Exploratory Research Programme is to address aspects of the Master Plan Step 3 and 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.

6 Programme specific activities in 2014

6.1 European ATM Master Plan

The European ATM Master Plan identifies the performance needs of the future ATM system and provides primarily the operational, technological, standardisation and regulatory sequence that will contribute to the achievement of the performance needs.

The European ATM Master Plan, whose initial version was produced during the Definition Phase, was handed over to the SESAR JU, who is responsible since for its maintenance and execution, after having been endorsed by the EU Council of Transport Ministers on 30 March 2009. The Master Plan was reviewed in 2012 and adopted by the SJU Board in October 2012.

During 2014, the SJU launched a major update foreseen to be delivered to the SJU Administrative Board in June 2015. This activity included:

- Defining success criteria for the update campaign 2015
- Reviewing the process to update the Master Plan aiming at strengthening the “top down approach” with the establishment of a Campaign Steering Group to oversee the execution of the campaign
- Comprehensive analysis of medium-long term Network performance needs
- Generating a better understanding of military operating environments
- Reviewing the level of ambition of Step 2 of the European ATM Master Plan
- Minor update of levels 2 (Planning) and 3 (Implementation) of the ATM Master Plan

On the 16th of December a major event was organised at political level to mark the launch of the 2015 update campaign. This event was attended over 300 stakeholder representatives and live streamed on the European Commission DG MOVE’s webpage.

6.2 Support to preparation of the Deployment

In 2012, the European Commission requested the SJU to prepare a proposal on the content of the first common project, the Pilot Common Project (PCP), including the methodology to move from the implementation view in the ATM Master Plan to a business view. This proposal contains the first set of ATM functionalities (AFs) that, having completed their research, development and validation cycle through the work of the SJU, have demonstrated their readiness for deployment:

- Extended Arrival Management and Performance Based Navigation in the High Density Maneuvering Areas;
- Airport Integration and Throughput
- Flexible Airspace Management and Free Route;
- Network Collaborative Management
- Initial System Wide Information Management;
- Initial Trajectory Information Sharing.

The proposal was delivered to the European Commission in 2013.

In 2014, the SJU continued to support the EC in activities related to the preparation for deployment under their leadership. The content of the Pilot Common Project (PCP) was finalized and incorporated in the publication of the PCP Implementing Rule. Additional work regarding completing and base-lining the standardisation needs for PCP and the identification of the final set of SESAR material required to support the PCP functionalities was also performed."

The SJU supported the Commission from a technical standpoint to launch and execute the formal consultation process that resulted in the adoption of the Implementing Regulation on the Pilot Common Project on the 27th of June 2014.

6.3 Long Term and Innovative Research beyond WPE

Coordination of SJU funded Long Term and Innovative Research is covered within WPE (see section 3.4.16). This section covers the research coordination activities going beyond the SJU programme and reaching out to other research and research coordination activities.

6.3.1 Advisory Council for Aviation Research & Innovation in Europe (ACARE)

One of the SJU's research coordination activities beyond WPE is the SJU contribution to ACARE, where the SJU co-leads and contributes to ACARE Working Group 1, on 'meeting societal & market needs' as well as supporting the coordination across all areas of the Strategic Research & innovation Agenda (SRIA). In this context, priority research areas were identified to support the EC in preparation of their forthcoming Horizon 2020 call and preparations were put in place to begin supporting the maintenance of the SRIA over the coming period. The scope of Working Group 1 includes a large part of the SESAR scope from airports and ATM perspectives, other working groups such as WG4 on safety are directly relevant too.

During 2014 the SJU also contributed to the work of the Strategy and Implementation Group and maintained its membership and attendance to the General Assembly. Increasingly ACARE is being used to provide broad advice and information to the SJU, in particular in the context of preparing its future research programmes.

6.3.2 SESAR Innovation Days

The fourth annual SESAR Innovation Days event in 2014 was hosted by the Universitad Politecnica de Madrid. This event enables the dissemination of SESAR Innovative Research results to students, universities, researchers, Research organisations and industries and facilitates interactions with the wider ATM research community and industry representatives. The papers selected for presentation were clustered into nine main themes:

- Complexity and Data Science
- Meteorology
- RPAS and Technical Enablers
- Capacity and Performance
- Risk and Security Assessment
- Human Factors and Decision Support Tools
- Modelling and Optimisation
- Economics
- Resilience Engineering

The growing interest for the event was confirmed by the number of participants, over 300 participants, and by the quality and number of the submitted papers, more than 50. During three days projects and papers were presented, results of research were discussed and debated, thus providing a collaborative learning experience essential for all students and researchers alike to keep pushing for innovation and break-through ideas.

6.3.3 Research and Aeronautics Associations

The SJU participated in communication events, presentations, meetings and extended discussions with a range of other organisations performing coordination activities across Aviation. These organisations include ASD, EASN, ASDA & EREA.

6.4 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. The Annex 2 of the RPAS roadmap requires developing a work breakdown structure with further details and enhancements to fully cover the R&I needs of RPAS ATM integration in the SESAR 2020 programme from 2015 and onwards.

Consistent with and in support to the European RPAS roadmap, the SJU launched a call for tenders for the Definition Phase early 2014 related to civil RPAS which did not lead to the award of the contract. As to the core of RPAS integration, the related activities were conducted differently mainly in-house with the technical support offered by EUROCONTROL and the Industry mainly through

ASD[16], as well as CANSO[17], taking into account where appropriate the relevant activities performed and/or technical inputs generated by them in the RPAS domain.
The initial budget of EUR 3 million allocated to the non-awarded call for tenders was adjusted to EUR 1 million for expert support to the SJU in the Definition Phase of RPAS integration.
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&I activities that will be considered in the context of the SESAR 2020 Programme and will allow the integration of RPAS in controlled airspace. The performed work will provide as well a contribution to the European ATM Master Plan during the 2015 update.

[16] ASD - AeroSpace and Defence Industries Association of Europe.
[17] CANSO - Civil Air Navigation Services Organisation.

6.5 Military

Military Engagement Plan for SESAR (MEPS):

Initiated in mid-2011, the MEPS has reached by end of the year a contribution of 69 military experts (5 % pilots, 35% air defence experts, 20% ATM experts, 40% engineers) from ten countries (BE,DE, ES, FI, FR, IT, NL, PT, SW and UK) for an assessed initial need of 51 projects. During 2014, channelled to the SESAR JU through Eurocontrol, the MEPS enabled the participation of national military in all relevant aspects of the Programme, via a structured organisation including the creation of specific panels to gather a large number of military inputs in specific technical and operational domains.

EDA/SJU arrangement:

While the SJU and European Defence Agency (EDA) have already engaged since early-2011 in a close dialogue and informal talks, the SJU has established since a more formal arrangement with EDA to ensure the adequate military input on matters related to military aspects in SESAR Programme.
According to this arrangement, EDA coordinates the commitment and the input of its participating Member States and the Military international organisations, in particular NATO, as well as relevant political level(s) to “buy in" the results of the Programme.
Further to the agreement of the participating Member States to establish a programme on the military implementation of SES/SESAR, EDA has implemented early-2014 a cell, the “SESAR Cell”, composed by four national experts seconded by some Member States (DE, FR, NL and UK) to reinforce the military engagement in SES and to avoid any adverse impact on defence capabilities stemming from SESAR deployment. Since its implementation, the SESAR cell allows for a greater interaction with the SJU and in particular enhanced the military contribution in the next ATM Master Plan Update campaign.
Nevertheless in the context of the ATM Master Plan Business View Review and of the PCP in 2013, the EDA was requested by the SJU to ensure the adequate provision of the military input. With particular regard to the Military costs for the Business View Review, there is still work to be performed at the date of this report and conclusive results are expected towards the edition 2015 of the Master Plan.

NATO’s Involvement in SESAR:

Under the control of SJU Executive Director, of EDA Chief Executive and of NATO Assistant Secretary General, a roadmap was initiated in 2012 to define at technical level effective modalities of interaction between SJU, NATO and EDA, to achieve a common understanding of the challenges associated with SESAR as regards NATO interests and to identify possible matches between NATO expertise and SJU on-going activities through substantial information sharing.
Follow-on meetings took initially place on a regular basis to investigate conceptual thinking and provide necessary and timely technical input from NATO, taking into account the calendar associated to SESAR implementation. It must be stressed that such meetings have lessened gradually giving way for bilateral meetings "NATO-EDA" including the military from Eurocontrol related to more circumstance work (CPC, Master Plan Update).
The Member States and the Military international organisations (such as EUMS, MAB) are kept informed on a regular basis via reports, as well as the SES/SESAR Military Implementation Forum and other appropriate fora.

6.6 Professional Staff Associations

The involvement of the Professional Staff Associations is still assured through a Eurocontrol framework on behalf of the SJU of 5 contracts, one for each of the following Associations: IFATCA, ECA, IFATSEA, ETF, and ATCEUC.

These framework contracts will run until the end of the programme on 31/12/2016.

During 2014, 4 quarterly meetings took place to ensure coordination of the staff inputs to SESAR both with the SJU staff and between each other so the activities line up with work orders of each association.

Moreover, the SJU attended the annual meetings of IFATCA and IFATSEA, as well as SESAR or ATM coordination meetings with ETF, ATCEUC and ECA/IFALPA. Similarly, experts from the PSO's were invited to provide their views on panels at various SESAR events such as the ATM MP, the RTS Solutions Event etc. Furthermore, experts from the associations were chosen to participate in various working groups such as RPAS and the ATMMP work, over and above their active participation in the SPP. They also contributed to the third party framework programme, albeit in a diminished capacity (ie. the PSO was not able to supply the high demand from the projects) due to limited budget.

The full integration of staff associations' representatives into the Programme at different levels remains in place and a pool of 90 cross-nationality licensed and operational ATCO´s, Pilots and ATSEP´s continue to work on the International Validation Team, IVT. The IVT participated successfully to validation activities during 2014 bringing good operational experience and value to the performance and exercise outcomes.
The IVT has an agreed staff association's focal point for the planning and reporting of the IVT to the SJU and the quarterly meetings, ensuring follow up. In 2013, the SJU also contracted a second expert to facilitate the IVT work and throughout the course of 2014, this expert took over the duties of the former expert.

6.7 National Authorities

The SJU has continued to be active in the relevant forum in which Regulatory Authorities coordinate and take decisions, such as:

- The Single Sky Committee,
- The EASA ATM Thematic Advisory Group
- The Eurocontrol Safety Regulation Commission,

The SJU has also maintained during 2014 close relations with the National Supervisory Authorities through the National Supervisory Authorities Coordination Platform, under the umbrella of the Single Sky Committee. The SJU has taken an active part in a Working Group created under that platform, particularly addressing SESAR deployment issues. The working group gives an opportunity to inform about SJU R&I activities and thus to help Authorities to better bridge development and deployment activities.

As a result of the call for proposals to Civil and Military National Authorities published in June 2012, a Memorandum of Understanding started to be in operation in January 2013 up to December 2016. On the grounds of this MoUs, 17 National Authorities from 13 States provide more than 80 experts

to support the SJU until the end of 2016. Among the selected Authorities there are several National Supervisory Authorities, Civil Aviation Authorities, two Military Authorities and one Aviation Security Authority. The States represented through this call are Belgium, France, Germany, Ireland, Italy, Malta, The Netherlands, Poland, Portugal, Romania, Spain, Turkey and The UK. Ukraine joined the group pf National Authorities cooperating with SESAR, through an expert working arrangement.

During 2014, 3 Quarterly Meetings took place with the Authorities, covering wide range of the subjects, including overview on SESAR activities of demonstration projects and authorities involvement in demonstration projects, discussions on Remote Piloted Aircraft systems(RPAS), Remote Towers, GBAS CATII/III, SWIM.

The results of the reviews performed by the Authorities and of their participation in validation exercises have been integrated during 2014 in the assessment of the SESAR deliverables. They have also been used for the elaboration of the Regulatory Overview of the SESAR solutions.

The 3rd Workshop on SESAR Activities involving National Authorities and EASA will take place in January 2015 place, gathering experts from 17 National Authorities, 12 Military representatives, EASA, Eurocontrol and the EC. The main focus of the Authorities will be ensuring an adequate bridging between development and deployment.

6.8 Cyber Security

The future European ATM System has to 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. In order to introduce a holistic approach to cyber-security, the SESAR JU awarded early-2014 a "SESAR Strategy and Management framework study for Information Cyber-Security" to a Consortium led by Helios Technology Limited and supported by Thales. The objective of the study is:

- Assessing security threat and vulnerability;
- Suggesting a target SWIM Security framework, including basic requirements for liability/accountability, structure/architecture and management system, and;
- Providing solutions for later prototyping, verification and validation of SWIM security.

Initiated in Q2 2014, the study details 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, 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, as well as the edition 2015 of ATM Master Plan.

Based on the initial results (deliverables D.1 & D.218) and on initial experience to further correct the approach, consideration has to be given to the fact that cyber-security will consist of governance, infrastructure and standards. As such it will make it easier to adopt policies 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

[18] D.1 – "ATM Cyber-Security Threat and Vulnerability Assessment" and D.2 – "SESAR Target ATM Cyber-Security Framework".

incident response. In parallel, the development of hardened and standardised interfaces for services has to be pondered promptly.

Such responses to the Cyber systemic vulnerabilities needs to begin now and will be taken into consideration for the Master Plan Update and SESAR 2020 programme.

6.9 Coordination with FABs

Project activities, validation and demonstration activities in SESAR involved in many cases ANSP cross border operations and as such target the organisations and operations of the FAB´s. Some FAB centred coordination was done on a case by case basis and after requests from the FAB organisations themselves where SESAR work was explained and opportunities explored. However, the main activities relating to FAB´s are funnelled through the ANSP members work and participation to the SESAR work programme. Their specific relevant operational and technical details of the SESAR work programme results are through this mechanism channelled to their respective FAB activities. The SJU ANSP member as FAB Members did in turn bring their operational information of FAB operations into the relevant operational projects in the SESAR work programme.

6.10 Civil Airspace Users

The Airspace Users are fully integrated within the Programme and their expertise recognized 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. Furthermore, the AU's continued in playing their key role in the Administrative Board and in the Programme Committee. They also maintained their strategic participation to the SPP 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. Whilst the number of projects where AU's were involved decreased compared to that of 2013 (from 100 to approximately 76 projects due to BAFO re-allocation and closure), their overall participation was maintained at approximately 2,500 men/days but it should be kept in mind that by the mid-end of 2014, only 12 AU were fully contributing to the programme.

6.11 ACI

Since 2010, the SJU has a framework contract with Airports Council International-Europe. This contract has now been extended until end December 2015 and the completion of a third work order is currently underway. In 2014, the SJU further reinforced its relations with ACI via attendance at meetings such as the ACI TOSC (Technical, Operations and Safety Committee) in Poland and the ACI Exchange meeting in Paris. There have also been numerous bilateral meetings between the SJU management and ACI, including a presentation by the SJU Executive Director at the ACI Board in January 2014. Furthermore there were 2 ACI/SESAR Roadshows hosted in Manchester and Milan and visits to ACI members, London Heathrow, Munich and Frankfurt (also SEAC members of SESAR). A new ACI liaison officer has been designated to work 2 days/week in Brussels (interchanging between the SJU and ACI premises) to further enhance the fleshing out of the SESAR 2020 priorities. The liaison officer has served to further strengthen the cooperation with ACI's 451 airports.

7 Coordination with other Programmes and Organisation

7.1 FAA/ Next Gen

During 2014, the priority co-ordination activities (described in Coordination Plans) were worked according to the agreed scope which further integrated with the SESAR work programme tasks.

Within the frame of the Annex 1 of the Memorandum of Cooperation with the USA addressing interoperability between SESAR and NextGen, the Coordination committee (co-chaired between the SJU and the FAA) met three times to follow up on the work agreed in the active Coordination Plans. The Coordination Committee reported to the outcomes to High Level Committee in March 2014.

The issue based approach was continued in 2014 in order for the management of the MoC to make priority decisions to increase efficiency across the MoC Annex 1 domains. The CCOM developed and delivered as agreed to the HLC in December 2014 the first version of the NextGen/SESAR "State of Harmonisation Document". This version was subsequently approved by the HLC by correspondence and will be first published in February 2015. Bi-annual updates will follow as advised by the HLC at their March meeting 2015.

A better understanding on the overall key areas needs of harmonisation has allowed some coordination plan areas to be either merged, closed or a new or pending coordination area to be opened. Key interoperability issues are now in the clear and under synchronisation as to what, when and to where the outcome of the work will be transferred to achieve the interoperability foreseen. In some cases it would be a harmonisation agreement leading to transfer to industry standardisation bodies or to ICAO where global interoperability is necessary for the success of both SESAR and NextGen.

Areas that are worth mentioning as successful achievements:

- CP1.3 alignment of standardisation needs in general
- CP1.4 alignment between the SESAR MP and the NextGen Implementation Plan
- CP1.6 alignment of needs and inputs to the ICAO work programme for the next update of the GANP/ASBU´s
- CP1.8 aligning cybersecurity issues between SESAR and NextGen, specifically in the area of SWIM
- CP1.9 alignment of activity plans for the integration of RPAS into the ATM system

- CP2 Information Management agreed the SWIM Concept to be used as a baseline for the new ICAO SWIM Panel;
- CP3 entailed issues on harmonising positions around 4D trajectory information data for exchange (FIXM) that still needs to be resolved but significant steps forward have been made particularly on the timing of standards development. This matter has a dependency with CP 5 on global SWIM demonstrations and initial 4D trials that will be further detailed in 2015;
- CP4.2 agreed a joint Avionics roadmap;
- CP 4.4, 4.5 and AP30 on Future Communications Infrastructure. During 2014 discussions were held on how to get clarity on the efforts across the coordination on Data Communications. This resulted in an agreement to see these activities together and to coordinate the specificities for an overall outcome necessary to solve the data communications issue at least from a SESAR and NextGen perspective. Agreements in key areas of data communications will be further worked on during 2015.
- CP 5 (collaborative projects) SWIM Global Demonstrations and i4D trials are on the agenda for concrete plans of activities during 2015. An opportunity will be during the ICAO BUDSS planned for May 2015.

To achieve a better focus on where SESAR and NextGen need to be interoperable and in order to avoid a possible duplication of work, the handshake procedure between Eurocontrol – FAA MoC Action plans and the EU-US MoC Annex 1 - SESAR NextGen Coordination Plans are continually being used. In short, this means that all SESAR related activities falls under Annex 1 Coordination Plans and other more day-to-day operational and technical issues of coordination activities under the Eurocontrol – FAA Action plans.

7.2 Clean Sky

Coordination with Clean Sky continues to focus on specific areas of common interest with the start of project level discussion and alignment; these are:

- WP16 SESAR Gate to gate aircraft operation improvement for fuel and environmental savings, environment metrics and modelling and the Clean Sky Technology Evaluator work,
- WP9 Aircraft Systems in support of SESAR Trajectory based Operations and Clean Sky Trajectories for Green Operations,

A follow up activity from the ATM operations focused workshops took place in 2014. Topics of common interest were:

- Performance Based Navigation
- Vertical Profile in the TMA
- Ground & Airborne Capabilities to Implement Sequence
- ASPA-IM Sequencing & Merging

This exchange of operations information was effective and the relatively high level discussions in these meetings did not immediately identify any overlap or mismatch between CS activities and the R&I Programme.

The SJU followed up the remark made by the European Court of Auditors in the report on the Annual Accounts for the financial year 2012[19] as regards the exchange of data and results as well as the

[19] European Court of Auditors' Report on the Annual Accounts of the SESAR Joint Undertaking for the financial year 2012 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2013:369:0049:0056:EN:PDF

coordination between the two Joint Undertakings. In view of the preparation of CleaSky2 the SJU has been proactive to foster improved cooperation between the respective Programmes. Specific follow-up has been activated during 2014 with Director-level meetings and exchanges of information on matters including the set-up of the new JU/JTI under H2020 and the respective programmes' scope of activity.

7.3 EUROCAE

The SJU continues to support, through its partners and through the availability of deliverables from relevant projects, the standardization work of EUROCAE in those activities which are relevant for the SJU Work Program.

The SJU continues to support the technical governance of EUROCAE work through active participation on the EUROCAE Technical Advisory Committee to ensure ongoing alignment of EUROCAE development and planning with the SESAR standardisation needs.

The EUROCAE Technical Work Program has included during 2014 several standardization needs with origin in the R&I Programme. In particular, the coordination between the SJU and EUROCAE has been especially close regarding the detailed planning of the standardization needs for the Pilot Common Project.

The SJU has actively worked with EUROCAE in systematizing and streamlining the processes for the production of standardization material.

7.4 ICAO

The SJU continued during 2014 to take on a key role of the European coordination (EC, Eurocontrol, EASA, ECAC and EUROCAE) towards the ICAO work Programme priorities and the next Update of the GANP/ASBU´s. The SJU continues to invest in supporting European contributions towards the ICAO work programme groups, task forces, study groups and panels in order to secure both alignment and the available support from SESAR to ICAO. During 2014 the EC, Eurocontrol and SJU supported in building the complete picture of presenting incentives as means to complement the implementation of the GANP/ASBU´s. The full report will be delivered in February 2014 to ICAO and efforts are ongoing to have this mention in the updated GANP referencing the full work as guidance material.

As the priorities of ICAO directly links with SESAR and NextGen, the coupling with the EU-US MoC SESAR/NextGen coordination planning has played a very important and successful role in achieving common positions towards ICAO.

While the overall alignment of the ICAO ASBUs and the Master Plan was achieved, still work has to be performed to reach the necessary level of detail. The SJU has identified key areas where SESAR need the support of standards and ICAO provisions. These areas have been coordinated with the FAA under the EU-US MoC Coordination Plans and will be further worked on in 2015 with the aim of having SESAR and NextGen coordinated priorities for the most efficient support in the developments of standards and ICAO provisions as a result of the endorsed GANP.

7.5 EASA

The large amount of detailed recommendations from EASA have been considered both in the execution of SESAR projects and in the elaboration of the SESAR solutions.

During 2014, the SJU and EASA continue close cooperation under the umbrella of the Letter of Agreement signed in 2010. Within 2014 main focus on cooperation was on successfully communicate and discuss SESAR projects like: Remote Towers, GBAS CAT II/II, SWIM, Demonstration activities, including Very Large scale demonstrations. SESAR activities on RPAS and study on Cyber – security were also discussed. The Most important tasks SJU and EASA were to start was to coordinate and to prepare ground for SESAR 2020, Very Large Scale demonstration activities, which would require close cooperation of EASA and Authorities using Proof of Concept results.

In 2014, 2 quarterly meetings with EASA and 3 ad hoc meetings took place. The ad hoc meetings were on – Remote Towers and GBAS CATII/III -GAST-D. Additionally, some specific coordination has taken place regarding Data Communications.

The collaboration with EASA resulted in some recommendations to be considered by the SJU in its work, in particular in the preparation of the SESAR Solutions.

Finally, the EASA Rulemaking Plan adapted to include SESAR regulatory needs (activities in GBAS to be launched ; Performance Based Navigation (PBN) –Notice of proposed amendments (NPA) is out for public consultation , taking into account SESAR results and Pilot Common project Regulative framework.

7.6 European Space Agency (ESA)

The European ATM Master Plan clearly identifies the need for space-based positioning for navigation and communication services in support of time-based and trajectory-based operations. This is in addition to supporting improved operations into less well equipped airports or with vehicles differently equipped and therefore this work is applicable to a wide range of airspace users and facilities.

The SJU and ESA, through the Iris programme, continue to have a productive working arrangement where ESA staff actively participates in SJU Projects relevant to them, and SJU staff and Project participants meet to exchange relevant information. The SJU also continued to participate directly to the Joint Iris Advisory Committee (JIAC) and also the Iris Expert Group. This contribution is to maintain the technical coordination between ESA, SJU and other stakeholders as the options for meeting the SESAR Data-link requirements using Satellite Communication in support of 4D trajectory operations develop.

The Iris Precursor or Iris 2017 has been established by Inmarsat and others and the SJU, through its BAFO III process, has launched a complementary project to fully explore the operational and technical viability as well as service continuity and Airspace User cost of this approach, including using it to be able to support the initial 4D operations in oceanic and remote areas as well as providing backup to the existing continental VDL2 datalink environment.

The SJU and ESA are preparing a mutual agreement that establishes a long term relationship to ensure appropriate shared expertise, coordinated investment and common objectives.

7.7 External relations

During 2014 the SJU engaged in external relations through several channels and stakeholders with the aim of creating awareness of the SESAR work programme. Apart from bilateral meetings, the SJU organised and participated in workshops and conferences by sharing information, demonstrating results and providing guidance according to the needs of the specific audience.

The SJU provided SESAR/ATM specific contributions in the context of the European Commission external relations framework and liaised with DG MOVE in order to identify the most efficient means for providing technical cooperation in relation to ATM and SESAR.

The SJU also carried out SESAR workshops in third countries, mostly as awareness exercises or joint ventures technical fora at the request of the third state, coordinated, supported or done jointly with DG MOVE.

The Memorandum of Cooperation's, in place either directly with the SJU or through DG MOVE, was progressed with the objective of achieving alignment of the Master Plan, the SESAR work Programme towards the Industry standardisation bodies and ICAO´s Global Plan (GANP/ASBU´s). Key areas addressed in this context continues to be the areas of necessary global coordination around SWIM and ATM information data definition and exchange and in Trajectory based Operations including initial 4D operations and data communication services standards.

Furthermore, external relations continued in the above context and at various paces with the Gulf States, China, Australia, Israel, Turkey, Ukraine, Brazil, Mexico, Japan and the States in the African COMESA region.

8 Budget Execution and Final Accounts

In 2014 the SJU paid to the Members and for other operational activities (Title 3) the amount of EUR 89.7 million against, a comparable amount of EUR 91.6 million in 2013. It should be noted however that at the end of the year 4 IFS were still under assessment and the related payment for an amount of approximately EUR 7.1 million was not performed; furthermore the payment requests were partially offset by the pre-financing granted when the projects were initiated. The co-financing relates to the eligible costs for the deliverables and work-in-progress reported by the Members in the Interim Financial Statements 2013 and accepted by the SJU in 2014. The Programme is now progressing with stabilised efforts and resources usage (see section 4.2), however considering that the Programme is approaching its end in 2016, it could be expected an acceleration of the spending and an increase of the related co-financing in the coming years. In line with the principle of 1/3, 1/3, 1/3 participation by the Founding Members and Members to the Programme, in kind contributions were provided by Eurocontrol and Members as detailed in Annex Ib.

The acquisition of goods and services has gone through the procurement process according to the SJU Financial Rules ensuring fair competition among the potential suppliers and efficient use of the SJU funds

Staff expenditure amounted to EUR 5.1 million with a slight decrease of EUR 0.5 million due to the turnover and to the fact that the SJU has few positions to fill in to reach full staff as per Staff Establishment Plan.

In accordance with Article 15 of the SJU Financial Rules and in order to ensure the most adequate cash management in view of 2015 expenditure, the SJU received cash contribution from the EU for an amount of EUR 94.7 million (22% more than in 2013). The cash contribution from Eurocontrol amounted to EUR 14.3 million (85% more than in 2013). The increased amount of resources provided together with the delayed payment of some IFS determined a positive outturn of EUR 15.9 million. The cash balance at the end of the year was increased by EUR 15.9 million to EUR 21.4 million, out of which EUR 3.0 million will be absorbed by commitments not yet paid. The remaining cash, EUR 18.4 million is sufficient to ensure the continuity of operations during the first months of 2015 including the payment of the delayed IFS. The resources made available by the SJU Members, the budget provided by FP7 and TEN-T, the cash contribution from Eurocontrol, were used in accordance with the SJU Financial Rules and, consequently, in line with the principles of the European Union Programmes providing the funds. With particular regard to the estimated eligible costs of the Programme, the provisions of Title 9 of the SJU Financial Rules, derived from FP7 and TEN-T funding systems, were applied.

With regard to the use of TEN-T and FP7 funds they have been allocated to the different activities and WPs considering their availability in terms of commitments and payments.

Provisional Annual Accounts 2014– Budget Accounting – Budget Outturn

all figures in EUR	2014	2013
REVENUE RECEIVED FOR THE YEAR		
Contribution from the European Union	94.753.384	77.535.515
Contribution from Eurocontrol	14.279.914	7.681.057
Contributions from other Members	4.246.362	4.246.362
Other sources of contribution and revenue	(37.077)	182.298
TOTAL REVENUE (1)	**113.242.583**	**89.645.232**
TOTAL PAYMENTS MADE FOR THE YEAR		
Staff Expenditure	(5.146.061)	(5.630.436)
Administrative Expenditure	(2.474.909)	(2.723.917)
Operating Expenditure	(89.708.026)	(91.608.651)
TOTAL EXPENDITURE (2)	**(97.328.996)**	**(99.963.004)**
BUDGET RESULT of the year (3)=(1)-(2)	***15.913.587***	***(10.317.772)***
Total Budget Result previous year (4)	**5.523.016**	**15.840.788**
NEW TOTAL BUDGET RESULT (5)=(3)+(4)	***21.436.603***	***5.523.016***
COMMITMENTS STILL TO BE PAID (6) ***(Carry Forwards from year Title 1&2 only)***	**(2.973.065)**	**(3.191.886)**
TOTAL BUDGET OUTTURN (7)=(5)+(6)	**18.463.538**	**2.331.130**

Provisional Annual Accounts 2014– Budget Accounting - Revenues

all figures in EUR	1	2	3=2/1	4	5	6=5/4	7	8
Type of revenue	**Commitment appropriations**	**Actual Revenues established**	***% of budget***	**Payment appropriations**	**Actual Revenues received**	***% of budget***	**Outstanding (from 2014 only)**	**Outstanding (Total)**
Contribution from the European Union	0	0	*0,0%*	96.953.383	94.753.384	*97,7%*	2.200.000	260.446.101
Contribution from Eurocontrol	3.154.000	3.236.920	*102,6%*	15.120.000	14.279.914	*94,4%*		9.823.393
Contributions from other Members	4.246.361	4.246.362	*100,0%*	4.246.361	4.246.362	*100,0%*		
Other sources of contribution and revenue	100.000	21.649	*21,6%*	100.000	-37.077	*-37,1%*		0
Budget surplus previous year	20.074.906	20.074.906	*100,0%*	5.523.016	5.523.016			
TOTAL REVENUE	**27.575.267**	**27.579.837**	***100,0%***	**121.942.760**	**118.765.599**	***97,4%***	**2.200.000**	**270.269.494**

Provisional Annual Accounts 2014– Budget Accounting – Expenditure

all figures in EUR	1	2	3=2/1	4	5	6 = 4 + 5	7	8=7/6	9	10
Type of expenditure	**Commitment approp.**	**Commitments**		**Payment appropriations**			**Payments**		**Commitments still to be paid**	**Commitments still to be paid**
			% of budget	*BDG 2014*	*from 2013**	*Total*		***% of budget***	***(2014 Carry Forwards only)***	***(Total)***
Staff Expenditure	6.195.500	6.181.609	*99,8%*	*6.195.500*		6.195.500	5.146.061	*83,1%*	1.010.000	1.010.950
Administrative Expenditure	3.246.500	3.187.216	*98,2%*	*3.246.500*		3.246.500	2.474.909	*76,2%*	1.963.065	2.354.541
Operating Expenditure	3.677.600	3.677.600	*100,0%*	*112.500.760*		112.500.760	89.708.026	*79,7%*	2.528.734	253.348.427
1. Studies/Development conducted by the SJU	*3.677.600*	*3.677.600*		*32.341.695*		*32.341.695*	*24.119.075*	*74,6%*	*2.528.734*	*76.163.129*
2. Studies/Development conducted by Eurocontrol										
3. Studies/Development conducted by other Members	*0*	*0*		*80.159.065*		*80.159.065*	*65.588.951*	*81,8%*		*177.185.298*
TOTAL EXPENDITURE	**13.119.600**	**13.046.425**	***99,4%***	***121.942.760***		**121.942.760**	**97.328.996**	***79,8%***	**5.501.799**	**256.713.918**
TOTAL REVENUE		**27.579.837**					**118.765.599**			
BUDGET SURPLUS		**14.533.412**					**21.436.603**			

** only amounts needed in 2014*

Provisional Annual Accounts 2014 – Budget Accounting

In-Kind Contribution *(Annexe I of the Budget in accordance with the SJU Financial Rules)*

all figures in EUR	1	2	3=2/1
Type of revenue	**Commitment appropriations**	**Actual Revenues established**	***% of budget***
Contribution from the European Union	0	0	
Contribution from Eurocontrol to be recognized	74.460.000	67.185.000	*90,2%*
Contributions from other Members to be recognized	0	0	
Other sources of contribution and revenue	0	0	
Budget surplus previous year	0	0	
TOTAL REVENUE	**74.460.000**	**67.185.000**	***90,2%***

Provisional Annual Accounts 2014
Expenses In-Kind *(Annexe I of the Budget in accordance with the SJU Financial Rules)*

all figures in EUR	1	2	3=2/1
Type of expenditure	**Commitment appropriations (Final budget)**	**Actual Commitments**	***% of budget***
Staff Expenditure	0	0	
Administrative Expenditure*	0		
Operating Expenditure	74.460.000	67.185.000	*90,2%*
*1. Studies/Development conducted by the SJU***	*0*		
*2. Studies/Development conducted by Eurocontrol***	*74.460.000*	*67.185.000*	*90,2%*
3. Studies/Development conducted by other Members	*0*	*0*	
TOTAL EXPENDITURE	**74.460.000**	**67.185.000**	***90,2%***
TOTAL REVENUE		**67.185.000**	
BUDGET SURPLUS		**0**	

8.1 Procurement and grant procedures

In 2014 18 calls for Tenders/Proposals have been launched resulting in 26 contracts/grants agreements for an amount of EUR 14.4 Million and EUR 28.0 Million respectively awarded or being awarded.

Title of the procedure	Type of procedure	Value	Status
Performance of a SESAR Strategy and Management Framework Study for Information Cyber-Security	Procurement	630.000,00	Awarded
VDL Mode 2 Capacity and Performance Analysis	Procurement	225.000,00	Awarded
Multi-Dimensional AiRPAS	Grant	400.000,00	Cancelled
Provision of services to the SJU in the fields of Project Audit (Lot 1), Strategy Advice (Lot 2) and Support to Programme Management (Lot 3)	Procurement	2.500.000,00 (Lot 1)	Cancelled (Lot 1)
		3.500.000,00 (Lot 2)	Awarded (Lot 2 & 3)
		4.000.000,00 (Lot 3)	
Provision of web, email and media monitoring support to the Communication Activities of the SESAR Joint Undertaking	Procurement	440.000,00	Awarded
RPAS definition study (1)	Procurement	3.000.000,00	Cancelled
Large Scale Demonstration activities	Grant	27.987.515,00	Awarded
Temporary staff support services	Procurement	n/a	Awarded
Legal support in preparation of the SESAR Joint Undertaking's membership agreements	Procurement	15.000,00	Awarded
RPAS definition study (2)	Procurement	3.000.000,00	Cancelled
Young Scientist contest 2014	Prize	5.000,00	Prize not awarded
VDL Mode 2 Measurement, analysis and simulation campaign	Procurement	2.998.000,00	Awarded
Call for expressions of interest to become candidate member of the SESAR Joint Undertaking (SESAR 2020)	n/a	n/a	Pre-selected Candidates
Provision of services to the SJU in the fields of Project Audit	Procurement	2.500.000,00	Awarded
Re-negotiation of the SESAR JU lease agreement - Legal and Administrative Advice	Procurement	60.000,00	Cancelled
Support to finalise the 2013 Interim Financial Statement Process (IFS 2013)	Procurement	14.682,00	Awarded

9 Management and Internal Control System

9.1 Programme Management and Risk Management

In April 2013 the SJU released the "Programme Management Plan (PMP) version 3, which updates the previous edition by including the outcome of the work conducted by a PC member's group (Tiger Team) in early 2012. In particular are integrated into the document the concept and the ensuing identification of Priority Strategic Business Needs as well as measures decided to improve efficiency of the programme management framework. The System Engineering principles are clarified and the full Programme lifecycle is presented. No other version has been released since.

The PMP shows how the Programme is organised and how the various R&Iprojects are conducted. The Programme is managed following the principles of transparency, timely and comprehensive communication, efficient reporting and escalating procedures which ensure participation and collaboration between Members and the SJU at different levels. Coordination and management of the R&I activities and related roles and responsibilities are positioned at the level of Operational Focus Area (OFA) to reflect the Programme operational structure (see fig.1).

The Members contribute to the Programme decision making process through the Programme Committee and at a more operational level through the Program Control Group, which met bimonthly in 2013. The SJU, on the basis of the experience mature so far, has started working on a PMP version that will be used to steer the SESAR 2020 Programme being launched.

The SJU's Risk Management activities have been conducted in line with the Policy approved by the Executive Director with the decision ED 64 on March 25th 2010. The 2014 Risk Management Report has been endorsed by the Administrative Board as part of the Annual Work Plan 2015 on 11 December 2014. The key elements of the report are presented in section 4.3.

9.2 The Internal Control System

The Internal Control System sets out the minimum requirements for the internal control activities, its six building blocks are fully integrated into the SJU control system in line with the system in place at the European Commission[20].

- **Mission and Values.**

The mission of the SJU is clearly stated in Article 5.1 of the SJU Regulation.

The Annual Work Plan 2015 builds around the following medium term vision "High Performing Aviation in Europe" further detailed in "The SESAR Joint Undertaking for Research and Innovation is delivering solutions to modernise air traffic management, enabling high-performing aviation in Europe and worldwide".

The vision has been declined in medium term strategic objectives to be achieved by the end of 2016 and is coherent with the achievement of the SJU Mission at the end of the Programme.

[20] Communication to the Commission "Revision of the Internal Control Standards and underlying Framework – Strengthening control effectiveness" 16 October 2007, SEC(2007)1341.

A set of ethical values are well rooted and positively determine SJU staff behaviours and set the tone at the top of the SJU.

In house training are organised for new staff members on ethics and integrity or staff members are requested to attend the EU Commission trainings on the subject. In addition, all new staff is trained on the full scope of operations and activities of the SJU and Programme, to build a common understanding of the objectives to be achieved and the overall control and management framework.

- **Human Resources**

The SJU is an EU body and therefore its staff is subject to the EU Staff Regulations.

The SJU relies on a solid and experienced staff; in addition the SJU Management continuously assesses the HR needs and priorities, to match the available competencies with the developments of the Programme. The possibilities for mobility within the SJU are limited considering the staffing numbers (39 FTEs) and the fact that most of the positions require highly specialised competencies and built up experience in the technical fields.

In order to improve the effectiveness of the organisations, the Executive Director has introduced a new Organisation Chart[21]. The rationale driving the re-structuring was to align the Organisation Chart to the strategic objectives of the SJU, to have a clear accountability, particularly for what concerns the core mission in order to match it both with the governance and with the objectives, as defined in the Annual Work Programme.

The Multi-annual Staff Policy Plan 2014-2016 shows the level of resources in terms of staff planned for the period aiming at providing the optimal balance between the provision of the needed resources and cost efficiency, considering also the launching of the SESAR 2020 Programme.
Taking into consideration the evolution of the approach to Conflict of Interest within the SJU, in place since the establishment of the organization, the number of staff seconded to the SJU from its Members has been reduced to key few positions. In this respect, specific measures are put in place.

The SJU has implemented as of 1st January 2014 the New Staff Regulation of Officials and Other Servant of the EU.

Performance assessment is now a consolidated process involving each staff member on yearly basis and it is a key element for staff career progression. The assessment focuses also on the need for training as an integral part of the staff development as clearly stated in the “Learning and Development Policy”.

Following the extension of the SJU mandate from 2016 to 2024, in line with the MSPP 2015-2017 and the Provisional Draft Budget 2015, the SJU launched its first reclassification exercise for temporary agents and contract agents at the end of 2014, in compliance with the Commission implementing rules that apply to the SJU by analogy in application of article 110 of the EU Staff Regulations .

The budgetary incidence of the exercise was minor as the average number of years in grade of the reclassified staff was quite long.

A reclassification exercise will be launched on a yearly basis within the limits defined by Annex I of the Staff Regulations and the annual budgetary availability.

[21] The new Organisation Chart was adopted by the ADB on 11 December 2014 and entered into force on 1 January 2015.

The SJU Staff Committee ensures smooth running of the SJU and contributes to the improvement of staff working conditions and general living conditions.

- **Planning and Risk Management Processes**

During summer an internal survey was conducted to involve staff in the definition of the 2015/2016 vision and related objectives. The results were taken in due consideration by the senior management to discuss and finalise the matter. The vision and objectives constitute the basis of the AWP 2015 presented to the Administrative Board and adopted at its meeting of 11 December 2014 after having been submitted to one month Board Members' consultation process. The document identifies short term objectives contributing to the achievement of the medium term strategic objectives and overall of the European ATM Master Plan 2012. The progress of each Project is continuously monitored during the year with a full formal check at the Control Gates, where actual results are compared with the planned as defined in the Project Initiation Report (PIR) and its amendments and remedial actions are identified if necessary. Some indicators as the resources consumed, the deliverables handed over, schedule respect, allow the SJU management to obtain a good picture of the progress made towards the plan (see section 4).

With regard to risk management, section 4.3 provides detailed information on the integration of risk management in the functioning of the SJU as overall its Programme.

- **Operations and control activities**

To ensure the legality and economic efficiency of actions, the financial circuits are consistently applied ensuring segregation of duties as required by the SJU Financial Rules.

In accordance with the Financial Rules, the SJU follows the four eyes principle ensuring that, before a transaction is authorised, all aspects (both operational and financial) have been verified by a staff member other than the one who initiated the operation. The verification aims at ensuring compliance with rules and sound financial management and supports decision by the authorising officer. An Exception Register keeps record of transactions which did not respect in full the provisions of the SJU Financial Rules and related procedures; reasons and actions to prevent future occurrence are reported.

Besides the ex-ante control, the SJU performs ex post controls, through its Projects Audit Sector with the support of an external audit firm.

The SJU's audit strategy aims at providing reasonable assurance on the legality and regularity and sound financial management of the organisation's operating expenditure. During the year 2014, 15 audits have been planned and executed in five Selected Members and 12 of those audits have been finalised (or are in the process of finalisation within January 2015). The remaining 3 are expected to be finalised by early 2015 (see table below).

SESAR Programme	Planned Cumulative Period (2009-2016)	Achieved Cumulative Period (2009-2014)	Planned in 2014	Achieved in 2014
Number of closed audits	52	49	15	12
Representative audits	49	46	15	12
Audits Risk-based	3	3	0	0

The total amounts of Costs declared in the Interim financial Statements 2012 (IFS 2012) by all 15 Members (excluding Eurocontrol) of the SJU amounted to EUR 155.2 million.

The SJU Ex-Post Audit Strategy[22] indicates that each year, the CBFs (Cost Breakdown Forms) of a minimum of 5 Members will be audited. The selection of the Members to be audited will be such that all the 15 Members will be audited in 3 years' time.

Different indicators are calculated to provide a comprehensive view of legality and regularity:

Representative Error Rate: This is the error rate derived solely from the results of audits on a representative sample of beneficiaries, extrapolated to the relevant non-audited population. This error rate provides an estimate of the level of error at the time of the audits but says nothing about the follow-up and corrections/recoveries undertaken by the SJU after the audit, nor of the net final financial impact of errors.

Residual Error Rate: The residual error rate, on a multi-annual basis, is the extrapolated level of error remaining after corrections/recoveries undertaken by the SJU following the audits that have been made. The calculation of the residual error rate, is based on the following assumptions:
- (1) all errors detected will be corrected;
- (2) all participations subject to extrapolation are clean from systematic material errors.

The residual error rate develops over time and depends on the assumptions set out above.

These error rates are calculated on an annual basis reflecting the annual results and on a cumulative basis for the Programme as a whole.

The indicator calculated on a cumulative basis is reliable and acceptable as a legality and regularity indicator dealing with errors over a multi-annual basis.
In 2014 the SJU performed audits for the 4th year (Batch 4). Based on the methodology described in the SJU Ex-post audit strategy, Batch 4 was composed of the 5 Members that were audited during the first cycle of audits in Batch 1 (2011). This was reinforced by follow-up audits of CBFs of previous periods in order to ensure that after the first audit, errors have been corrected, recommendations have been implemented and therefore the IFSs of previous periods are free from systematic errors and material misstatements. The audits confirmed that this was the case in 4 out of 5 audited entities. For the remaining one, the corrections were not made because the Member wanted to clarify with the SJU that the corrections still applied and suggested to make the corrections as a deduction to the IFS2014.

[22] as approved by the ADB-15-2010 and replaced by the ADB-15-2013.

The Interim Financial Statements received by these 5 selected Members – EUR 85.8 million– were examined at the level of Projects; 84 CBFs selected representing EUR 25.7 million (i.e. 30% of the IFSs of the 5 Selected Members and 17% of total costs accepted for the 15 Members).

Based on 70 cost statements of the five Members for which the audit is completed (83,3% of a sample of 84), the results of the finalised audits indicate a representative error rate of 5,01% and a residual error rate of 2,29%. This rate, **based only on the population of the five members audited and not the entire population of SJU members**, is slightly above 2% because there were audits performed in entities that have never been audited in the past either by the SJU or any other European Commission Service (in one case an American company). Therefore these entities were not fully aware of the FP7 and TEN-T rules of eligibility of costs.
As this figure results from the sample audits of only 5 out of 15 Members it cannot be considered a representative value for the entire Programme's residual error.

Where systematic errors are detected, audited Members are requested to take immediate actions to correct them and implement recommendations made by the auditors in the audit reports. The errors that were found mainly concerned the incorrect calculation of labour costs, by using wrong number of productive hours or inclusion of ineligible items in the pool of indirect costs. The amounts to be recovered from the Members were identified and adjusted in the calculation of the co-financing to be paid for the IFS 2013, by year end 2014 and early 2015.

Because of its multi-annual nature, the effectiveness of the audit strategy of the SJU can only be fully measured and assessed in the final stages of the Programme, once the ex-post audit strategy has been fully implemented and systematic errors have been detected and corrected.

Given the multiannual nature of the Programme which is considered to be closed per Member at the last deliverable accepted within the Programme (i.e. in 2016), **the cumulative error rate of the previous years gives the global and representative view of the error on the entire population of the SJU.** For this calculation the following factors are taken into account: (1) the method is based on the assumptions that representative errors are corrected and recovered, therefore the costs claimed of a Member the periods subsequent of an audit are assumed to be free from error and material misstatements (2) residual error is assumed to be affecting all the non-audited cost claims of previous and subsequent un-audited periods.

Based on a total amount of costs claimed of EUR 402,7 million, of which 173 cost statements were audited representing all 15 Members amounting to EUR 43 million of costs claimed (i.e. 11%), there is a cumulative representative error of 5.19% and a residual error of 0.42%[23].

The following table presents an overview of the implementation of the audits which resulted in an adjustment at cost level in favour of the SJU. The adjustments of €276.290 for the 2014 audit closing year are mainly recovered through offsetting against subsequent payments. The recoveries of the 2 remaining audits are currently on-going.

[23] For comparison: Last year's cumulative residual error rate was 0.73% (the 2014 annual residual error rate representing all 15 Members of the SJU is 0.08%).

Audit closing year	Results from external audits		Adjustments in contradictory procedure		Adjustments implemented		
	Number of partici-pations	Adjustments at cost level (in favour of SJU)	Number	Value	Number	Value	Value - Co-financing 50%
2011	5	-22.167,06	0	0	5	-23.710,78	-11.855,39
2012	10	-46.505,75	0	0	10	-33.900,50	-16.950,25
2013	15	-303.097,25	0	0	15	-303.097,30	-151.548,65
2014	15	523.685,17	0	0	10	-552.580,98	-276.290,49
Total	**45**	**151.915,11**	**0**	**0**	**40**	**-913.289,56**	**-456.644,78**

As per the Internal Control Standards, Operations and control activities also include IT management. From the ITC point of view, services are provided by Eurocontrol and the European Commission within the context of the Agreement and SLAs signed with them. The same standards followed by Eurocontrol are applied to the SJU applications and data. Following the successful transfer of the ITC environment to a hosting facility, the SJU reduced its ITC running costs, increased security and mobility, ensuring continuity of operations, especially in case of disaster recovery. To this end, the SJU has in place a draft business continuity plan identifying key functions, staff and procedures necessary for the continuation of activities even in case of major disruption to the SJU infrastructure. An agreement has been signed with Eurocontrol whereas office spaces and IT support would be provided if needed as part of this contingency agreement.

- **Information and Financial Reporting**

Communication

Effective communication is crucial to the success of SESAR which is why the SJU implements a communication strategy through a multi-annual communications plan. The strategy is based on a two pronged approach: (1) internal communications targeting the staff of the SJU, as well as and the staff involved in SESAR activities; (2) external communications targeting ATM stakeholders and interested citizens. In 2014, SJU's Communications Sector continued to engage with its communication counterparts at the Member and Associate Partner organisations, in order to further disseminate key messages on SESAR through member communications channels.

- SESAR Solutions at a click of a button

In 2014, communications focussed on showing that SESAR is delivering solutions that meet the needs of ATM and aviation stakeholders in Europe. With this in mind, the SJU launched the SESAR Solutions portal, an online tool offering access to extensive documentation on each solution, including validation reports, technical and interoperability specifications, and regulatory recommendations. The online portal was complemented by several other communication tools:

- A simple brochure explaining SESAR solutions, published in time for the World ATM Congress 2014;
- An animated video featuring 4 key solutions (Remote Towers, Time Based Separation, Automated Support for Dynamic Sectorisation and User Preferred Routing);
- A video interview with the Executive Director explaining SESAR Solutions;

- Other generic communication tools, such as features in the SESAR magazine, eNews and on the SESAR website.

- Taking SESAR Solutions on tour

In March 2014, the SJU participated in the World ATM Congress, in Madrid, the largest ATM exhibition worldwide. The theme of the SJU's participation "From Innovation to Solution", provided the backdrop for SESAR and its guests to present the progress achieved by the programme so far. During the course of the three-day Congress, the SJU hosted an Internal Meeting, Forum and three workshops, whereby attendees were privy to SESAR's concrete deliverables to date, as well as the future activities designed to reach the objective of developing a modernised ATM for Europe. The SJU also organised a technical demonstration of initial 4D (i4D) trajectory management, offering participants hands-on, practical insight to the concept and its proven benefits.
To provide further concrete evidence that SESAR is delivering, the SJU hosted a workshop on Remote Tower Services on the 12 and 13 June, which was hosted by the Dublin Airport Authority (DAA). A total of 150 participants attended the event, representing a wide range of stakeholders, from air navigation services providers, national and regional authorities and the European Commission, to the manufacturing industry, staff associations and airlines. The event offered them a chance to:

- Hear from stakeholders who are already moving to implement the solution. Learn about their real life experiences and how this has impacted their day-to-day operations.
- Understand the regulatory and standardisation implications of implementation.
- Discover the next steps and future developments related to the solution.

From the 17-19 September 2014, the SJU and its members organised a dedicated SESAR Solutions workshop and a stand at ATC Global in Beijing, China. The workshop featured three of SESAR's solutions: i4D trajectory management, System Wide Information Management (SWIM) and Remote Tower Services. The conference and exhibition was well attended by mainly Chinese delegates and some from a few other countries in the region (e.g. Australia, Russia, Singapore…). The SJU took advantage of being in Beijing to hold meetings with various high-level stakeholders, including Civil Aviation Administration of China (CAAC), Airbus China, Air Traffic Management Bureau's (ATMB), Thales, Indra and Selex ES, and to present SESAR to students at the Civil Aviation University of China's Faculty of Sino-European Institute of Aviation Engineering (SIAE).

- Spreading the word about SWIM

The third edition of the SESAR SWIM Master Class took place between June and November 2014 and welcomed 81 international teams actively developing and demonstrating their SWIM-enabled applications, services and technical infrastructure. The Master Class culminated with a Best-in-Class awards ceremony, where services and applications enabling distance calculations, aircraft tracking and optimised use of airspace have received top prizes. The winners were among 39 SWIM-enabled ATM information solutions that were submitted to the Master Class jury for nomination in three categories: services, applications and technical infrastructure. The ceremony also demonstrated live some 20 services and applications, illustrating that SWIM is quickly becoming a reality within the global ATM system.

To further outreach and encourage the global take-up of SWIM, a Global SWIM Demonstrations website was launched. The website provides the latest news on SWIM demonstrations and standards targeting global ATM interoperability, and aims to foster the deployment of SWIM solutions and strengthen international cooperation, based on consensus.

Recognition of these efforts to promote SWIM came in March when the SJU and its members won the prestigious HIS Jane's ATC Award for engaging an unprecedented number of ATM stakeholders becoming engaged in the goal of making SWIM a reality.

- SESAR 2020 – Joint Technology Initiative Launch

To mark the launch of the call for new members under the SESAR 2020 programme, the SJU contributed to the organisation of a high-level European Commission event in Brussels to promote European public-private partnerships (PPPs) as effective vehicles with which to deliver solutions to some of the biggest challenges affecting Europe in order to drive forward Europe's competitiveness. Hosted by the European Commission's Directorate-General for Research and Innovation, the event attracted 500 participants and was attended by the President of the European Commission, as well as Commissioners for Research and Innovation, Transport and Mobility and Digital Agenda. The event was an opportunity for the SJU and its members to raise awareness about the Programme and the importance of ATM modernisation for the European economy among Brussels decision-makers.

- Communications Strategic Review

From June to December 2014, the SJU undertook a strategic review of its communications work in preparation for SESAR 2020 and to ensure alignment between the organisation's overall strategy for the coming years. For the purpose of this strategic review, a perception assessment was conducted regarding the perceived value of the SESAR brand and the role of the SJU, and how these should be communicated, primarily among external audiences. Against this background, interviews were conducted with a select number of senior SJU staff, members of the Communications Coordination Group, and members of the SJU Administrative Board. In addition, all members of the SJU Communications Coordination Group were asked to reply to a survey on the SJU communications channels. These consultations provided the SJU with valuable insights which were fed a communications strategy, approval of which was given by the SJU Executive Director for implementation as of 2015.

- SESAR online communications in numbers

In 2014, the SJU public website, attracted some 168,351 visitors (an average of 14,029 per month) compared to 149,500 visitors (an average of 12,458 per month) in 2013. Regular, informative eNewsletters to external audiences (a distribution list of +/- 24,500 contacts) using optimised mail templates were sent out, attracting further readers/clicks to the SJU website through links in the articles.

- SESAR in the media

The SJU continued to promote the Programme through the publication of a number of printed channels, including three editions of the SESAR Magazine (featuring SESAR solutions and demonstration, Remote Towers and exploratory research), a new generic brochure with accompanying solution information cards, and a brochure on SESAR and airport integration. These materials were widely distributed at the abovementioned events. Visibility for the work of the SJU and the SESAR Programme was also achieved through featured articles and interviews in several well-known trade magazines, including International Airport Review, Airline Fleet Management, Avionics magazine, Jane's Airport Review, ATM Magazine, Science business, Horizon Magazine, etc.

Financial Reporting and Information

The SJU internal reporting system covering Budget and Finance has proved its effectiveness providing the management and the Executive Director with follow-up of the Programme and its Financial and Human Resources related aspects. The ABAC/SAP provides support for financial transactions and accounting, aligning the SJU to the standard of the European Commission.

The financial reporting is based on the annual Interim Financial Statements per Member, which includes the detail of the eligible costs incurred by a Member broken down by Projects identifying costs related to accepted deliverables and work in progress. This report, accompanied by the certificate on the interim financial statements is the basis of the financial assessment which upon coherence check with the operational reports leads to the granting of the co-financing. An internal control aims at identifying significant divergences between actual and planned costs both at total and category levels and clarifications are requested to the Members. Despite the efforts to continuously improve the approval process, four Interim Financial Statements were still in the assessment phase by the end of year which made not possible to grant the related payments for co-financing thus an unexpected increase of idle cash. The criteria to identify eligible costs are clearly defined in the MFA (Schedule 2 – Financial Provisions) whereas the methodology followed for the assessment reflects the four eyes principle with Initiation and Verification for both the operational and financial aspects.

The ABAC/SAP system constitutes the financial management system of the SJU. In order to ensure consistency with the operational data received from the Members on a quarterly basis and in the context of IFS, the Finance and Budget Sector perform regular extensive reconciliation which provides additional assurance on the data and their quality.

- **Evaluation and audit**

Following the recommendation of the European Court of Auditors, the Administrative Board adopted decision ADB(D) 11-2010 of 19 October 2010 where it took note of the role of the Internal Auditor of the European Commission as Internal Auditor of the SJU in accordance with Article 185 (3) of the General Financial Regulation. In addition, the Executive Director has established the Internal Audit Capability to complement the work of the Internal Auditor.

The European Court of Auditors is the external auditor of the SJU.

In addition, in order to increase the level of assurance on the Programme activities, the SJU established a Project Audit Sector (see above) to perform ex-post controls and audits. The SJU Ex-Post Project Audit Strategy adopted by the Administrative Board meets the requirements of the Court of Auditors.

Furthermore a second mid-term evaluation of the SESAR JU was conducted by an independent expert on behalf of the European Commission, acknowledging the SJU added value in avoiding duplication and lack of coordination in the ATM R&I sector, its compliance with the principles of sound financial management and its overall effectiveness in undertaking the assigned tasks.[24]

Conflict of interest

The European Parliament in its decision of May 10, 2012 on the discharge in respect of the implementation of the budget of the SESAR Joint Undertaking called on all Joint Undertakings to inform

[24] Second mid-term evaluation of the SESAR Joint Undertaking, Final Report, COWI, June 2014, http://ec.europa.eu/transport/facts-fundings/evaluations/doc/2014-06-sju-2nd-midterm-evaluation-report.pdf

the discharge authority on the verification mechanisms which exist in their respective structures to enable a proper management and prevention of conflicts of interest.

The SJU has verification mechanisms in place to enable a proper management and prevention of conflicts of interest. The management of conflict of interest is defined in Article 6 of Council Regulation 219/2007.

The Administrative Board adopted a first decision to concretely implement the conflict of interest measures already on 21 February 2008, well before the membership agreements with the industrial partners were established and signed. The decision was further reviewed and detailed on 1 December 2008 and on 29 March 2012. In particular, the following measures have been adopted and are implemented:

- members of the SJU and/or the Administrative Board are not allowed to participate in any of the steps of the procurement or grants procedures and cannot have access to any documentation in this respect;
- mandatory signature of a declaration on conflict of interest by each participant before each meeting of the Administrative Board, recruitment board, procurement/grant board, or any other similar body or committee within the SJU;
- exclusion of any participant who declares or is considered to be in a potential conflict of interest from the relevant meeting;
- mandatory signature by staff, under any contractual form, of a declaration of commitment and conflict of interest upon their appointment as well as an annual declaration of interests;
- mandatory training on ethics and integrity for all staff members
- mandatory signature by experts or consultants under any contractual form upon their appointment of a declaration of independence, commitment, confidentiality and conflict of interest;
- a binding Code of Conduct addressed to Administrative Board Members in addition to the Code of conduct already existing for the SJU Staff.

The HR sector makes sure that each new appointed individual signs this declaration. These declarations are reviewed by the Chief Administration Affairs and the Data Protection Officer with the objective to eventually bring to the most appropriate level of attention potential issues so that the necessary actions can be undertaken. All declarations are stored in the safe-deposit of the HR sector.

Additionally, all individuals with a staff contract with the SJU (temporary agents, contractual agents, ENDs and Members' secondees) have to sign once per year an 'Annual declaration of interests'. The HR sector initiates this procedure by means of a yearly email and guarantees signature by every person. In this email, all persons working for the SJU are asked to fill in the annual declaration of interest and to return it completed and signed in a closed envelope addressed to the attention of the HR sector.
Furthermore, the SJU sustains 2 other types of declarations:

- Declaration of commitment and confidentiality: to be signed by all participants in the SESAR Joint Undertaking's bodies and working groups upon their appointment.
- Declaration of conflict of interest[25]: to be signed by all participants of the SESAR Joint Undertaking's meetings (including Administrative Board Members) before each meeting.

As already mentioned, at its meeting on 3 July 2012, the Administrative Board further reinforced the conflict of interest measures adopting a code of conduct for the Administrative Board Members and new templates for the declarations which contribute to increase the awareness of their signatories.

[25] Annexe II of Decision ADB(D) 10-2008.

10 Criteria for Annual declaration of Assurance

10.1 Building blocks towards reasonable assurance of the Executive Director (AOD) for the legality and regularity of underlying transactions

In 2014 the programme operations were well advanced and all the projects were in the execution phase; the volume and the value of the transactions analysed, assessed and processed by the SJU was significantly high and challenging for the organisation and the dedicated resources, this requires well tested and formalised financial circuits to support operational activities. In order to ensure the proper functioning of the SJU, goods and services were acquired applying the SJU Financial Rules and vacant positions filled in accordance with the Provision of the Implementing Rules of the Staff Regulation.

10.2 Assessment by management

In order to ensure the sound financial management, legality and regularity of the underlying transactions, all transactions are submitted to the four eyes principle in the preparation phase as well as in the deliverable acceptance/payment phase. The ex-ante control function is exercised at operational level, to verify the work performed during the initiation of the transaction to ensure that the required results are achieved, and at financial level to verify the application of the rules.

The extensive ex-ante controls allowed for avoidance of material errors and formal errors, detected at different level of the authorization process (initiation, verification, authorization and payment). The Accounting Officer performs a final control on each payment made, finally verifying that the authorization process has been complied with and no issues highlighted in the acceptance of the deliverables.

The SJU has established an “exceptions’ register” to manage and monitor possible exceptions to rules, and all exceptions are submitted to the AO with a justification for endorsement. So far no exceptions of material value have been recorded.
Although substantial progress has been achieved, the SJU’s staff is committed to continue its efforts to reach the highest standards for management and control systems.

10.3 Assessment of audit results and follow up of audit recommendations

This section reports and assesses the observations and conclusions reported by auditors which could have a material impact on the achievement of the internal control objectives, and therefore on assurance, together with any management measures taken in response to the audit recommendations. The SJU is audited by both internal and external independent auditors: its internal audit capability (IAC), the Commission internal audit service (IAS) and the European Court of Auditors (ECA).

A) Audits completed during the reporting period

Commission Internal Audit service (IAS)

Audit on Risk Management: In accordance with the IAS Strategic Audit Plan 2012-2014[26], the IAS performed in 2014 an audit on Risk Management. The objective of this audit was to assess the design and application of the Risk Management processes in the SJU, in particular, compliance with the SJU mandate and of its associated partners, adequacy and effectiveness of the design of the process including its actual implementation and timeliness and reliability of information. The IAS raised 3 recommendations, none of which was rated as 'Critical', but 2 were rated as 'Very Important', and 1 as 'Important'. All of these recommendations were accepted by the SJU management and the SJU is currently implementing an action plan related to these recommendations. The IAS also observed several strengths related to the way the SJU manages risks, as the supportive work environment that contributes to the effectiveness of the Risk Management process and building a risk-sensitive culture, the strong top management support and embedding of Risk Management in SJU operational policies and practices.

Risk Assessment of the SJU: In November 2014, the IAS performed a risk assessment of the management, IT and support processes of the SJU. The result of this exercise as well as the IAS Strategic Audit Plan 2015-2017 will be finalised in the first quarter of 2015. The IAS co-ordinated this risk assessment with the IAC.

Internal Audit Capability (IAC)

During the period of reference, the IAC carried out a total of 2 audit assignments, in accordance with its annual audit planning.

Report on the validation of ABAC Workflow authorisations 2014. The objective was to check authorisations granted to the users of ABAC and to identify and resolve any incompatibility with actual responsibilities entrusted to a user. The report pointed out minor issues which were corrected directly. The report was shared with the Director General of DG Budget and the Accounting Officer of the Commission.

Audit Report on Human Resources / Recruitment. The objective was to assess whether the SJU complies with the legal and procedural framework, including the Multiannual Staff Policy Plan, Staff Regulations, the Data Protection Regulation, the SJU Code of good administrative behaviour and whether the SJU sets comprehensive and clear staff selection procedures, covering all the key steps of the recruitment life cycle in a clear and detailed manner. The IAC concluded that the internal control system in place provides reasonable assurance regarding the achievement of the objectives set up for the key steps of the recruitment life cycle at the SJU. The IAC raised 10 recommendations, 3 of which were rated as 'Important' and 7 as 'Desirable'. All of these recommendations were accepted by the SJU management. No 'critical' recommendations, nor 'very important' recommendations were issued.

Consulting: The IAC performed consulting services which are intended to add value and improve the SJU's governance, risk management, and control processes without the internal auditor assuming management responsibility. The IAC also attended Auditnet meetings and the IAS conference in Brussels.

In accordance with the Internal Audit Capability charter, the IAC submits to the Administrative Board an annual activity report setting out, inter alia, the number and type of internal audits conducted, the recommendations made and the action taken on these recommendations. The IAC activity in 2014 will be reported to the Board at its meeting in June 2015.

European Court of Auditors (ECA)

The European Court of Auditors audits the SJU on an annual basis, in particular the reliability of the annual accounts and the legality and regularity of the underlying transactions. In 2014, the Court issued a

[26] Coordinated IAS Strategic Audit Plan for 2012-2014, which was formally endorsed by the SJU Administrative Board on 17 November 2011.

Report on the annual accounts of the SJU for the financial year 2013[27]. According to the Court's opinion, the SJU annual accounts of 2013 present fairly, in all material respects, its financial position as at 31 December 2013 and the results of its operations and cash flows for the year then ended, in accordance with the provisions of its financial rules and the accounting rules adopted by the Commission's accounting officer. Additionally, In the Court's opinion, the transactions underlying the annual accounts for the year ended 31 December 2013 are, in all material respects, legal and regular. No special reports regarding the SJU were issued.

Permanent Audit Panel (PAP)

In order to ensure the co-ordination of the work of the different SJU auditors, the SJU Administrative Board established in 2008 an Audit Panel. The Audit Panel is constituted by the SJU IAC, the SJU Chief Administration Affairs and representatives of DG MOVE (External and internal Audit), Eurocontrol (Internal Audit), the IAS and the European Court of Auditors.

The main functions of the Permanent Audit Panel are to promote effective communication between the Administrative Board, the Executive Director and the auditors to ensure effective coordination and to avoid duplication, to analyse specific audit issues, to harmonise positions in order to reach a common approach and to provide the Administrative Board and the Executive Director of the SJU with advice on financial, control and risk matters. The Permanent Audit Panel met on four occasions in 2014.

B) Follow up of audit recommendations

All IAS and IAC audits carried out concluded that the internal control system in place provides reasonable assurance regarding the achievement of the business objectives set up for the process examined except for 2 very important recommendations related to the audit on Risk Management at the SJU: 1. efficiency of the bottom-up approach and Supervision/monitoring and 2. reporting of the RIO management process. No critical recommendations were issued. The ECA observations did not include previously undisclosed issues related to transactions, control systems or the management representations in the AAR.

Management has accepted all the auditors' recommendations and submitted action plans which have been assessed favourably by the auditors. The various management measures included in these action plans are being implemented as foreseen.

As regards the implementation of recommendations issued in previous years, the relevant action plans are being implemented as planned and are mostly on schedule, the exceptions being 3 very important recommendations being "overdue" more than 6 months related to the IAS audit on Grant Management-Closing of Projects (2013): "Recommendation nr 1: Harmonise the documentation of the closing process, Recommendation nr 2: Review the assessment process of the Final Project Report (FPR) and Recommendation nr 4: Reinforce document management in the closure processes".

While Recommendation number 1 & 2 are essentially complete the full implementation of project closure (covering all recommendations) is now expected by the end of the first semester 2015. In the meantime, the residual risk is very minor and mitigated by alternative measures that include involvement of the SJU Members in the finalisation of the closure planning. Consequently, the current state-of-play does not lead to assurance-related concerns.

As a result of the assessment of the risks underlying the auditor's observations together with the management measures taken in response, the management of the SJU believes that the recommendations issued do not raise any assurance implications and are being implemented as part of the on-going continuous efforts in terms of further improvements. Still, inter alia taking into account some of the audit results, ICS 10 (Business Continuity) has been selected as priority ICS for further improvement of its effectiveness.

[27] Report on the annual accounts of the SESAR Joint Undertaking for the financial year 2013 together with the Joint Undertaking's replies http://www.eca.europa.eu/Lists/ECADocuments/SESAR_2013/SESAR_2013_EN.pdf

10.3 Reservations and their impact on the declaration of assurance to be reviewed

No reservations are made.

11 Declaration of Assurance

I, the undersigned, Florian Guillermet, Executive Director of the SESAR Joint Undertaking, in my capacity as authorising officer

Declare that the information contained in this report gives a true and fair view,

State that I have reasonable assurance that the resources assigned to the activities described in this report have been used for their intended purpose and in accordance with the principles of sound financial management, and that the control procedures put in place give the necessary guarantees concerning the legality and regularity of the underlying transactions.

This reasonable assurance is based on my own judgement and on the information at my disposal, such as the results of the self-assessment, ex-post controls, the work of the SJU Internal Auditor and the lessons learnt from the report of the European Court of Auditors for years prior to the year of this declaration.

Confirm that I am not aware of anything not reported here which could harm the interests of the SJU.

Brussels, 31 March 2015

Executive Director

12 Glossary

4 D	4 Dimensions
ABAC	Accrual Based Accounting
ACAS	Airborne Collision Avoidance System
A-CCD	Advanced Continuous Climb Departure
A-CDA	Advanced Continuous Descent Approach
ADS-B	Automatic Dependence Surveillance-Broadcast
ADS-C	Automatic Dependence Surveillance-Contract
ADEXP	ATS Data Exchange Presentation
AeroMacs	Aeronautical Mobile Airport Communications System
AFUA/ASM	Advanced Flexible Use Airspace/Airspace Management
AMAN	Arrival Manager
AOC	Airlines Operational Communication
AOP	Airport Operation Plan
ASAS	Airborne Separation Assistance System
ASPA	Airborne Spacing
ATM	Air Traffic Management
ATSA ITP	Air Traffic Situation Awareness- In-Trail Procedure
AU	Civil airspace users
CCD	Continuous Climb Departure
CDA	Continuous Descent Approach
CDM	Collaborative Decision Making
CNS	Communication, Navigation, Surveillance
CTA	Controlled Time Arrival
DCB	Demand and Capacity Balancing
DCMAC Euroc.	Directorate Civil Military ATM Coordination
DMAN	Departure Manager
EPP	Extended Projected Profile
GBAS	Ground Based Augmentation System
GNSS	Global Navigation Satellite System
HMI	Human Machine Interface
I 4D	Initial 4 Dimensions
CWP	Controller Working Position
IOP	Inter Operability
LVP	Low Visibility Procedure
MSP	Multi Sector Planning
NOP	Network Operation Plan
OAT	Operational Air Traffic
P-RNAV	Precision Area Navigation
RNP	Required Navigation Performance
RPAS	Remotely Piloted Aircraft System
RTS	Real Time Simulation
STAM	Short Term ATFCM Measures
S&M	Sequencing & Merging

SBT/RBT	Shared Business Trajectory/Reference Business Trajectory
STCA	Short Term Conflict Alert
SWIM	System Wide Information Management
TMA	Terminal Manoeuvring Area
TTA	Target Time Arrival
UDPP	User Driven Prioritisation Process

13 List of Annexes

Annex Ia – Programme Resources 2016 – amounts engaged at 31 December 2014

Annex Ib – Programme Financials

Annex II – Deliverables 2014

Annex III – Extract of the Provisional Annual Accounts 2014 – Annual General Accounts

Annex IV – Staff establishment plan overview

PROGRAMME RESOURCES 2008 -2016 (amounts engaged at 31.12.2013)					
EUR million	European Union	Eurocontrol	Industry		Total
			SJU Other Members	Others *	
In Kind Contributions	**0,0**	**505,2**	**1.112,6**	**251,6**	**1.869,4**
Co-financing					
WPs *B, 3,4,5,6,8,9,10,12,14,15 + C,7,13,16*	501,1	55,0	(556,1)		0,0
WP11 + WP E	0,0	43,0	0,0	(135,9)	0,0
Demonstration Activities	50,0	0,0	0,0		
Other activities (AIRE, Optimi, SatOptimi, Associates of the SJU, RPAS definition phase, other studies)	42,9	0,0	0,0		
Total Co-financing	**594,0**	**98,0**	**(556,1)**	**(135,9)**	**0,0**
Other Cash Contributions					
Ectrl Early Projects	0,0	7,0	0,0		7,0
AUs, NSAs, Mil, Staff	5,0	25,0	0,0		30,0
Industrial Support	66,0	0,0	0,0		66,0
Running Costs of the SJU	35,0	35,0	27,8		97,8
Total Other Cash Contributions	**106,0**	**67,0**	**27,8**	**0,0**	**200,8**
TOTAL	**700,0**	**670,2**	**584,3**	**115,7**	**2.070,2**
			700,0		

** This estimated amount includes the activities realized by other Industrial and Research entities, which are not Members of the SJU and are co-financed between 50% and 100% taking into account their correspondence to eligibility criteria. The In-Kind activities realized by these entities are not accounted for in the SJU Annual Accounts.*

WP	Member	Realloc 2013 + BAFO III		Commitments and Co-Financing			activities realized		
		In-Kind	Max Co-financing	Commitments 2008 - 2014	Co-fin paid 2008 - 2014	Pre-fin at 31/12/2014	IFS 2008 - 2013 in kind	estimated IFS 2014 in kind	estimated IFS 2008 -2014 in kind
03.	aena	6,7	3,4	3,0	1,1	0,9	3,4	1,1	4,6
	dfs	2,9	1,5	1,4	1,0	0,4	2,0	0,2	2,2
	dsna	1,3	0,6	0,6	0,4	0,2	0,8	0,1	0,9
	enav	9,6	4,8	4,4	3,0	1,0	6,0	1,7	7,7
	nats	5,3	2,6	1,7	0,4	0,4	0,9	0,6	1,5
	noracon	6,6	3,3	2,7	1,9	0,3	3,8	0,6	4,4
	seac								
	frequentis								
	indra	6,5	3,2	2,4	1,8	0,5	3,7	1,4	5,1
	natmig								
	selex	4,7	2,3	1,7	1,1	0,5	2,2	0,5	2,8
	thales	12,7	6,4	4,5	3,0	1,1	6,0	1,9	7,9
	airbus	5,5	2,8	2,4	1,6	0,4	3,1	0,7	3,8
	alenia	2,2	1,1	0,6	0,3	0,1	0,7	0,1	0,8
	honeywell								
	Sub Total	***64,1***	***32,0***	***25,5***	***15,7***	***5,8***	***32,7***	***9,0***	***41,7***
	eurocontrol	19,8					9,5	2,1	11,6
	Total	***83,9***					***42,2***	***11,1***	***53,3***
04.	aena	7,1	3,6	3,1	1,6	0,6	4,3	1,0	5,2
	dfs	14,1	7,0	5,1	3,9	0,6	7,9	2,5	10,3
	dsna	29,5	14,7	10,5	8,0	2,4	15,9	5,0	20,9
	enav	10,4	5,2	3,4	2,0	0,9	4,1	1,5	5,6
	nats	14,3	7,2	5,3	3,2	1,3	6,3	0,8	7,1
	noracon	0,3	0,1	0,1	0,1		0,3	0,0	0,3
	seac								
	frequentis								
	indra	1,8	0,9	0,6	0,4	0,2	0,7	0,4	1,1
	natmig								
	selex	1,3	0,7	0,7	0,5	0,1	1,0	0,1	1,1
	thales	5,7	2,9	2,9	1,6	0,9	3,1	0,5	3,7
	airbus	5,4	2,7	1,6	1,0	0,4	2,1	0,6	2,7
	alenia	2,2	1,1	0,4	0,3	0,1	0,6	0,0	0,7
	honeywell	1,2	0,6	0,5	0,4	0,2	0,7	0,2	0,9
	Sub Total	***93,4***	***46,7***	***34,1***	***23,0***	***7,8***	***47,1***	***12,5***	***59,6***
	eurocontrol	29,7					15,3	4,2	19,5
	Total	***123,0***					***62,4***	***16,7***	***79,1***
05.	aena	15,4	7,7	6,6	3,1	1,0	7,4	1,0	8,4
	dfs	7,2	3,6	1,9	1,2	0,3	2,4	2,1	4,5
	dsna	9,2	4,6	2,9	2,4	0,4	4,8	1,1	5,9
	enav	16,3	8,1	6,7	5,0	1,2	10,1	2,0	12,1
	nats	23,1	11,5	9,1	5,0	1,1	9,9	2,6	12,5
	noracon	13,5	6,7	5,2	3,6	0,4	7,2	1,3	8,5
	seac			0,9					
	frequentis	1,5	0,7	0,4	0,2	0,1	0,3	0,4	0,7
	indra	2,5	1,2	0,9	0,3	0,3	0,6	0,8	1,4
	natmig	0,0	0,0	0,0	0,0		0,0		0,0
	selex	1,0	0,5	0,5	0,3	0,1	0,5	0,2	0,7
	thales	3,5	1,8	1,7	1,2	0,4	2,5	0,6	3,1
	airbus	4,0	2,0	1,6	1,0	0,4	1,9	0,5	2,5
	alenia	0,7	0,4	0,4	0,2	0,1	0,5	0,0	0,6
	honeywell								
	Sub Total	***97,8***	***48,8***	***38,7***	***23,4***	***5,9***	***48,1***	***12,7***	***60,9***
	eurocontrol	26,3					10,9	4,6	15,5
	Total	***124,1***					***59,0***	***17,3***	***76,4***
06.	aena	13,4	6,7	8,4	2,5	0,5	7,4	2,0	9,3
	dfs	5,3	2,7	5,6	1,4	0,4	2,9	0,6	3,5
	dsna	10,3	5,1	7,3	2,9	0,9	5,9	1,2	7,0
	enav	11,9	5,9	6,9	2,0	1,0	4,0	1,0	5,0
	nats	5,2	2,6	5,6	1,6	0,3	3,1	1,7	4,9
	noracon	13,2	6,6	8,0	3,2	0,2	6,3	1,8	8,1
	seac	13,7	6,9	5,1	2,7		7,3	1,9	9,2
	frequentis	0,5	0,3	1,2	0,1	0,1	0,2	0,0	0,3
	indra	2,9	1,4	7,2	0,9	0,3	1,8	0,3	2,1
	natmig	0,9	0,5	2,0	0,2	0,1	0,4	0,1	0,5
	selex	2,0	1,0	4,0	0,7	0,2	1,5	0,1	1,6
	thales	5,4	2,7	7,1	1,4	0,7	2,9	0,9	3,8
	airbus	7,6	3,8	6,6	1,2	0,3	2,5	1,2	3,7
	alenia	1,5	0,7	2,3	0,2	0,0	0,6	0,1	0,8
	honeywell	0,3	0,1	2,6	0,1		0,2	0,0	0,2
	Sub Total	***94,1***	***47,0***	***79,9***	***21,2***	***4,9***	***47,0***	***13,1***	***60,1***
	eurocontrol	46,7					19,7	7,3	27,0
	Total	***140,7***					***66,6***	***20,4***	***87,1***

WP	Member	Realloc 2013 + BAFO III		Commitments and Co-Financing			activities realized		
		In-Kind	Max Co-financing	Commitments 2008 - 2014	Co-fin paid 2008 - 2014	Pre-fin at 31/12/2014	IFS 2008 - 2013 in kind	estimated IFS 2014 in kind	estimated IFS 2008 -2014 in kind
07.	aena	2,9	1,4	1,0	0,3	0,4	0,9	0,2	1,1
	dfs	2,8	1,4	0,5	0,2	0,2	0,4	0,5	0,9
	dsna	2,1	1,1	0,8	0,5	0,2	0,9	0,5	1,4
	enav	3,6	1,8	1,3	0,5	0,4	1,1	0,1	1,2
	nats	3,5	1,8	1,1	0,6	0,3	1,3	0,4	1,7
	noracon	2,8	1,4	0,6	0,2		0,4	0,2	0,6
	seac	0,2	0,1	0,1	0,0		0,1	0,1	0,1
	frequentis	0,0	0,0	0,0	0,0	0,0	0,0		0,0
	indra	5,1	2,5	0,9	0,6	0,3	1,2	1,4	2,6
	natmig								
	selex	1,5	0,7	0,6	0,4	0,2	0,8	0,0	0,8
	thales	0,7	0,3	0,3	0,2	0,1	0,4	0,0	0,4
	airbus	0,1	0,1	0,1	0,0	0,0	0,1	0,0	0,1
	alenia								
	honeywell								
	Sub Total	***25,4***	***12,7***	***7,2***	***3,6***	***2,0***	***7,6***	***3,5***	***11,1***
	eurocontrol	76,0					29,3	12,7	42,0
	Total	***101,4***					***36,9***	***16,2***	***53,1***
08.	aena	0,6	0,3	0,2	0,1	0,1	0,4	0,1	0,4
	dfs	5,4	2,7	2,4	1,7	0,7	3,4	0,7	4,1
	dsna	2,1	1,0	0,8	0,6	0,2	1,2	0,2	1,4
	enav	1,9	0,9	0,7	0,5	0,1	1,0	0,0	1,1
	nats								
	noracon	11,0	5,5	4,4	3,0	0,6	6,0	1,4	7,4
	seac	0,2	0,1	0,1	0,0		0,1	0,0	0,1
	frequentis	2,3	1,2	1,0	0,8	0,2	1,6	0,2	1,8
	indra	1,9	1,0	0,8	0,5	0,2	1,1	0,3	1,4
	natmig	2,2	1,1	1,0	0,6	0,2	1,3	0,4	1,6
	selex	1,6	0,8	0,7	0,6	0,2	1,1	0,2	1,3
	thales	1,4	0,7	0,7	0,4	0,2	0,8	0,1	0,9
	airbus								
	alenia								
	honeywell								
	Sub Total	***30,6***	***15,3***	***12,8***	***8,9***	***2,6***	***18,0***	***3,6***	***21,6***
	eurocontrol	21,0					10,1	2,7	12,8
	Total	***51,5***					***28,1***	***6,3***	***34,4***
09.	aena								
	dfs								
	dsna	0,2	0,1	0,1	0,0		0,0	0,0	0,1
	enav								
	nats								
	noracon	0,0	0,0	0,0	0,0		0,0		0,0
	seac								
	frequentis								
	indra	0,1	0,1	0,0	0,0	0,0	0,0	0,0	0,1
	natmig								
	selex	5,5	2,8	2,7	2,3	0,4	4,7	0,5	5,2
	thales	60,2	30,1	23,5	17,1	4,4	34,1	17,2	51,3
	airbus	62,2	31,1	24,1	17,8	5,1	35,7	9,3	45,0
	alenia	25,3	12,6	10,1	4,0	2,4	12,3	4,3	16,6
	honeywell	38,0	19,0	13,8	9,3	2,5	18,6	5,8	24,4
	Sub Total	***191,6***	***95,8***	***74,4***	***50,6***	***14,7***	***105,5***	***37,2***	***142,7***
	eurocontrol	8,5					4,5	0,7	5,2
	Total	***200,1***					***110,1***	***37,9***	***147,9***
10.	aena	1,3	0,7	0,7	0,3	0,2	0,8	0,2	1,0
	dfs	3,4	1,7	1,4	0,8	0,3	1,7	0,6	2,3
	dsna	1,6	0,8	0,8	0,5	0,1	1,1	0,1	1,2
	enav	3,8	1,9	1,6	0,8	0,5	1,6	0,3	1,9
	nats	0,8	0,4	0,3	0,1	0,1	0,2	0,0	0,2
	noracon	1,2	0,6	0,5	0,4		0,8	0,1	0,9
	seac								
	frequentis	0,9	0,5	0,5	0,5	(0,0)	0,9		0,9
	indra	32,4	16,2	12,1	7,4	3,2	14,9	8,9	23,7
	natmig	4,6	2,3	2,0	1,2	0,5	2,4	0,4	2,8
	selex	21,4	10,7	8,6	4,4	2,6	8,8	3,1	11,9
	thales	49,2	24,6	18,4	13,5	4,3	27,0	6,2	33,1
	airbus	0,1	0,1	0,1	0,1	0,0	0,1		0,1
	alenia								
	honeywell								
	Sub Total	***120,7***	***60,3***	***47,0***	***30,1***	***11,9***	***60,3***	***19,8***	***80,1***
	eurocontrol	18,4					10,2	2,0	12,3
	Total	***139,1***					***70,6***	***21,8***	***92,4***

WP	Member	Realloc 2013 + BAFO III		Commitments and Co-Financing			activities realized		
		In-Kind	Max Co-financing	Commitments 2008 - 2014	Co-fin paid 2008 - 2014	Pre-fin at 31/12/2014	IFS 2008 - 2013 in kind	estimated IFS 2014 in kind	estimated IFS 2008 -2014 in kind
12.	aena	0,3	0,2	0,1	0,1	0,0	0,2	0,0	0,2
	dfs	4,6	2,3	1,9	1,5	0,4	2,9	0,8	3,7
	dsna	1,2	0,6	0,6	0,4	0,2	0,8	0,2	1,0
	enav	1,0	0,5	0,4	0,1	0,1	0,2	0,0	0,2
	nats	0,2	0,1	0,1	0,1	0,0	0,1	0,0	0,1
	noracon	2,0	1,0	0,9	0,6		1,1	0,2	1,3
	seac	0,4	0,2	0,2	0,1		0,2	0,0	0,2
	frequentis	7,2	3,6	2,2	1,7	0,5	3,5	1,4	4,9
	indra	27,4	13,7	10,5	6,8	2,8	13,7	4,2	17,9
	natmig	13,8	6,9	4,7	3,7	0,7	7,5	2,7	10,2
	selex	21,0	10,5	8,5	5,3	2,3	10,6	2,5	13,2
	thales	29,8	14,9	11,5	8,5	2,8	17,0	6,3	23,3
	airbus								
	alenia	0,6	0,3	0,2	0,1		0,4	0,1	0,5
	honeywell								
	Sub Total	***109,5***	***54,8***	***41,9***	***29,0***	***9,8***	***58,2***	***18,5***	***76,7***
	eurocontrol	3,6					1,4	0,2	1,6
	Total	***113,2***					***59,5***	***18,7***	***78,2***
13.	aena	2,2	1,1	0,4	0,1	0,1	0,2	0,2	0,4
	dfs	2,7	1,4	0,6	0,4	0,1	0,8	0,1	0,9
	dsna	1,0	0,5	0,2	0,1	0,1	0,2	0,2	0,5
	enav	0,6	0,3	0,1	0,1	0,0	0,2	0,1	0,2
	nats	0,9	0,5	0,4	0,2	0,1	0,4	0,1	0,5
	noracon	0,1	0,1	0,0	0,0		0,0	0,0	0,0
	seac								
	frequentis	3,2	1,6	0,8	0,7	0,2	1,3	0,6	1,9
	indra	3,4	1,7	1,3	0,5	0,3	1,0	0,7	1,7
	natmig								
	selex	1,3	0,6	0,5	0,2	0,1	0,5	0,1	0,5
	thales	3,1	1,6	0,7	0,6	0,1	1,2	0,6	1,8
	airbus								
	alenia								
	honeywell								
	Sub Total	***18,6***	***9,3***	***5,1***	***2,9***	***1,0***	***5,9***	***2,6***	***8,5***
	eurocontrol	32,6					17,1	6,3	23,4
	Total	***51,2***					***23,0***	***8,9***	***31,9***
14.	aena								
	dfs	0,3	0,1	0,1	0,1	0,0	0,2	0,2	0,4
	dsna	0,1	0,1	0,1	0,1	0,0	0,1		0,1
	enav	0,3	0,1	0,1	0,1	0,0	0,1	0,1	0,2
	nats								
	noracon	0,5	0,2	0,2	0,1		0,3	0,0	0,3
	seac								
	frequentis	7,3	3,7	2,7	2,1	0,5	4,1	0,9	5,0
	indra	8,7	4,3	4,0	2,8	1,1	5,6	1,4	7,0
	natmig	1,8	0,9	0,9	0,8	0,1	1,6	0,1	1,7
	selex	3,0	1,5	1,3	1,0	0,3	2,0	0,4	2,4
	thales	16,0	8,0	7,8	5,2	1,9	10,3	1,5	11,8
	airbus	0,3	0,1	0,1	0,1	0,0	0,2	0,0	0,2
	alenia								
	honeywell	0,2	0,1	0,1	0,0		0,1	0,0	0,1
	Sub Total	***38,5***	***19,2***	***17,5***	***12,3***	***4,1***	***24,5***	***4,5***	***29,0***
	eurocontrol	16,7					7,8	2,1	9,9
	Total	***55,1***					***32,3***	***6,6***	***38,9***
15.	aena	4,0	2,0	1,7	0,9	0,2	2,0	0,3	2,3
	dfs	5,0	2,5	1,7	1,1	0,2	2,3	0,5	2,7
	dsna	2,7	1,3	1,2	0,6	0,2	1,2	0,8	2,0
	enav	1,8	0,9	0,9	0,5	0,0	0,9	0,1	1,0
	nats	1,2	0,6	0,2	0,1	0,1	0,2	0,2	0,4
	noracon	2,2	1,1	1,1	0,4	0,1	0,9	0,1	1,0
	seac								
	frequentis	4,6	2,3	2,2	1,7	0,5	3,4	0,5	3,8
	indra	18,7	9,4	7,9	3,9	1,7	7,8	2,1	9,9
	natmig	13,3	6,6	5,0	3,5	0,6	6,9	2,5	9,4
	selex	18,1	9,1	7,7	5,5	1,9	10,9	2,3	13,3
	thales	32,0	16,0	14,7	7,9	5,8	15,8	6,2	22,0
	airbus	5,4	2,7	0,8	0,5	0,1	1,1	1,0	2,1
	alenia	4,1	2,0	1,8	0,6	0,3	1,6	0,8	2,3
	honeywell	0,7	0,3	0,2	0,1		0,2	0,1	0,4
	Sub Total	***113,7***	***56,8***	***46,9***	***27,3***	***11,8***	***55,3***	***17,4***	***72,6***
	eurocontrol	31,2					15,2	4,3	19,6
	Total	***144,9***					***70,5***	***21,7***	***92,2***

WP	Member	Realloc 2013 + BAFO III		Commitments and Co-Financing			activities realized		
		In-Kind	Max Co-financing	Commitments 2008 - 2014	Co-fin paid 2008 - 2014	Pre-fin at 31/12/2014	IFS 2008 - 2013 in kind	estimated IFS 2014 in kind	estimated IFS 2008 -2014 in kind
16.	aena	3,5	1,7	1,6	0,8	0,3	2,2	0,2	2,4
	dfs	4,4	2,2	1,9	1,4	0,4	2,7	0,6	3,3
	dsna	0,5	0,2	0,2	0,2	0,1	0,3	0,1	0,4
	enav	5,0	2,5	1,8	1,4	0,3	2,9	0,3	3,2
	nats	3,3	1,6	1,4	0,7	0,3	1,4	0,4	1,7
	noracon	1,9	1,0	0,6	0,4		0,7	0,2	1,0
	seac	0,6	0,3	0,3	0,1		0,2	0,1	0,3
	frequentis	1,8	0,9	0,8	0,6	0,2	1,2	0,2	1,4
	indra	3,6	1,8	1,4	1,1	0,3	2,1	0,4	2,6
	natmig	2,9	1,4	1,2	0,9	0,1	1,9	0,4	2,3
	selex	1,4	0,7	0,7	0,5	0,1	1,1	0,2	1,3
	thales	4,2	2,1	1,9	1,4	0,3	2,9	0,4	3,3
	airbus	12,1	6,1	5,5	4,0	1,1	8,0	1,5	9,5
	alenia	0,5	0,2	0,1	0,1		0,3	0,0	0,3
	honeywell								
	Sub Total	***45,7***	***22,8***	***19,3***	***13,6***	***3,6***	***27,9***	***5,0***	***32,8***
	eurocontrol	48,1					27,5	7,0	34,6
	Total	***93,8***					***55,4***	***12,0***	***67,4***
B.0	aena	2,9	1,5	1,2	0,7	0,2	1,8	0,4	2,2
	dfs	11,6	5,8	4,0	3,3	0,7	6,6	1,9	8,5
	dsna	3,9	2,0	0,8	0,5	0,2	1,1	0,7	1,8
	enav	2,5	1,3	0,8	0,6	0,2	1,1	0,3	1,4
	nats	5,0	2,5	2,0	1,7	0,3	3,4	0,9	4,3
	noracon	4,0	2,0	1,6	1,4	0,2	2,8	0,3	3,1
	seac	0,5	0,2	0,2	0,1		0,3	0,1	0,4
	frequentis	1,7	0,8	0,6	0,3	0,3	0,6	0,2	0,8
	indra	1,8	0,9	0,6	0,4	0,1	0,8	0,2	1,1
	natmig								
	selex	3,3	1,7	1,3	0,7	0,4	1,4	0,4	1,9
	thales	4,2	2,1	1,9	0,9	0,7	1,8	0,6	2,3
	airbus	2,9	1,4	1,3	1,1	0,3	2,1	0,3	2,4
	alenia	0,2	0,1	0,1	0,1	0,0	0,2	0,0	0,2
	honeywell								
	Sub Total	***44,6***	***22,3***	***16,4***	***11,8***	***3,6***	***24,0***	***6,4***	***30,4***
	eurocontrol	33,6					14,3	4,6	18,9
	Total	***78,2***					***38,3***	***11,0***	***49,3***
C.0	aena	1,5	0,8	0,6	0,3	0,0	0,8	0,2	1,0
	dfs	2,0	1,0	0,7	0,5	0,2	1,0	0,3	1,2
	dsna	1,3	0,7	0,7	0,4	0,2	0,7	0,3	1,0
	enav	2,0	1,0	0,7	0,4	0,2	0,8	0,2	0,9
	nats	1,3	0,7	0,7	0,3	0,2	0,6	0,2	0,7
	noracon	2,2	1,1	0,7	0,3		0,7	0,2	0,9
	seac	0,7	0,3	0,2	0,1		0,4	0,2	0,6
	frequentis								
	indra	2,1	1,0	0,9	0,5	0,3	1,1	0,2	1,2
	natmig								
	selex								
	thales	2,1	1,0	1,0	0,5	0,3	0,9	0,3	1,2
	airbus	2,4	1,2	1,2	0,9	0,3	1,7	0,3	2,0
	alenia	0,3	0,1	0,1	0,1		0,2	0,0	0,2
	honeywell	0,1	0,0	0,0	0,0		0,1		0,1
	Sub Total	***18,0***	***9,0***	***7,5***	***4,2***	***1,8***	***8,8***	***2,2***	***11,1***
	eurocontrol	33,5					14,3	4,5	18,8
	Total	***51,5***					***23,1***	***6,7***	***29,9***
H.0	aena	0,3	0,2					0,1	0,1
	dfs	0,3	0,1					0,1	0,1
	dsna	0,3	0,1					0,3	0,3
	enav	0,5	0,2					0,2	0,2
	nats	0,3	0,2					0,2	0,2
	noracon	0,6	0,3					0,6	0,6
	seac	0,4	0,2					0,7	0,7
	frequentis	0,2	0,1					0,0	0,0
	indra	0,4	0,2					0,1	0,1
	natmig	0,2	0,1					0,0	0,0
	selex	0,8	0,4	0,4		0,2		0,3	0,3
	thales	0,7	0,4	0,4		0,3		0,6	0,6
	airbus	0,9	0,4					0,9	0,9
	alenia	0,4	0,2					0,1	0,1
	honeywell	0,3	0,1					0,2	0,2
	Sub Total	***6,5***	***3,2***	***0,7***		***0,5***		***4,4***	***4,4***
	eurocontrol	1,1							
	Total	***7,6***						***4,4***	***4,4***

WP	Member	Realloc 2013 + BAFO III		Commitments and Co-Financing			activities realized		
		In-Kind	Max Co-financing	Commitments 2008 - 2014	Co-fin paid 2008 - 2014	Pre-fin at 31/12/2014	IFS 2008 - 2013 in kind	estimated IFS 2014 in kind	estimated IFS 2008 -2014 in kind
Total	aena	62,2	31,1	28,7	11,8	4,5	31,8	7,0	38,8
	dfs	71,9	35,9	29,1	18,5	4,9	37,1	11,7	48,7
	dsna	67,4	33,7	27,7	17,5	5,5	35,1	10,8	45,8
	enav	71,3	35,5	29,7	17,0	6,0	34,0	7,8	41,9
	nats	64,4	32,2	27,9	13,9	4,4	27,8	8,1	35,9
	noracon	62,3	31,1	26,7	15,7	1,9	31,3	7,1	38,4
	seac	16,6	8,3	7,0	3,1		8,6	3,0	11,6
	frequentis	31,3	15,6	12,4	8,6	2,5	17,1	4,3	21,5
	indra	119,2	59,6	51,4	28,1	11,5	56,2	22,8	79,1
	natmig	39,6	19,8	16,7	11,0	2,3	22,1	6,6	28,6
	selex	88,1	44,0	39,8	23,6	9,7	47,2	10,9	58,1
	thales	231,0	115,5	99,0	63,4	24,5	126,7	43,8	170,5
	airbus	108,8	54,4	45,2	29,3	8,5	58,6	16,4	75,0
	alenia	37,9	19,0	16,2	5,9	3,1	17,4	5,6	23,0
	honeywell	40,7	20,3	17,3	10,0	2,6	19,9	6,3	26,3
	Sub Total	***1.112,6***	***556,1***	***474,9***	***277,4***	***91,9***	***570,9***	***172,2***	***743,2***
	WP11	*5,2*							
	WP E	*7,4*							
	Early Projects	*9,4*							
	Easa-Ectrl exp	*5,0*							
	PSO	*24,0*					*9,9*	*1,8*	11,7
	Admin	*7,3*					*5,8*		5,8
	other ectrl in kind	*58,4*					*15,7*	*1,8*	17,5
	eurocontrol	505,2					222,9	67,2	290,1
	Total	***1.617,8***					***825,2***	***243,1***	***1.068,3***
	other from non Members	251,6							
	Total	***1.869,4***					***825,2***	***243,1***	

Nota Bene

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 per project&per Member by the SJU in terms of co-financing (Level 2 Commitments) (Remaining difference to the maximum Co-Financing has been commited per Member as Level 1 commitments, full breakdown to Level 2 commitments per project expected by mid 2015)***

Co-Fin paid 2008-2014 — ***amount paid to the Members in terms of Co-financing until 31/12/2014 for activities realized until 31/12/2013***

Pre-fin at 31/12/2014 — ***amount paid to the Members in terms of Pre-financing considering the clearing of 2013 activities realized until 31/12/2014 (Members Cost Claims for 2013 activties considered in above figures: 12 out of 16 (31/12/2014)!)***

Activities realized 2008 - 2014 — ***amounts of gross in kind contributions related to activities realized up to 2014***
for four members activities realized in 2013 were still subject to acceptance at 31/12/2014
with regard to 2014, the activities are estimated on the quarterly reporting until September 2014 duly annualized

Annex II - List of Deliverables 2014

WP	Proj	Code	Deliverable Name	Deliverable Description	Template	Due date	Actual date	Assessment procedure	Provisional Assessment	Assessment Decision
03	03.03.01	D26	V&V IOP Report 2014		GEN	05/12/2014	**12/23/2014**	closed	No reservation	No reservation
	03.01.01	D05-003	Validation Roadmap - Version 7 data	This deliverable represents the support to	GEN	16/12/2014	**12/18/2014**	closed	No reservation (P)	No reservation (P)
	03.00	D07-003	WP3 Dissemination Material	milestones in the producti	GEN	31/12/2014	**12/18/2014**	closed	No reservation (P)	No reservation (P)
	03.00	D11-005	WP3 IMS quarterly dump for Q4-2014	both for Operationl and Er	GEN	31/12/2014	**12/17/2014**	closed	No reservation (P)	No reservation (P)
	03.01.01	D12-004	2014 V&V User Requirements Document - Q4	This document aims at providing an overview of	GEN	31/12/2014	**12/16/2014**	closed	No reservation (P)	No reservation (P)
	03.03.01	D15-003	V&VP Architecture Description & Tool Specification - 2014 Q3	This delverable will contain the collection of		15/10/2014	**10/15/2014**	closed	No reservation (P)	No reservation (P)
	03.03.01	D17-003	V&VP Integration Plan - 2014 Q3	This delverable will contain the collection of		15/10/2014	**10/15/2014**	closed	No reservation (P)	No reservation (P)
	03.01.03	D20-003	V&VP System Requirements Document Q3-2014	This deliverable		17/10/2014	**10/9/2014**	closed	No reservation	No reservation
	03.01.01	D12-003	2014 V&V User Requirements Document - Q3	This document aims at providing an overview of	GEN	30/09/2014	**9/26/2014**	closed	No reservation (P)	No reservation (P)
	03.00	D01-004	WP3 Coordination Meeting Report	ment panels, ad-hoc WP3	GEN	27/08/2014	**8/5/2014**	closed	No reservation (P)	No reservation (P)
	03.02.01	D01	Project Close-out Report	ies and results of this proj	FINALR	30/05/2014	**8/1/2014**	closed	No reservation	No reservation
	03.02.02	D09-001	2014 Global Optimization report 1st draft	&VI tools needed for the v	GEN	15/07/2014	**7/22/2014**	closed	No reservation (P)	No reservation (P)
	03.03.02	D17-001	Maintenance Report for S1-2014	This deliverable will relate activity performed	GEN	30/06/2014	**7/15/2014**	closed	No reservation (P)	No reservation (P)
	03.01.03	D23-001	V&VP Technical Acceptance Test Plan Q1&Q2-2014	This deliverable addresses the set of	GEN	11/07/2014	**7/11/2014**	closed	No reservation	No reservation
	03.01.03	D20-002	V&VP System Requirements Document Q2-2014	This deliverable	GEN	11/07/2014	**7/11/2014**	closed	No reservation	No reservation
	03.02.02	D08-001	2014 Evolution Plan 1st draft	03.02.02 during Q1 and Q	GEN	15/07/2014	**7/11/2014**	closed	No reservation (P)	No reservation (P)
	03.03.01	D15-002	V&VP Architecture Description & Tool Specification - 2014 Q2			15/07/2014	**7/10/2014**	closed	No reservation (P)	No reservation (P)
	03.03.01	D17-002	V&VP Integration Plan - 2014 Q2	This delverable will contain the collection of	GEN	15/07/2014	**7/10/2014**	closed	No reservation (P)	No reservation (P)
	03.00	D11-004	WP3 IMS quarterly dump for Q2-2014	both for Operationl and Er	GEN	30/06/2014	**7/2/2014**	closed	No reservation (P)	No reservation (P)
	03.01.01	D12-002	2014 V&V User Requirements Document - Q2	This document aims at providing an overview of	GEN	30/06/2014	**6/30/2014**	closed	No reservation (P)	No reservation (P)
	03.03.01	D17-001	V&VP Integration Plan - 2014 Q1	This delverable will	GEN	15/04/2014	**4/16/2014**	closed	No reservation	No reservation
	03.03.01	D15-001	V&VP Architecture Description & Tool Specification - 2014 Q1	This delverable will contain the collection of		15/04/2014	**4/16/2014**	closed	No reservation	No reservation

	03.02.01	D07-003	IBPs & Tools Baseline Documentation Report Q1-2014 (external)	ual, planned, actual), as we	GEN	15/04/2014	**4/11/2014**	closed	No reservation (P)	No reservation (P)
	03.02.01	D04-002	Information Management Report (operational_management view) for 2014	operational view process a	GEN	15/04/2014	**4/11/2014**	closed	No reservation (P)	No reservation (P)
	03.03.02	D16-001	Integration Report for Q1-2014	This deliverable will	GEN	30/03/2014	**4/11/2014**	closed	Reservation/s	No reservation
	03.03.03	D483	IBP V&VP Operational Acceptance Review 1Q2014	This deliverable will include all the	GEN	15/04/2014	**4/11/2014**	closed	No reservation	No reservation
	03.03.03	D481	IBP V&VP Technical Acceptance 1Q2014	This deliverable will include all the technical	GEN	15/04/2014	**4/11/2014**	closed	No reservation (P)	No reservation (P)
	03.01.03	D20-001	V&VP System Requirements Document Q1-2014	This deliverable	GEN	11/04/2014	**4/11/2014**	closed	No reservation	No reservation
	03.01.01	D12-001	2014 V&V User Requirements Document - Q1	This document aims at	GEN	11/04/2014	**4/10/2014**	closed	No reservation	No reservation
	03.03.02	D15-001	V&VI Software Material for Q1-2014	This deliverable will	GEN	30/03/2014	**3/31/2014**	closed	Reservation/s	No reservation
	03.03.02	D566	Support to P03.03.03 for 2013	This deliverable relates	GEN	01/01/2014	**3/17/2014**	closed	No reservation	No reservation
	03.00	D13-001	Release 3 SE#2 Review Report	ne specific release. This c	GEN	31/12/2013	**2/28/2014**	closed	No reservation (P)	No reservation (P)
	03.00	D02-004	WP3 Management and Communication Plan	dentified for the WP3 mar	GEN	03/02/2014	**2/12/2014**	closed	No reservation (P)	No reservation (P)
	03.03.01	D22	Support to Project 03.01.03 Report 2013		GEN	28/01/2014	**1/28/2014**	closed	No reservation (P)	No reservation (P)
	03.00	D09-002	WP3 Deliverable Review Report	consistency. It provides co	None	29/01/2014	**1/27/2014**	closed	No reservation (P)	No reservation (P)
	03.00	D07-002	WP3 Dissemination Material	milestones in the producti	GEN	31/12/2013	**1/24/2014**	closed	No reservation (P)	No reservation (P)
	03.03.01	D14-004	V&VP Integration Plan - 2013 Q4	This delverable will	VP	21/01/2014	**1/21/2014**	closed	No reservation	No reservation
	03.03.02	D14	Maintenance Report for S2-2013	This deliverable will relate activity performed	GEN	21/01/2014	**1/21/2014**	closed	No reservation (P)	No reservation (P)
	03.01	D06-002	WP3.1 Deliverable Review Report	istency and in terms of qu	GEN	15/01/2014	**1/20/2014**	closed	No reservation (P)	No reservation (P)
	03.02	D06-002	WP3.2 Deliverable Review Report	as a support The yearly d	None	15/01/2014	**1/17/2014**	closed	No reservation (P)	No reservation (P)
	03.03	D06-002	SWP03.03 Deliverable Review report	st as a support The yearly	None	15/01/2014	**1/17/2014**	closed	No reservation (P)	No reservation (P)
	03.01.03	D26	AIRBUS support to P03.03.01 Activity Report 2013	This deliverable is a brief report of the work and	GEN	17/01/2014	**1/17/2014**	closed	No reservation (P)	No reservation (P)
	03.01.03	D14	V&VP Engineering Data Management Report 2013	This deliverable reports the output of the V&VP	GEN	17/01/2014	**1/17/2014**	closed	No reservation (P)	No reservation (P)
	03.01.03	D16-002	V&VP Technical Acceptance Test Plan Q3-Q4-2013	This deliverable addresses the set of	VP	17/01/2014	**1/17/2014**	closed	No reservation	No reservation
	03.01.03	D15-004	V&VP System Requirements Document Q4-2013	This deliverable addresses the V&V	GEN	17/01/2014	**1/17/2014**	closed	No reservation (P)	No reservation (P)
	03.03.01	D12-004	V&VP Architecture Description & Tool Specification - 2013 Q4		VP	15/01/2014	**1/15/2014**	closed	No reservation	No reservation
	03.02.01	D07-002	IBPs & Tools Baseline Documentation Report Q4-2013 (external)	planned, actual), as well as	GEN	14/01/2014	**1/14/2014**	closed	No reservation (P)	No reservation (P)
	03.02.02	D06-002	2013 Evolution Plan Final	.02 during the year. It cont	GEN	10/01/2014	**1/14/2014**	closed	No reservation	No reservation
	03.02.02	D07-002	2013 Golbal Optimization Final report	ools needed for the valida	GEN	31/12/2013	**1/14/2014**	closed	No reservation (P)	No reservation (P)
	03.03.02	D13-002	Integration Report for Q4-2013		GEN	10/01/2014	**1/10/2014**	closed	No reservation (P)	No reservation (P)

WP	Proj	Code	Deliverable Name	Deliverable Description	Template	Due date	Actual date	Assessment procedure	Provisional Assessment	Assessment Decision
04	04.05	D822	TMF-IOP Technical Note for 2014 (4.5 Deliverable)	Dxx TMF/IOP Technical Note for 2014	GEN	12/12/2014	**12/11/2014**	closed	No reservation	No reservation
	04.08.01	D89	VALR-ACASX-CURRENT Validation report for the evaluation of ACAS Xa in Europe	Report integrating the different contributions	VALR	31/10/2014	**12/6/2014**	shared	Reservation/s requiring	to be assessed
	04.07.01	D23	STEP 2 V2 Validation plan	This document is the initial version of the Step2 V2 Validation Plan	VALP	05/12/2014	**12/5/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	04.08.01	D85	VALP-RADL-V3 Final validation plan of proposed display and use of ACAS RA downlinked information by the controller	A report describing the integration needs, the validation approach, the	VALP	31/07/2014	**11/21/2014**	closed	Major reservation/s	Major reservation/s
	04.08.01	D84	OSED-RADL-V2 ATC operations including the display of ACAS RA downlinked information to the controller	A report refining the operational concept that will support the use the	OSED	30/06/2014	**11/21/2014**	shared	Reservation/s requiring clarification/s	to be assessed
	04.07.02	D20	SPR_2	This deliverable contains safety and performance	SPR	30/06/2014	**11/21/2014**	closed	Major reservation/s	Major reservation/s
	04.07.02	D18	Validation Report_2	This deliverable will	VALR	30/09/2014	**10/16/2014**	closed	No reservation	No reservation
	04.07.03	D28	Annex available for M1 FRA Preliminary OSED V2	Annex that will be included in the FR OSED		30/09/2014	**10/9/2014**	closed	No reservation (P)	No reservation (P)
	04.03	D76	Validation Exercise Plan EXE-04.03-VP-711	EXE-04.03-VP-711		30/07/2014	**9/3/2014**	closed	Major reservation/s	No reservation
	04.08.01	D80	OSED-DAP-G-SNET-V3 Final OSED for the use of DAPs in G-SNETs	An updated version of the V2 OSED & SPR	OSED	17/07/2014	**9/3/2014**	shared	Reservation/s requiring	
	04.07.01	D65	STEP1 V3 Validation Plan (FINAL VERSION)	This document is an update of the 'Step1 V3 Validation Plan'	VALP	02/09/2014	**9/2/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	04.08.01	D83	VALR-RADL-V2 Preliminary validation report on proposed display and use of ACAS RA downlinked information by the controller	A report concluding on the operational feasibility of the integration of	VALR	30/06/2014	**8/29/2014**	closed	No reservation (P)	No reservation (P)
	04.07.03	D17	V1 - Initial OSED	VP4.2 and the detailed op	OSED	31/07/2014	**7/30/2014**	closed	No reservation (P)	No reservation (P)
	04.05	D821	TMF-IOP Technical Note for 2013 (4.5 Deliverable)	Dxx TMF/IOP Technical Note for 2013 (Delivered		18/02/2014	**7/7/2014**	closed	No reservation	No reservation
	04.08.01	D82	VALP-RADL-V2 Preliminary validation plan of proposed display and use of ACAS RA downlinked information by the controller	A report describing the demonstrator system, the validation approach,		31/03/2014	**7/7/2014**	closed	No reservation (P)	No reservation (P)
	04.02	D08	04.02-D08-En Route Detailed Operational Description Step2	cope in terms of SESAR st	DOD	04/07/2014	**7/4/2014**	closed	No reservation	No reservation
	04.08.01	D29	OSED-TRAJ-G-SNET-V2 Preliminary OR for G-SNETs adapted to 3-4D TRAJ	Consolidate the operational (both	OSED	30/06/2014	**7/4/2014**	closed	Reservation/s requiring	No reservation
	04.00	D03	Work Package Management Plan - update 2	A work package management plan will	GEN	29/05/2014	**6/6/2014**	closed	No reservation (P)	No reservation (P)
	04.08.01	D20	VALR-DAP-G-SNET-V3 Operational evaluation of enhanced STCA using DAP	Summarise the main operational validation	VALR	18/04/2014	**5/19/2014**	closed	Reservation/s requiring	No reservation
	04.08.01	D25	VALR-TRAJ-G-SNET-V2 Validation report -V2- for G-SNETs adapted to 3-4D TRAJ	erations. Evaluate stages	VALR	20/02/2014	**3/3/2014**	closed	No reservation (P)	No reservation (P)
	04.03	D64	i4D Validation Report - Step C - VP-463	cated to: - updated OSED	VALR	28/02/2014	**2/28/2014**	closed	Reservation/s	No reservation
	04.03	D103	EXE-04.03-VP-022 Validation Report	ections (or separated docu	VALR	28/02/2014	**2/28/2014**	closed	Reservation/s	No reservation
	04.02	D100	04.02-D100-En Route Concept Validation Strategy Step1_update	This deliverable is an update of 4.2 STEP1 VALS D59, that shall be	VALS	31/01/2014	**2/3/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s

	04.07.02	D16	Development and validation plan_2	This deliverable contains	VALP	31/12/2013	**1/7/2014**	closed	Reservation/s	No reservation
WP	**Proj**	**Code**	**Deliverable Name**	**Deliverable Description**	**Template**	**Due date**	**Actual date**	**Assessment procedure**	**Provisional Assessment**	**Assessment Decision**
05	05.09	D101	2014 HMI Operational Styleguide	This deliverable reports the activities performed	GEN	15/12/2014	**12/12/2014**	closed	Major reservation/s	Major reservation/s
	05.02	D85	TMA Validation Strategy for Concept Step 1 - update 2014	Update of the Step 1 Validation Strategy in	VALS	01/11/2014	**11/18/2014**	closed	No reservation	No reservation
	05.05.01	D13	Phase 1 - Closure	Closure Deliverable relate to T008, T056 and	GEN	30/05/2014	**10/31/2014**	closed	No reservation (P)	No reservation (P)
	05.06.03	D39	V3 VALP	VAlidation Plan	VALP	27/06/2014	**10/21/2014**	selected	No reservation	No reservation
	05.06.03	D42	V2 INTEROP	INTEROP addressing the SPR level	INTEROP	08/09/2014	**10/3/2014**	closed	No reservation (P)	No reservation (P)
	05.06.03	D41	V3 INTEROP	V3 INTEROP based on		15/09/2014	**10/3/2014**	closed	Reservation/s	No reservation
	05.06.03	D40	V3 OSED	v3 OSED based on the		08/09/2014	**9/25/2014**	closed	Reservation/s	No reservation
	05.06.03	D28	Advanced Procedure Validation Report - EXE-05.06.03-483 (VALR)	Report on the results of the exercise EXE-	VALR	08/09/2014	**9/25/2014**	closed	Reservation/s requiring	No reservation
	05.03	D91	Validation Exercise Plan EXE-05.03-VP-708 (Consolidated deliverable 04.03 - T268)	This deliverable will contain the Validation Exercise Plan, specifying	VALP	12/09/2014	**9/16/2014**	to be closed	Major reservation/s	Reservation/s requiring clarification/s
	05.06.02	D49	Initial D05 "Step2 Advanced Concept of Operations	This document will initiate the D05 notably with the part 2 :		15/09/2014	**9/15/2014**	closed	Major reservation/s	Reservation/s requiring clarification/s
	05.06.04	D35	Consolidated OSED	Technical note provided b	OSED	08/08/2014	**9/10/2014**	shared	Major reservation/s	to be assessed
	05.06.07	D48	Validation Plan EXE-5.6.7-VP-695	age PAC04 "End to End T	VALP	31/07/2014	**8/19/2014**	closed	Reservation/s	No reservation
	05.06.01	D102	EXE-05.06.01-VP-776 Validation Plan	The validation plan for the EXE-776 Fast Time	VALP	25/07/2014	**8/11/2014**	closed	No reservation (P)	No reservation (P)
	05.04.02	D03	Step 1 V2 VALR TS-0303	V2 Validation Report Step 1 (downgraded	VALR	15/08/2014	**8/8/2014**	closed	No reservation (P)	No reservation (P)
	05.05.01	D401	D401 Coordination Report 1 (5.5.1 Deliverable - 4.5 Contribution)	D401 Coordination Report 1 (5.5.1	GEN	30/05/2014	**8/6/2014**	closed	No reservation (P)	No reservation (P)
	05.06.03	D27	Advanced Procedure Validation Report - EXE-05.06.03-482 (VALR)	Report on the results of the exercise - EXE-	VALR	05/03/2014	**7/30/2014**	closed	Reservation/s requiring	No reservation
	05.06.07	D05	Technical Note to 5.6.4 OSED part 1 - Step 1	and merging (with time-ba	OSED	31/05/2014	**7/24/2014**	closed	No reservation (P)	No reservation (P)
	05.05.01	D840	Dxx TMF IOP V&V Needs for 2014 (5.5.1 Deliverable-4.5 Contribution)	Dxx TMF IOP V&V Needs for 2014	GEN	30/06/2014	**7/11/2014**	closed	No reservation (P)	No reservation (P)
	05.06.06	D34	Stream 2 - Initial Validation Path (Technical Note)	This deliverable will define the scope and	GEN	01/07/2014	**7/11/2014**	closed	No reservation (P)	No reservation (P)
	05.06.01	D82	EXE-05.06.01-VP-478 - Validation Report (Consolidation with 04.03 - T171)	The Validatoin Report for EXE-478 This is a	VALR	29/06/2014	**6/30/2014**	closed	Reservation/s requiring	No reservation
	05.03	D93	Integration Validation Needs beyond 2014 (Consolidated deliverable 04.03 - T004)	nd 2014. THis document	GEN	11/06/2014	**6/11/2014**	closed	Reservation/s requiring	No reservation
	05.00	D16	Work Package Management Plan - Ed03	Update of Work Package 5.00 Project		12/06/2014	**6/6/2014**	closed	No reservation (P)	No reservation (P)
	05.05.01	D81	D81 Internal Validation Exercise Reports VP721	Fast-Time Simulation led	VALR	23/05/2014	**5/30/2014**	closed	Reservation/s	No reservation
	05.06.06	D29	Stream 1 - Consolidation SPR	This deliverable is an	SPR	30/04/2014	**4/30/2014**	closed	Major reservation/s	No reservation
	05.06.06	D30	Stream 1 - Consolidation INTEROP	This deliverable is an	INTEROP	30/04/2014	**4/29/2014**	closed	Major reservation/s	No reservation
	05.06.06	D28	Stream 1 - Consolidation OSED	This deliverable is an	OSED	15/04/2014	**4/28/2014**	closed	Major reservation/s	No reservation

	05.06.07	D06	Technical Note to 5.6.4 OSED-SPR-INTEROP - Step 1	tional Requirements and I	SPR	30/04/2014	**4/25/2014**	closed	No reservation	No reservation
	05.06.04	D74	V2 Preliminary Validation Report stream C (internal 7)	Riched20 15.0.4545Assessment of	VALR	23/04/2014	**4/23/2014**	shared	Reservation/s requiring	
	05.06.07	D17	Final Validation Report - Step 1 - EXE-485	perational concept is integ	VALR	30/04/2014	**4/22/2014**	shared	Major reservation/s	to be assessed
	05.06.03	D36	V2 OSED	Detailed description of	OSED	20/04/2014	**4/10/2014**	closed	Reservation/s	No reservation
	05.06.06	D27	Stream 1 - VREP - consolidated deliverable with 09.05	This deliverable contains the validation report	VALR	28/03/2014	**4/4/2014**	closed	Reservation/s requiring	Major reservation/s
	05.06.06	D31	Stream 2 - State of the art ASPA FIM results	This deliverable contains	GEN	31/03/2014	**4/1/2014**	closed	Reservation/s	No reservation
	05.06.04	D76	V2 Preliminary validation report StreamC - internal8	Riched20 15.0.4545Assessment of	VALR	27/03/2014	**3/27/2014**	closed	Reservation/s requiring	No reservation
	05.06.03	D24	Advanced Procedure Validation Report - EXE-05.06.03-225 (VALR)	Report on the results of the exercise - EXE-	VALR	24/01/2014	**3/5/2014**	closed	Reservation/s requiring	No reservation
	05.09	D107	Report of Performed Supporting Activities in 2013	l which kind of contributior	GEN	01/03/2014	**3/3/2014**	closed	No reservation (P)	No reservation (P)
	05.06.03	D25	Advanced Procedure Validation Report - EXE-05.06.03-VP-353 (VALR)	Report on the results of the exercise - EXE-	VALR	24/01/2014	**2/21/2014**	closed	Reservation/s requiring	No reservation
	05.09	D100	2013 HMI Operational Styleguide Iteration 2	This deliverable reports	GEN	31/01/2014	**2/20/2014**	closed	Reservation/s	No reservation
	05.04.02	D02	V3 Validation Plan Step 1	V2 Validation Plan Step 1 (downgraded from beeing V3 to V2).	VALP	14/02/2014	**2/14/2014**	closed	Major reservation/s	Reservation/s requiring clarification/s
	05.09	D111	Report of Performed HMI Demonstrator Activities in 2013	This deliverable summarize the activites	GEN	17/01/2014	**2/10/2014**	closed	Reservation/s requiring	No reservation
	05.06.04	D73	V2 validation plan StreamC - internal7	Riched20 15.0.4545Identification of		06/02/2014	**2/6/2014**	closed	No reservation (P)	No reservation (P)
	05.06.04	D75	V2 validation plan StreamC - internal8	Riched20 15.0.4545Identification of	VALP	13/01/2014	**1/13/2014**	closed	No reservation (P)	No reservation (P)
	05.06.04	D30	Prelimary SPR-INTEROP	Preliminary SPR/INTEROP	SPR	03/01/2014	**1/3/2014**	closed	No reservation (P)	No reservation (P)
WP	**Proj**	**Code**	**Deliverable Name**	**Deliverable Description**	**Templat e**	**Due date**	**Actual date**	**Assessment procedure**	**Provisional Assessment**	**Assessment Decision**
06	06.05.04	D16	OFA 05.01.01 Consolidated OSED edition 3 Document	This deliverable is the OFA 05.01.01 OSED	OSED	19/12/2014	**12/29/2014**	shared	Major reservation/s	to be assessed
	06.08.01	D58	EXE 753 S2 V1 Validation plan		VALP	30/10/2014	**12/16/2014**	closed	No reservation (P)	No reservation (P)
	06.08.01	D55	EXE 754 Validation plan VALP		VALP	30/10/2014	**12/16/2014**	closed	No reservation (P)	No reservation (P)
	06.06.02	D19	De-icing Step1 V3 Validation plan	rity levels and the general	VALP	17/10/2014	**12/16/2014**	closed	Reservation/s	No reservation
	06.08.05	D44	GBAS Advanced Procedures Concept Validation Report for Displaced Thresholds for V2	Concept Validation Report of DT advanced	VALR	04/07/2014	**12/9/2014**	shared	Reservation/s requiring	to be assessed
	06.09.03	D11	Multiple TWR trial validation report	Validation report for the	VALR	28/11/2014	**11/28/2014**	shared	Major reservation/s	to be assessed
	06.05.05	D09-002	V2 Validation VALP			20/10/2014	**11/27/2014**	closed	No reservation (P)	No reservation (P)
	06.03.01	D152	EXE 759 VALP	Delivery Note to close		26/09/2014	**11/25/2014**	shared	Reservation/s	
	06.05.03	D06-002	6.5.3.D06 DCB-Validation Report for V2 (late)	This document includes	VALR	29/08/2014	**11/18/2014**	shared	Major reservation/s	
	06.08.01	D25	D25 -06.08.02 D15 Updated EBS OSED		OSED	31/10/2014	**11/18/2014**	closed	Major reservation/s	No reservation
	06.08.01	D42	EXE 688 Validation plan - VALP		VALP	30/10/2014	**11/13/2014**	shared	Major reservation/s	
	06.07.02	D81	Preliminary Validation Report for advanced surface routing (RTS exercises)	Preliminary Validation Report for advanced	VALR	30/09/2014	**11/6/2014**	review in progress		to be assessed

	06.08.01	D57	S2 V1 SPR - Report		SPR	17/10/2014	**11/4/2014**	review in progress	No reservation (P)	No reservation (P)
	06.05.05	D09	V2 Validation VALR	V2 Validation Report	VALR	29/08/2014	**11/3/2014**	review in progress		to be assessed
	06.07.03	D26	Preliminary technical feasibility and interoperability Phase 2	n of the technical feasibilit	GEN	27/06/2014	**10/31/2014**	closed	No reservation	No reservation
	06.08.05	D55	Approach Procedures Charts and Path Terminators for RNP transition to GLS and Displaced Thresholds (Final version)	Approach Procedures Charts and Path Terminators for RNP	GEN	08/07/2014	**10/28/2014**	closed	No reservation (P)	No reservation (P)
	06.08.04	D88	6.8.4 VALP - Single Remote TWR Ph1	VALP for single Remote	VALP	30/09/2014	**10/8/2014**	review in progress	Reservation/s	to be assessed
	06.08.04	D98	6.8.4 OSED Multiple Remote TWR V2 - Update	Contribution to 6.9.3	OSED	30/01/2015	**10/3/2014**	closed	Reservation/s	No reservation
	06.09.03	D08-002	Remotely Provided Air Traffic Service for Single Aerodrome VALR			15/08/2014	**9/9/2014**	review in progress		
	06.07.02	D34	V2 Validation Plan for advanced surface routing (FTS exercises)	Describes the validation activity to take place at	VALP	30/04/2014	**8/12/2014**	closed	No reservation (P)	No reservation (P)
	06.09.02	D113	VALP (EXE-06.09.02-VP-678)	Delivery of the Validation Plan of EXE-06.09.02-	VALP	31/07/2014	**8/1/2014**	closed	Major reservation/s	Major reservation/s
	06.08.05	D48	Concept Validation Plan for GBAS CAT II-III for V3	This document will	VALP	31/07/2014	**7/31/2014**	closed	No reservation	No reservation
	06.08.04	D15	6.8.4-S01V3 Validation Plan for V3	Validation Plan for Basic Coupled Arrival and Departure Management	VALP	30/06/2014	**7/30/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	06.09.03	D10	Multiple TWR-AFIS simulation validation report	Validation report for the simulation (V2) of the Multiple TWR concept,	VALR	15/07/2014	**7/25/2014**	closed	Major reservation/s	Reservation/s requiring clarification/s
	06.09.02	D115	Dxy - Support from P6.9.2 to EXE- 06.03.02- VP-614 VALR S2V3 (AENA)		VALR	16/07/2014	**7/16/2014**	closed	No reservation (P)	No reservation (P)
	06.07.02	D21	Final SPR	Update of the	SPR	30/06/2014	**7/11/2014**	closed	No reservation	No reservation
	06.08.04	D97	6.8.4 VALR Multiple Remote TWR V2	VALR for multiple Remote TWR in V2	VALR	27/06/2014	**6/27/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	06.08.01	D26	D26 - 06.08.02 VALR for V2 and V3 exercises report			12/06/2014	**6/12/2014**	closed	Major reservation/s	No reservation
	06.03.01	D86	Release 3 Validation Report D86 (D75)	Delivery of Validation report		15/05/2014	**6/4/2014**	closed	No reservation (P)	No reservation (P)
	06.09.03	D09	Contingency TWR trial 1 validation report	Validation report for the first contingency trial, using the Gothenburg	VALR	01/02/2014	**5/20/2014**	closed	Major reservation/s	Reservation/s requiring clarification/s
	06.08.05	D13	Concept Validation Report for GBAS CAT II-III for V2	This Report will present the results of the GBAS	VALR	16/05/2014	**5/16/2014**	closed	No reservation (P)	No reservation (P)
	06.05.04	D25	OFA 05.01.01 Consolidated VALP 'EXE-06-05-04-VP-013 Validation Plan'	This document will describe the support	LABILITY N	30/05/2014	**5/16/2014**	closed	No reservation (P)	No reservation (P)
	06.08.05	D42	Concept of GBAS Advanced Operations Document (OSED- V3)	Provides an update of the concept of operations	OSED	08/05/2014	**5/8/2014**	closed	Reservation/s requiring	No reservation
	06.08.05	D08	GBAS Advanced Procedures Proposals for Standardizations Report	Document that collects the proposals for	GEN	07/05/2014	**5/7/2014**	closed	No reservation (P)	No reservation (P)
	06.07.02	D22	Integrated Surface Management Interim OSED	Update of the	OSED	18/04/2014	**4/18/2014**	closed	No reservation	No reservation
	06.07.01	D29	Updated SPR for OFA ATCO Safety tools following V2 CMAC trials and V3 CATC trials	Update of the safety and performance	SPR	14/04/2014	**4/17/2014**	closed	Reservation/s requiring	No reservation
	06.07.03	D62	Validation exercise Phase 1 exe 649 (AGL -SEAC)	Use-cases/scenarios	GEN	15/04/2014	**4/15/2014**	closed	No reservation	No reservation

	06.02	D103	Step 2 Airport Validation Strategy 2013 Update	Rs, or recomendations from the Relea		01/04/2014	**4/1/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	06.02	D10	D01-02-03 Step 2 Airport Detailed Operational Description - Final	nd content will be agreed b	DOD	01/04/2014	**4/1/2014**	closed	No reservation	No reservation
	06.08.05	D46	Concept Validation Report for Advanced Procedures (RNP to GLS concept) for V3	Concept Validation Report of RNP transition	VALR	31/03/2014	**3/31/2014**	closed	Reservation/s requiring	No reservation
	06.05.03	D04-002	6.5.3.D04 DCB Validation Plan for V2 (Late)	rom an operational point o	VALP	21/02/2014	**2/21/2014**	closed	Reservation/s	No reservation
	06.09.02	D112	Dxy - Release 3 VALP S2V3	Delivery of the validation	VALP	17/01/2014	**2/9/2014**	closed	Major reservation/s	No reservation
	06.03.01	D08	EXE-6.3.1-VP-609 validation report	also give recommendatior	VALR	06/02/2014	**2/6/2014**	closed	Major reservation/s	No reservation
	06.03.01	D85	Release 3 IBP acceptance tests for AENA D85 (D76)	Acceptance test note for EXE 614		21/01/2014	**2/3/2014**	closed	No reservation (P)	No reservation (P)
	06.02	D102	Step 1 Airport Validation Strategy 2013 Update	Rs, or recomendations from the Relea		29/01/2014	**1/29/2014**	closed	Reservation/s	No reservation
	06.08.05	D43	Concept Validation Report for Advanced Procedures (RNP to GLS concept) for V2	Concept Validation Report of RNP transition	VALR	28/01/2014	**1/28/2014**	closed	Reservation/s requiring	No reservation
	06.09.03	D14	Safety Assessment Report Single TWR	safety case requirements	VALR	15/01/2014	**1/15/2014**	closed	Major reservation/s	No reservation
WP	**Proj**	**Code**	**Deliverable Name**	**Deliverable Description**	**Templat e**	**Due date**	**Actual date**	**Assessment procedure**	**Provisional Assessment**	**Assessment Decision**
07	07.06.01	D17	Step 2 First Validation Plan	Step2 Validation Plan -	VALP	28/11/2014	**12/30/2014**	shared	Reservation/s	to be assessed
	07.06.02	D41	Step 1 NM THALES FDP IOP test verification report	Step 1 NM THALES FDP IOP test verification	VR	08/12/2014	**12/8/2014**	shared	Reservation/s requiring	
	07.06.01	D40	Validation Plan V3 Step 1	Step1 V3-Validation Plan	VALP	27/06/2014	**12/8/2014**	shared	Reservation/s	
	07.06.02	D40	Step 1 Technical Specs for FOS PRO2 prototype	Step 1 Technical Specs	TS	05/12/2014	**12/5/2014**	closed	Reservation/s	No reservation
	07.05.04	D40	AFUA OSED Step 2-V 1 v 2.0 delivery	OSED V 1 Step 2 interim	OSED	27/06/2014	**12/1/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	07.06.01	D37	Step 2 Network Performance Monitoring & Management Report 2014	Step 2 Network Performance Monitoring	GEN	27/06/2014	**11/25/2014**	closed	No reservation (P)	No reservation (P)
	07.06.02	D65	Step 1 UDPP availability note for ESS prototype	Step 1 UDPP availability note for ESS prototype	LABILITY N	14/11/2014	**11/14/2014**	closed	No reservation (P)	No reservation (P)
	07.06.02	D63	Step 1 UDPP technical specs for ESS prototype	Step 1 UDPP technical	TS	12/11/2014	**11/12/2014**	shared	Reservation/s	
	07.02	D39	R4 Platform Release Notes	R4 Platform Release Notes	GEN	30/09/2014	**10/10/2014**	closed	No reservation (P)	No reservation (P)
	07.06.02	D39	Step 1 Business trajectory Validation Plan for VP714	Step 1 Business trajectory VALP update	VALP	26/09/2014	**9/26/2014**	shared	Major reservation/s	
	07.06.02	D47	Step 1 Mission trajectory VALP for OAT	Step 1 Mission trajectory	VALP	25/09/2014	**9/25/2014**	shared	Major reservation/s	
	07.06.02	D37	Step 1 NM THALES FDP IOP test verification plan	Step 1 NM THALES FDP IOP test verification plan	VP	19/09/2014	**9/19/2014**	closed	No reservation (P)	No reservation (P)
	07.06.02	D10	Step 2 V1 Business trajectory VALP	Step 2 V1 Business	VALP	16/09/2014	**9/16/2014**	closed	No reservation	No reservation
	07.06.02	D64	Step 1 V3 UDPP VALP update	Step 1 V3 UDPP VALP	VALP	22/07/2014	**7/22/2014**	closed	No reservation	No reservation
	07.06.02	D73	Step 2 V2 UDPP interim VALP	Step 2 V2 UDPP VALP	VALP	13/07/2014	**7/13/2014**	closed	Reservation/s	No reservation
	07.06.01	D39	Interim OSED V3 Step 1 (2014)	Step 1 V3-OSED - Operational concept, operational scenarios	OSED	23/06/2014	**6/23/2014**	closed	Major reservation/s	Reservation/s requiring clarification/s
	07.06.02	D05	Step 1 Business trajectory VALR for 2013-2014 exercises	Step 1 Business trajectory VALR for 2013-	VALP	17/06/2014	**6/17/2014**	closed	Reservation/s requiring	No reservation
	07.06.02	D03	Step 1 Business trajectory SPR interim version	Step 1 Business trajectory SPR interim version	SPR	05/05/2014	**5/5/2014**	closed	Major reservation/s	Reservation/s requiring clarification/s

	07.02	D11	Step 2 Release 4 VALS	ı between the validation re	GEN	01/04/2014	**3/28/2014**	closed	No reservation	No reservation
	07.02	D31	Step 2 Release 3 DOD	This deliverable also cove	DOD	08/03/2014	**3/7/2014**	closed	No reservation	No reservation
	07.02	D05	Step 1 Release 4 VALS	ıis deliverable also covers	VALS	08/03/2014	**3/6/2014**	closed	Reservation/s	No reservation
	07.06.02	D70	Step 2 V1 UDPP OSED	Step 2 V1 UDPP OSED	OSED	31/01/2014	**1/31/2014**	selected	No reservation	No reservation
	07.06.02	D72	Step2 V1 UDPP VALP udpate	Step2 V1 UDPP VALP udpate	VALR	31/01/2014	**1/31/2014**	selected	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	07.06.02	D71	Step 2 V1 UDPP VALR	Step 2 V1 UDPP VALR	VALR	31/01/2014	**1/31/2014**	selected	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
WP	**Proj**	**Code**	**Deliverable Name**	**Deliverable Description**	**Templat e**	**Due date**	**Actual date**	**Assessment procedure**	**Provisional Assessment**	**Assessment Decision**
08	08.03.10	D42	ISRM Foundation v00.05.00	ISRM Foundation	GEN	19/12/2014	**12/18/2014**	closed	Reservation/s	No reservation
	08.03.10	D62	ISRM v00.01.02	ISRM v00.01.02 (D62) is	GEN	30/11/2014	**12/2/2014**	closed	No reservation	No reservation
	08.03.01	D000	Closeout report	Final Project report		01/12/2014	**12/1/2014**	closed	Reservation/s	No reservation
	08.01.03	D30-002	Activity Report	f the functioning of the gov	GEN	01/12/2014	**11/28/2014**	closed	No reservation (P)	No reservation (P)
	08.03.10	D11	SDCM	This deliverable is based	GEN	31/10/2014	**10/31/2014**	shared	Reservation/s	to be assessed
	08.01.03	D41	AIRM v3.2.0	AIRM v3.2.0		30/09/2014	**9/29/2014**	closed	Reservation/s	No reservation
	08.01.03	D42	AIRM Fondation Rulebook V3.2.0	AIRM Fondation		30/09/2014	**9/29/2014**	closed	No reservation	No reservation
	08.03.10	D41	ISRM Foundation v00.04.00	ISRM Foundation		27/06/2014	**6/27/2014**	closed	Reservation/s	No reservation
	08.03.10	D61	ISRM v00.01.01	ISRM v00.01.01 (D61) is		23/06/2014	**6/23/2014**	closed	Reservation/s	No reservation
	08.01.03	D30-001	Activity Report	f the functioning of the governance m		30/05/2014	**6/5/2014**	closed	No reservation (P)	No reservation (P)
	08.01.03	D40-001	Report	Information on the international coordination		30/04/2014	**6/5/2014**	closed	No reservation (P)	No reservation (P)
	08.01.01	D23	IM Functions (governance specifications) V3	nance functions for SWIM	GEN	04/02/2014	**5/6/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	08.00	D20-005	WP8 Periodic Coordination Report	med Coordination and Cor	GEN	23/12/2013	**4/9/2014**	closed	No reservation (P)	No reservation (P)
	08.00	D20-004	WP8 Periodic Coordination Report	med Coordination and Cor	GEN	24/06/2013	**4/9/2014**	closed	No reservation (P)	No reservation (P)
	08.00	D20-003	WP8 Periodic Coordination Report	med Coordination and Cor	None	23/12/2012	**4/9/2014**	closed	No reservation (P)	No reservation (P)
	08.00	D20-002	WP8 Periodic Coordination Report	med Coordination and Cor	None	23/06/2012	**4/9/2014**	closed	No reservation (P)	No reservation (P)
	08.00	D20-001	WP8 Periodic Coordination Report	med Coordination and Cor	None	23/12/2011	**4/9/2014**	closed	No reservation (P)	No reservation (P)
	08.01.03	D19-003	Governance - Annual Report	Governance - Annual Report	GEN	19/10/2013	**4/2/2014**	closed	No reservation (P)	No reservation (P)
	08.01.03	D14-001	Intermediate Release for v3	onents of the AIRM:á1. Th	AIRM	30/03/2014	**3/27/2014**	closed	Reservation/s	No reservation
	08.01.01	D45	SWIM Compliance Framework Criteria for R4 V-V exercises	This deliverable is the SWIM compliance	GEN	27/02/2014	**2/27/2014**	closed	Reservation/s requiring	No reservation
	08.01.01	D42	SWIM ConOps v4	This deliverable is the updated version of the	GEN	04/02/2014	**2/4/2014**	closed	Major reservation/s	Major reservation/s
WP	**Proj**	**Code**	**Deliverable Name**	**Deliverable Description**	**Templat e**	**Due date**	**Actual date**	**Assessment procedure**	**Provisional Assessment**	**Assessment Decision**
09	09.20	D12	WA3.3 - Validation report	Flight test final report	VALR	23/12/2014	**12/23/2014**	shared	Reservation/s	to be assessed

	09.12	D27	WA4.2 - Technical Validation Report for Business A C - Avionics prototype for initial GBAS cat II III delivery form	nd the assessments of the	VR	21/11/2014	**12/19/2014**	shared	Reservation/s requiring clarification/s	to be assessed
	09.24	D14	Standardization activities report	Following the	GEN	19/12/2014	**12/19/2014**	shared	Reservation/s	to be assessed
	09.14	D09	'WA2.1 V3 Validation Plan for "Traffic Alerts for pilots"	Consolidated V3 Validation Plan for	VALP	19/12/2014	**12/18/2014**	shared	Reservation/s requiring	to be assessed
	09.49	D11-002	Batch 2 - Interoperability Risks Report – Version 2	Batch 2 - Interoperability	GEN	16/12/2014	**12/18/2014**	review in progress		
	09.33	D24	Update : Standard 2 – Technical Validation Report	Update of D13 validation	VR	30/10/2014	**11/27/2014**	shared	Reservation/s	
	09.49	D07-002	Batch 2 - Aircraft Capability Evolution Assessment Report – Version 2	As D6 but for batch 2	GEN	15/11/2014	**11/26/2014**	review in progress		
	09.48	D04	Validation Plan	ational scenario that will be	VALP	26/09/2014	**11/25/2014**	shared	Reservation/s	to be assessed
	09.13	D23	WA2.2 Preliminary Technical Verification report (Integration simulator trials) - Initial Package	Mainline aircraft : ßPreliminary Technical	VR	15/12/2014	**11/25/2014**	closed	No reservation (P)	No reservation (P)
	09.40	D10	Final report	of A-CDA functions held on mock-up		19/12/2014	**11/24/2014**	closed	No reservation	No reservation
	09.20	D08	WA2.2 - Installation report	Identify the modifications	GEN	14/11/2014	**11/14/2014**	shared	Reservation/s	to be assessed
	09.20	D09	WA2.3 - Ground tests report	Functional ground test	GEN	14/11/2014	**11/14/2014**	shared		to be assessed
	09.48	D03	High Level Architecture: Initial Release	ks and applicable standar	GEN	11/04/2014	**11/6/2014**	shared	Reservation/s	to be assessed
	09.24	D12	WA3.3 - Installation report (on A/C)	Report including results	GEN	06/11/2014	**11/6/2014**	shared	Reservation/s	to be assessed
	09.13	D38	WA2.3 High Level Architecture Definition Assumptions (ADA) (advanced package) - issue 2	Regional aircraft : ßHigh Level Architecture	GEN	02/11/2014	**11/4/2014**	closed	No reservation (P)	No reservation (P)
	09.13	D32	WA2.3 Taxi and Runway clearances Requirements specification	Regional aircraft : ßRunway clearances	TS	02/11/2014	**11/4/2014**	closed	No reservation (P)	No reservation (P)
	09.06	D000	Closeout Report	GATE 1: First elements	FINALR	04/11/2014	**11/4/2014**	closed	Major reservation/s	No reservation
	09.27	D21	D3.5-1 Final test report of MCR prototype for mainline / regional aviation v1.0	he document, based on up	VR	13/09/2014	**10/31/2014**	closed	No reservation (P)	No reservation (P)
	09.10	D24	Final Project Report	Final Project Report	FINALR	30/09/2014	**10/30/2014**	closed	Major reservation/s	No reservation
	09.10	D27	Advanced LPV Architecture - final	Updated Architecture	GEN	22/09/2014	**10/30/2014**	closed	Reservation/s	No reservation
	09.10	D26	Advanced LPV Functional Requirements - final	Updated Functional	TS	22/09/2014	**10/30/2014**	closed	Reservation/s	No reservation
	09.13	D12	WA2.3 TVR Deliverable Taxiway Clearances (initial package)	Regional aircraft : ßTrials of Taxi Clearances and	VR	13/10/2014	**10/14/2014**	closed	No reservation (P)	No reservation (P)
	09.09	D20	Final Project Report	Final Project Report	FINALR	15/09/2014	**10/10/2014**	closed	Reservation/s	No reservation
	09.14	D28	WA2.2 Technical Validation Report 2 - release 2 (TVR_R2)	Business Aircraft : This deliverable will contain		31/10/2014	**10/10/2014**	closed	Reservation/s requiring	No reservation
	09.14	D41	Validation Plan for Non-conformance Alerts (phase 3)	Definition of Human in the loop Cockpit		01/09/2014	**10/10/2014**	closed	Reservation/s requiring	No reservation
	09.09	D26	RNP to xLS Architecture - final	Updated Architecture	TS	01/08/2014	**10/8/2014**	closed	No reservation	No reservation
	09.21	D09	Final Project Report	Final Project Report		15/08/2014	**10/7/2014**	closed	Reservation/s	No reservation
	09.19	D21	D 9.19 - 10: WA4.3 û SWIM A-G Technical Verification Report for Regional Aircraft - flight simulator environment - version 1	Report on tests performed on Alenia regional communication	VR	01/10/2014	**10/7/2014**	shared	Reservation/s requiring clarification/s	
	09.11	D35-003	Yearly synthesis of standardisation contributions	The document will contain a yearly	GEN	31/12/2013	**10/1/2014**	closed	No reservation (P)	No reservation (P)
	09.09	D25	RNP to xLS Functional Requirements - final	Updated Functional	TS	01/08/2014	**9/30/2014**	closed	Reservation/s	No reservation
	09.09	D24	RNP to xLS Operational Concept Document - final	Updated Operational	GEN	01/08/2014	**9/30/2014**	closed	Reservation/s	No reservation
	09.19	D20	D 9.19 - 10: WA4.3 û SWIM A-G Technical Verification Report for Regional Aircraft - communication-data link - version 1	Report on tests performed on Thales regional communication		01/10/2014	**9/29/2014**	closed	Reservation/s requiring clarification/s	No reservation
	09.49	D15-002	Batch 1 & 2 Avionics Interoperability Roadmap – Version 2	Batch 1 & 2 Avionics Interoperability Roadmap	GEN	26/08/2014	**9/29/2014**	closed	Reservation/s requiring	No reservation

	09.49	D03-002	Batch 1 & 2 - Consolidated Functional Airborne Architecture – Version 2	Batch 1 & 2 - Consolidated Functional		16/07/2014	**9/29/2014**	closed	Reservation/s requiring	No reservation
	09.05	D03	Functional requirement definition of ASPA S&M - issue 3 (#199)	6.6 inputs documents: OS	TS	31/05/2014	**9/23/2014**	closed	No reservation (P)	No reservation (P)
	09.31	D25	WA2 - Report on database prototypes technical validation (second batch)	Validation of A816-2 AMDB	VR	30/04/2014	**9/22/2014**	closed	No reservation (P)	No reservation (P)
	09.47	D20	V&V plan for STM of ACAS-Xa	Verification & Validation	VALP	30/06/2014	**9/16/2014**	closed	Reservation/s	No reservation
	09.09	D23	Report for the RF legs simulations (VP-yyy)	Report for the RF legs simulations (V2	VALR	25/07/2014	**9/9/2014**	closed	No reservation (P)	No reservation (P)
	09.01	D53	NEW Overall step C validation Report (flight trial and coupled simulations)	relevant ANSPs. The main objective		15/08/2014	**8/8/2014**	closed	No reservation	No reservation
	09.14	D03	OFA 01.02.01 Consolidated 'WA1 High Level Functional Requirements Definition (FRD) - issue 3 - with identification of initial and advanced steps of alerts'	Update of high level functional requirements using second set of inputs from project 6.7.1	GEN	30/04/2014	**8/6/2014**	closed	Reservation/s requiring clarification/s	No reservation
	09.10	D16	Report for EXE-05.06.03-VP-483 Flight tests	ior and performance meas	VALR	01/08/2014	**8/1/2014**	closed	Reservation/s	No reservation
	09.09	D22	Report for the RNP to ILS simulations on Thales Bench (VP-xxx)	Report for the RNP to ILS simulations (V2	VALR	25/07/2014	**7/25/2014**	closed	No reservation (P)	No reservation (P)
	09.09	D21	Validation plan and selection of the procedure (for VP-xxx)	Definition of the simulation activities and	VALP	18/07/2014	**7/23/2014**	closed	No reservation (P)	No reservation (P)
	09.22	D02	Assessment of the current ADS-B links and its evolution	3 requirements as well as	GEN	13/07/2014	**7/21/2014**	closed	Reservation/s requiring	No reservation
	09.31	D32-002	Delivery Notification Form: Airport database prototype for integration and verification activities in project STEP2	Delivery note for A816-2 AMDB	LABILITY N	30/04/2014	**7/18/2014**	closed	No reservation (P)	No reservation (P)
	09.10	D13	Validation Report - V0	e limitation of the flight sin	VALR	29/04/2014	**7/18/2014**	closed	No reservation (P)	No reservation (P)
	09.39	D22	D9.39 Technical Approach Review	D9.39 Technical Approach Review -	GEN	17/04/2014	**7/17/2014**	closed	No reservation (P)	No reservation (P)
	09.39	D23	D9.39 Implementation opportunities studies & Benefit Analysis of En-Route Optimization Techniques for Mainline	rototype definition for mai	GEN	28/02/2014	**7/15/2014**	shared	Reservation/s requiring clarification/s	to be assessed
	09.29	D10	Validation and& Verification report Regional Aircraft	Validation plan creation in accordance with		01/09/2014	**7/11/2014**	closed	No reservation (P)	No reservation (P)
	09.21	D08	Lab prototype evaluation of the proposed 1090 ADS-B	The deliverable will consist of the lab-	GEN	01/06/2014	**7/11/2014**	closed	Reservation/s requiring	No reservation
	09.10	D25	Flight order for EXE-05.06.03-VP-483 Flight tests	Flight Order for the Advanced LPV Flight	GEN	18/07/2014	**7/11/2014**	closed	No reservation (P)	No reservation (P)
	09.10	D19	Yearly APV-SBAS Standardisation report - V3	ents within aircraft segme	GEN	18/07/2014	**7/11/2014**	closed	No reservation (P)	No reservation (P)
	09.12	D29	WA5 - Technical Note - Airborne Impact Analysis - Preparation phase of WA5	he feasibility of the avioni	GEN	30/05/2014	**7/9/2014**	closed	No reservation (P)	No reservation (P)
	09.14	D32	WA2.3 Technical Validation Plan- (TVP) issue2	Regional Aircraft	VALP	03/07/2014	**7/3/2014**	closed	Reservation/s	No reservation
	09.22	D01	Air to Air and Air to Ground Requirements	S-B link from the applicatio	TS	10/06/2014	**7/1/2014**	closed	No reservation (P)	No reservation (P)
	09.12	D25	WA4.2 - Technical Validation Plan for Business A C - Avionics prototype for initial GBAS cat II III delivery form	ent). It will also provide an	VP	31/05/2014	**6/30/2014**	closed	Reservation/s requiring clarification/s	No reservation
	09.10	D14	Validation Report - V1	ot be performed in flight (e	VALR	27/06/2014	**6/27/2014**	closed	Reservation/s	No reservation

	09.12	D24	WA4.1 - Technical Validation Plan for Mainline A C - Avionics prototype for initial GBAS cat II III delivery form	rview of software integration, system		30/05/2014	**6/25/2014**	closed	No reservation (P)	No reservation (P)
	09.14	D35	Regional Research Simulator “Ready for test” report	Regional Aircraft : report containing indications	VR	03/06/2014	**6/13/2014**	closed	No reservation (P)	No reservation (P)
	09.12	D21	WA3 - Technical Note - Certification Issues - Consolidation of new A C airworthiness requirements	Proposal for GBAS GAST-D rulemaking This will be an update of	GEN	16/05/2014	**5/28/2014**	closed	No reservation (P)	No reservation (P)
	09.27	D18	D2.2-2 Report on Integrity techniques v2.0	This new version of the deliverable will take into	GEN	11/05/2014	**5/23/2014**	closed	No reservation (P)	No reservation (P)
	09.16	D05	SELEX Airborne Aeromax Prototype delivery note	Delivery note of the prototype, identifying the	LABILITY N	21/11/2013	**5/23/2014**	closed	No reservation (P)	No reservation (P)
	09.29	D09	Validation and& Verification report Business aircraft	ıse. The final evaluation of	VR	30/05/2014	**5/22/2014**	closed	No reservation (P)	No reservation (P)
	09.44	D32	D2.1: Report on Selex demonstrator Requirements and Design	ere applicable, with WA3;	GEN	10/04/2014	**5/19/2014**	closed	No reservation (P)	No reservation (P)
	09.03	D09	WA2.1 - Phase #1 - Key-4D Software Delivery Note (TCA interim 1 release note)	Description of phase 1 TCA development	LABILITY N	14/04/2014	**5/13/2014**	closed	No reservation (P)	No reservation (P)
	09.03	D14	WA2.2 Phase #1 - Coupling Simulator and ATC Software Design Description Document	Software Design Description Document	GEN	04/04/2014	**5/9/2014**	closed	No reservation (P)	No reservation (P)
	09.13	D03	WA1 High level Functional Requirement Definition (FRD) for D-Taxi - Advanced Package	Update of high level functional requirements	TS	25/04/2014	**4/25/2014**	closed	No reservation (P)	No reservation (P)
	09.47	D19	Surveillance requirements definition for ACAS-Xa	Consolidated description	TS	08/04/2014	**4/8/2014**	closed	Reservation/s	No reservation
	09.49	D21-001	Step 1: Consolidation with primary projects	erability risks (e.g. relating	GEN	10/04/2013	**4/1/2014**	closed	No reservation (P)	No reservation (P)
	09.19	D18	D 9.19 - 09: WA4.2 û SWIM A-G Technical Verification Report for Mainline Aircraft - version 1	Technical verification assessment. Focus on	VR	09/03/2014	**3/17/2014**	closed	No reservation	No reservation
	09.01	D15-003	Yearly synthesis of standardisation contributions (WA1)	The document will contain all the written	GEN	26/02/2014	**2/26/2014**	closed	No reservation (P)	No reservation (P)
	09.27	D11	D3.1-2 Preliminary test report of MCR prototype for business / general aviation v2.0	formance test results. Rec	VR	21/02/2014	**2/24/2014**	closed	No reservation (P)	No reservation (P)
	09.27	D19	D2.3-2 Report on low-cost technologies for future receivers v2.0	This new version of the deliverable will take into	GEN	20/02/2014	**2/20/2014**	closed	No reservation (P)	No reservation (P)
	09.49	D11	Step 2 - Interoperability risk report	As D10 but for Step 2.	GEN	18/02/2014	**2/18/2014**	closed	No reservation (P)	No reservation (P)
	09.47	D14	Operational requirements assumptions & scenarios for GA in European environment	Document describing operational	OSED	11/02/2014	**2/11/2014**	closed	No reservation (P)	No reservation (P)
	09.14	D06	WA2.1 High Level Architecture Definition Assumptions (ADA) - issue 3	Mainline Aircraft : Update of the High	GEN	07/02/2014	**2/7/2014**	closed	No reservation (P)	No reservation (P)
	09.33	D13	WA2.1 - Standard 2 - Technical Validation Report	le (if not results will rely or	VALR	01/02/2014	**2/3/2014**	closed	No reservation (P)	No reservation (P)
	09.06	D05	First elements of high level architecture document	Aircraft high level architecture for mainline	GEN	30/01/2014	**1/30/2014**	closed	No reservation (P)	No reservation (P)
	09.44	D17	D3.7: draft elements for SDR development and security guidance	Report describing the activities proposed to be	GEN	23/12/2013	**1/17/2014**	closed	No reservation (P)	No reservation (P)
	09.44	D14	D3.4: Report on the possible industrial models for the development of SDR-based Aeronautical radios	communication technologi	VALR	26/02/2014	**1/17/2014**	closed	No reservation	No reservation
	09.47	D11	Delivery form for improved hybrid surveillance prototype	Delivery form for improved hybrid	LABILITY N	20/12/2013	**1/9/2014**	closed	No reservation (P)	No reservation (P)

	09.44	D24	D1.2: System Design review [SRR v2 ADR v1 TR v1]	'OS, interface protocols et	GEN	31/07/2013	**1/3/2014**	closed	No reservation (P)	No reservation (P)
WP	**Proj**	**Code**	**Deliverable Name**	**Deliverable Description**	**Templat e**	**Due date**	**Actual date**	**Assessment procedure**	**Provisional Assessment**	**Assessment Decision**
10	10.02.05	D58	Integrated COFLIGHT and NM (ETCL) platforms (Availability Notes)	Integrated COFLIGHT platform and NM (ETCL)	LABILITY N	15/07/2014	**12/19/2014**	shared	Reservation/s requiring	
	10.02.01	D86	Updated Step 1ATC TM System Requirements - Cycle 1	1st update of Step 1 ATC TM System	TS	31/12/2014	**12/18/2014**	shared	Reservation/s requiring	
	10.07.01	D28	D10.7.1 - Standardisation Study - Phase 2	datalink standardisation e	GEN	30/10/2014	**12/11/2014**	shared	Reservation/s	to be assessed
	10.08.01	D14	Step 2 preliminary verification plan for prototype 1	Describes how the prototype 1 is going to be	VP	14/11/2014	**12/10/2014**	closed	No reservation (P)	No reservation (P)
	10.04.01	D18	Conflict Detection and Resolution Tools System Requirements - Phase 2	System requirements derived from operational requirements in Phase 2	TS	30/09/2014	**11/21/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	10.02.05	D41	(VP-711) Verification Plan	FLIGHT and iTEC) before	VP	30/07/2014	**11/21/2014**	closed	No reservation (P)	No reservation (P)
	10.02.05	D34	(VP-714) IOP ATC System Requirements (IOP-TS)	This milestone is to deliver an updated	TS	30/07/2014	**11/6/2014**	closed	Reservation/s requiring	No reservation
	10.04.01	D74	Indra Verification Report - Phase 1 VP500	This report includes the result in Phase 1 for the	VR	15/10/2014	**10/28/2014**	closed	No reservation (P)	No reservation (P)
	10.04.01	D72	Indra Prototype - Phase 1 VP500	ill not be delivered, only th	LABILITY N	15/10/2014	**10/27/2014**	closed	Reservation/s	No reservation
	10.02.05	D35	IOP ATC System Requirements (IOP-TS) VP-22 Closure	This milestone is to deliver an update of the	TS	18/04/2014	**10/22/2014**	selected	No reservation (P)	No reservation (P)
	10.02.05	D36	(VP-711) IOP ATC System Requirements (IOP-TS)	This milestone is to deliver an updated	TS	17/06/2014	**10/7/2014**	closed	Reservation/s requiring	No reservation
	10.07.01	D61	D10.7.1-8 - Availability note for the Airport Prototype 1 - Phase 1	Availability Note for Prototype 1 - Phase 1	LABILITY N	08/10/2014	**10/6/2014**	shared	Major reservation/s	to be assessed
	10.07.01	D62	D10.7.1-10 - APT Prototype 1 - availability note for Testing platform and tools - Phase 1	rms and tools necessary t	LABILITY N	08/10/2014	**10/6/2014**	closed	No reservation (P)	No reservation (P)
	10.07.01	D63	D10.7.1-11 - APT Prototype 1 - Test report - Phase 1	latforms (D10.7.1-10).Sele	VR	08/10/2014	**10/6/2014**	closed	No reservation (P)	No reservation (P)
	10.04.03	D42	Partner 2 Verification Tests report for Phase 2 (RADP)	Deliverable of "Phase 2 Partner 2 Verification	VR	10/06/2014	**9/18/2014**	closed	No reservation (P)	No reservation (P)
	10.04.03	D41	Partner 2 Phase 2 : Safety Nets RADP functions delivery sheet	Deliverable of "Phase 2 Partner 2 Prototype	LABILITY N	10/06/2014	**9/18/2014**	closed	Reservation/s requiring	No reservation
	10.04.01	D73	INDRA Verification Plan - Phase 1 VP500	trategy for INDRA. - Verific	VP	30/07/2014	**9/12/2014**	closed	No reservation (P)	No reservation (P)
	10.04.01	D14	Indra Verification Report - Phase 1 VP175	This report includes the result in Phase 1 for the	VR	30/06/2014	**8/28/2014**	closed	No reservation (P)	No reservation (P)
	10.04.01	D08	Indra Prototype - Phase 1 VP175	ill not be delivered, only th	LABILITY N	30/06/2014	**8/27/2014**	closed	Reservation/s	No reservation
	10.02.05	D37	(VP-711) Adaptation Data (AIM) dataset document	Definition of the geographical area that	GEN	20/05/2014	**8/12/2014**	closed	No reservation (P)	No reservation (P)
	10.07.01	D87	D10.7.1 - AGDL System Requirements - TS 2014	plement. The TS has been also impr		08/07/2014	**7/8/2014**	closed	No reservation (P)	No reservation (P)
	10.04.01	D11	INDRA Verification Plan - Phase 1 VP175	trategy for INDRA. - Verific	VP	01/06/2014	**7/7/2014**	closed	No reservation (P)	No reservation (P)
	10.09.02	D60	10.9.2-Thales P3 prototype availability notice	The prototype is not a		13/06/2014	**6/27/2014**	closed	Reservation/s	No reservation
	10.02.02	D76	Report on Step 1 Activities 2013-2014	This document will report on the Step 1 activities		30/06/2014	**6/27/2014**	closed	No reservation (P)	No reservation (P)

	10.02.01	D90	Report on Step 1 Activities 2013-2014	This document will report on the Step 1 activities		30/06/2014	**6/27/2014**	closed	No reservation (P)	No reservation (P)
	10.04.04	D17	Indra test verification report	s on the TBS tool developed by Indra		28/02/2014	**6/9/2014**	closed	No reservation (P)	No reservation (P)
	10.04.04	D16	Indra verification plan	Test Plan and		15/01/2014	**6/9/2014**	closed	No reservation (P)	No reservation
	10.04.04	D15	Indra prototype development delivery sheet	This delivery sheet will identify the release of the		28/02/2014	**6/9/2014**	closed	No reservation (P)	No reservation (P)
	10.03.02	D36	Final consolidated Requirements	Final consolidated TS	TS	14/05/2014	**6/3/2014**	closed	No reservation	No reservation
	10.04.04	D14	System Requirements Consolidated	The document based on		31/12/2013	**5/26/2014**	closed	Reservation/s	No reservation
	10.03.02	D30	Selex Support to validation report Phase 2	It consists of a report to be released after the	GEN	31/03/2014	**5/21/2014**	closed	No reservation (P)	No reservation (P)
	10.03.02	D35	Selex Test Verification Report Phase 2 (live trials)	ation test cases on the pro	VR	31/03/2014	**5/21/2014**	closed	No reservation (P)	No reservation (P)
	10.03.02	D34	Selex Prototype Development availability note Phase 2 (flight trials)	This delivery sheet will identify the release of the	LABILITY N	31/03/2014	**5/21/2014**	closed	No reservation (P)	No reservation (P)
	10.10.03	D64	SELEX Prototype Availability Note - Cycle 1	In the frame of EXE-	LABILITY N	30/04/2014	**4/30/2014**	closed	Reservation/s	No reservation
	10.10.03	D63	SELEX Prototype Verification Report - Cycle 1	In the frame of EXE-04.03.-VP-613, the	VR	30/04/2014	**4/30/2014**	to be closed	No reservation (P)	No reservation (P)
	10.10.02	D93	Innovation Analysis Report 2013	vironment. Within this ana	GEN	02/05/2014	**4/29/2014**	closed	No reservation (P)	No reservation (P)
	10.10.02	D91	HMI & HF Guideline Document 2013	HMI &HF Guideline	GEN	08/04/2014	**4/8/2014**	closed	No reservation	No reservation
	10.01.07	D110	Technical Architecture Document Cycle 3	rding to available material	TAD	03/02/2014	**4/2/2014**	closed	Reservation/s	No reservation
	10.09.02	D23	10.9.2-D23-Phase B - NATMIG Airport Proto availability notice	The prototype is not a deliverable but is made	LABILITY N	31/03/2014	**3/31/2014**	closed	Reservation/s requiring	No reservation
	10.09.02	D22	10.9.2-D22-Phase B - THALES AMAN Proto availability notice	The prototype is not a deliverable but is made	LABILITY N	01/04/2014	**3/31/2014**	closed	Reservation/s requiring	No reservation
	10.07.01	D85	D10.7.1 - Initial VDL Mode 2 Performance Assessment in I4D Validation report	ta traffic requirements for i	GEN	28/03/2014	**3/27/2014**	closed	Reservation/s requiring	No reservation
	10.04.01	D50	Thales Verification Report - Step 1	This report includes the result in Step 1 for the	VR	26/03/2014	**3/26/2014**	closed	No reservation (P)	No reservation (P)
	10.04.01	D48	Thales Prototype - Step 1	ered, only the availability n	LABILITY N	26/03/2014	**3/26/2014**	closed	Reservation/s	No reservation
	10.04.04	D13	Selex support to validation report	It consists of a report to be released after the	GEN	31/12/2013	**3/19/2014**	closed	No reservation (P)	No reservation (P)
	10.10.02	D92	Technical Note 2013	The technical note 2013	GEN	28/05/2014	**3/18/2014**	closed	No reservation	No reservation
	10.01.07	D109	Specifications Issues Cycle 3	Contains issues and recommendations to the	GEN	21/01/2014	**3/14/2014**	closed	No reservation (P)	No reservation (P)
	10.01.07	D108	Allocated Requirements & Models Cycle 3	tions between functional b	GEN	21/01/2014	**3/14/2014**	closed	No reservation (P)	No reservation (P)
	10.01.07	D107	Functional Decomposition Cycle 3	nctional decomposition is p	GEN	21/01/2014	**3/14/2014**	closed	No reservation (P)	No reservation (P)
	10.01.07	D106	ER APP Enablers Cycle 3	Describes the mapping of enablers to functional	GEN	21/01/2014	**3/14/2014**	closed	No reservation (P)	No reservation (P)
	10.10.03	D67	Synthesis Report - Cycle 1	prototypes, updated recom	GEN	28/02/2014	**2/28/2014**	closed	Reservation/s	No reservation
	10.09.02	D14	10.9.2-D14-Thales phaseA Validation Support Report	Activity report on the support provided by	GEN	28/02/2014	**2/26/2014**	closed	No reservation (P)	No reservation (P)
	10.10.03	D62	INDRA Prototype Engineering activity report - Cycle 1	otype. verifying the releva	LABILITY N	01/02/2014	**2/7/2014**	closed	No reservation (P)	No reservation (P)
	10.10.03	D65	SELEX Prototype Engineering activity report - Cycle 1	evant HMI objectives (forn	LABILITY N	01/02/2014	**2/7/2014**	closed	No reservation (P)	No reservation (P)

	10.10.03	D61	Common Verification strategy Report - Cycle 1	ıc. 10.10.2) HMI requireme	VP	01/02/2014	**2/7/2014**	closed	Reservation/s	No reservation
	10.10.03	D66	THALES Prototype Engineering activity report - Cycle 1	evant HMI objectives (forn	LABILITY N	01/02/2014	**2/7/2014**	closed	No reservation (P)	No reservation (P)
	10.08.01	D11	Step 2 preliminary Technical Specification	This document gathers	TS	31/01/2014	**1/30/2014**	closed	No reservation	No reservation
	10.02.05	D28	Report of the Operational Validation Support for Phase 1	This report will describe the kind of support	VP	13/11/2013	**1/24/2014**	closed	No reservation (P)	No reservation (P)
	10.02.05	D09	Integrated IOP COFLIGHT Platform - Phase 1	of the integration of the IC	LABILITY N	01/09/2013	**1/24/2014**	closed	No reservation (P)	No reservation (P)
	10.04.04	D10	Thales test verification report	TBS tool developed deve	VR	31/12/2013	**1/20/2014**	closed	No reservation (P)	No reservation (P)
	10.04.04	D07	Thales verification plan	Test Plan and Description of Thales	VP	15/12/2013	**1/20/2014**	closed	No reservation (P)	No reservation (P)
	10.04.04	D05	Thales prototype development delivery sheet	This delivery sheet will	LABILITY N	31/12/2013	**1/20/2014**	closed	Reservation/s	No reservation
WP	**Proj**	**Code**	**Deliverable Name**	**Deliverable Description**	**Templat e**	**Due date**	**Actual date**	**Assessment procedure**	**Provisional Assessment**	**Assessment Decision**
11FW	11FW.00	D07	D11.0.1-4d - Management Report - Gate 4	D11.0.1-4d - Management Report -	GEN	14/11/2014	**11/14/2014**	closed	No reservation (P)	No reservation (P)
	11.01.04	D17	D11.1.4-4ca-AFUA - AFUA (FOC) Step 1 verified & validated in a standalone mode (sub-) system AN	D11.1.4-4ca-AFUA - AFUA (FOC) Step 1 verified & validated in a	LABILITY N	26/09/2014	**10/8/2014**	to be closed	No reservation (P)	No reservation (P)
	11.01.04	D18	D11.1.4-4ca-BMT - BMT (FOC) Step 1 verified & validated in a standalone mode (sub-) system AN	D11.1.4-4ca-BMT - BMT (FOC) Step 1 verified &	LABILITY N	26/09/2014	**10/8/2014**	to be closed	No reservation (P)	No reservation (P)
	11.01.05	D11	D11.1.5.1ca-BMT - FOC Validation plan - EXE775 Step 2 V2 (BMT)	Riched20 15.0.4693D11.1.5.1ca-	VALP	08/10/2014	**10/8/2014**	selected	Reservation/s requiring	No reservation
	11.01.05	D13	D11.1.5.1ca-AIM - Contribution to EXE-13.02.02-VP-461 – AIM Step 1 V3 Validation Plan	Riched20 15.0.4693D11.1.5.1ca-		07/10/2014	**10/7/2014**	closed	No reservation (P)	No reservation (P)
	11.01.05	D12	D11.1.5.1ca-UDPP - Contribution to EXE-07.06.02-VP-730 – UDPP Step 2 V2 Validation Plan	Riched20 15.0.4693D11.1.5.1ca-UDPP - Contribution to		07/10/2014	**10/7/2014**	closed	No reservation (P)	No reservation (P)
	11.01.04	D14	D11.1.4-2ca-AIM - AIM (FOC) Step 1 (sub-) system AN	D11.1.4-2ca-AIM - AIM (FOC) Step 1 (sub-)		26/09/2014	**10/7/2014**	closed	No reservation (P)	No reservation (P)
	11.01.04	D19	D11.1.4-5ca-EFPL - EFPL (FOC) Step 1 verified (sub-) system available for operational validation AN	D11.1.4-5ca-EFPL - EFPL (FOC) Step 1 verified (sub-) system		26/09/2014	**10/7/2014**	closed	No reservation (P)	No reservation (P)
	11.01.05	D10	D11.1.5-1ma-WOC - WOC Validation Plan Step 1 (BMT, AFUA, iOATFPL)	Riched20 15.0.4693D11.1.5-1ma-WOC - WOC Validation		07/10/2014	**10/7/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	11.01.04	D13	D11.1.4-2ma-WOC - WOC Domain System Prototype AN Step 1 (BMT, AFUA, iOATFPL)	D11.1.4-2ma-WOC - WOC Domain System		07/07/2014	**10/7/2014**	closed	No reservation (P)	No reservation (P)
	11.01.03	D20	D11.1.3-4ma-WOC - WOC Step 1 and 2 TAD (BMT, AFUA, iOATFPL)	D11.1.3-4ma-WOC - WOC Step 1 and 2 TAD		28/05/2015	**10/7/2014**	closed	No reservation (P)	No reservation (P)
	11.01.05	D09	D11.1.5-1ca-AFUA - Contribution to EXE-07.05.04-VP-710 – AFUA Step 1 V3 Validation Plan	Riched20 15.0.4693D11.1.5-1ca-AFUA - Contribution to		06/10/2014	**10/6/2014**	closed	No reservation (P)	No reservation (P)
	11.01.03	D07	D11.1.3-2ca-BMT - BMT (FOC) Step 2 Technical Specification	D11.1.3-2ca-BMT - BMT (FOC) Step 2 Technical		26/09/2014	**9/26/2014**	closed	Reservation/s requiring	No reservation
WP	**Proj**	**Code**	**Deliverable Name**	**Deliverable Description**	**Templat e**	**Due date**	**Actual date**	**Assessment procedure**	**Provisional Assessment**	**Assessment Decision**

11M	11.02.02	D24	Interface Requirements Specification 4DWxCube to SWIM, for the release 3 & release 4 deliverables	4DWCube interface requirements step 2	IRS	23/06/2014	**10/1/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	11.02.02	D06	Technical Specification NETWORK prototype, for the release 3 & release 4 deliverables	Preliminary technical specifications for the Step 2 MET prototype in	TAD	23/06/2014	**8/1/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	11.02.02	D05	Technical Specification SUB-REGIONAL prototype, for the release 3 & release 4 deliverables	Preliminary technical specifications for the Step 2 MET prototype in	TAD	23/06/2014	**8/1/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	11.02.02	D04	Technical Specification LOCAL prototype, for the release 3 & release 4 deliverables	Preliminary technical specifications for the Step 2 MET prototype in	TAD	23/06/2014	**8/1/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	11.02.02	D23	Technical Specification Document 4DWxCube, for the release 3 & release 4 deliverables	4DWCube technical architecture Step 2	TAD	23/06/2014	**7/28/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	11.02.01	D21	11.2.1-D21 MET INTEROP	Preliminary Interoperability MET Requirements for Step 3,	INTEROP	28/02/2014	**6/24/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	11.02.02	D33	Validation Plan Contributions, in support of release 3 & release 4	Validation plan step 2	VALP	31/05/2014	**6/3/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	11.02.01	D30	11.2.1-D30 MET TAD	ble) from 11.02.02. Used	TAD	28/02/2014	**6/3/2014**	closed	Reservation/s	No reservation
WP	**Proj**	**Code**	**Deliverable Name**	**Deliverable Description**	**Template**	**Due date**	**Actual date**	**Assessment procedure**	**Provisional Assessment**	**Assessment Decision**
12	12.01.07	D22	Step1-3rd Iteration- Airport Technical Architecture Description	s ATM SystemDocument c	TAD	02/12/2014	**12/19/2014**	shared	Reservation/s requiring	
	12.03.03	D14	Phase 3- System Requirements Specifications	alidation activities. This dc	TS	30/06/2014	**12/16/2014**	closed	No reservation (P)	No reservation (P)
	12.07.05	D21	Phase 2 - Support to Validation Report	Phase 2 - Support to Validation Report	GEN	31/07/2014	**11/25/2014**	closed	No reservation (P)	No reservation (P)
	12.03.02	D35	Phase3 - System specification - Report	dback from the phase 2 pr	TS	26/09/2014	**11/14/2014**	closed	No reservation (P)	No reservation (P)
	12.03.01	D30	Phase2 -Support to Operational Validation (Thales)- Deliverable	This document summarizes the list of	GEN	25/09/2014	**11/7/2014**	closed	No reservation (P)	No reservation (P)
	12.04.07	D15	NATMIG multiple remote AFIS prototype	The third NATMIG multiple remote tower	LABILITY N	26/02/2015	**11/5/2014**	closed	No reservation (P)	No reservation (P)
	12.04.08	D37	INDRA V2 verification plan	This is a verification plan specific to the INDRA V3	VP	31/10/2014	**11/5/2014**	closed	No reservation (P)	No reservation (P)
	12.02.01	D14	P2_Selex Test execution	This deliverable will be a report with the results of	VR	18/07/2014	**11/3/2014**	closed	No reservation (P)	No reservation (P)
	12.06.07	D06	Consolidated verification report for Phase 1	This document describes the 2 specific test	VR	20/06/2014	**10/30/2014**	closed	No reservation (P)	No reservation (P)
	12.05.04	D26	Frequentis - DFS prototype availability note - Phase 2	ped prototype for Step2, fo	LABILITY N	17/04/2014	**10/30/2014**	closed	No reservation (P)	No reservation (P)
	12.02.01	D33	P2_Selex Support to validation	This deliverable will include an analysis of	GEN	31/07/2014	**10/28/2014**	closed	No reservation (P)	No reservation (P)
	12.05.04	D35	Frequentis - DFS Verification Report - Phase 2	S) test cases execution ba	VR	17/04/2014	**10/28/2014**	closed	No reservation (P)	No reservation (P)
	12.04.07	D14	NATMIG multiple remote TWR prototype	The second NATMIG multiple remote tower	LABILITY N	01/11/2014	**10/22/2014**	to be closed	No reservation (P)	No reservation (P)

	12.06.03	D11	D11 - Support to V2 Valdiation Note	D11 - Support to V2 Valdiation Note	GEN	09/07/2014	**10/13/2014**	closed	No reservation (P)	No reservation (P)
	12.05.04	D30	Frequentis - DFS Verification Plan - Phase 2	:ation phase. ò Frequentis	VP	21/02/2014	**10/10/2014**	closed	No reservation (P)	No reservation (P)
	12.02.01	D09	P2_Selex research prototype	This deliverable will be focused on the	LABILITY N	11/07/2014	**10/10/2014**	closed	No reservation (P)	No reservation (P)
	12.02.01	D11	P2_Selex Verification plan	Selex Verification plan deliverable will describe	VP	11/07/2014	**10/10/2014**	closed	No reservation (P)	No reservation (P)
	12.03.04	D15	Phase 2 - Verification Plan	Test cases and scenarios definition for	VP	25/07/2014	**10/7/2014**	closed	No reservation (P)	No reservation (P)
	12.03.04	D32	Phase 2 - Updated Technical Specification	Update of Technical Specification for Phase 2		03/07/2014	**9/29/2014**	closed	No reservation (P)	No reservation (P)
	12.01.07	D21	Step1-2nd Iteration- Airport Technical Architecture Description	s ATM SystemDocument containing tl		05/12/2013	**9/18/2014**	closed	Reservation/s requiring	No reservation
	12.02.01	D32	P2_Indra Support to validation	This deliverable will include an analysis of		31/07/2014	**9/2/2014**	closed	No reservation (P)	No reservation (P)
	12.06.07	D11	INDRA prototype for Phase 1	Prototype developed by INDRA according to	LABILITY N	22/05/2014	**9/1/2014**	closed	No reservation (P)	No reservation (P)
	12.06.07	D13	Tests execution and report for INDRA Prototype for Phase 1	This document analyses the specific verification	VR	02/07/2014	**9/1/2014**	closed	No reservation (P)	No reservation (P)
	12.03.02	D34	Phase2 -Consolidated verification report	Same as D21	VR	27/08/2014	**8/27/2014**	closed	No reservation (P)	No reservation (P)
	12.07.03	D14	Phase 2 - Prototype Availability Note	AVAILABILITY N		25/07/2014	**8/22/2014**	closed	No reservation (P)	No reservation (P)
	12.06.02	D25	Phase 2 AOP Prototype Availability Note	Phase 2: Development by Indra of a prototype	LABILITY N	02/06/2014	**8/22/2014**	closed	No reservation (P)	No reservation (P)
	12.06.07	D09	Tests execution and report for SELEX Prototype for Phase 1	This document analyses the specific verification	VR	29/05/2014	**8/19/2014**	closed	No reservation (P)	No reservation (P)
	12.06.07	D07	SELEX prototype for Phase 1	Prototype developed by SELEX according to	LABILITY N	22/05/2014	**8/19/2014**	closed	No reservation (P)	No reservation (P)
	12.04.07	D06	Remote tower specifications - iteration 2 Consolidated DEL	vered by WP 6.9.3. These	TS	02/06/2014	**8/11/2014**	closed	Reservation/s requiring	No reservation
	12.03.01	D34	Phase2 -Consolidated verification report	Same as D017	VR	06/08/2014	**8/6/2014**	closed	No reservation (P)	No reservation (P)
	12.07.03	D16	Phase 2 - Technical Verification Report	V2 APAMS Verification Report deliverable	VR	08/07/2014	**7/25/2014**	closed	No reservation (P)	No reservation (P)
	12.06.02	D30	Phase 2 AOP Verification Report	Phase 2: Execution of the defined tests on	VR	02/06/2014	**7/22/2014**	closed	No reservation (P)	No reservation (P)
	12.06.07	D12	Specific Verification Strategy for INDRA Prototype for Phase 1	This document describes the INDRA test exercice,	VP	30/04/2014	**7/15/2014**	closed	No reservation (P)	No reservation (P)
	12.04.03	D08	Phase 2 - Test report	Report including the integrated test results of	VR	30/06/2014	**7/11/2014**	closed	No reservation (P)	No reservation (P)
	12.06.03	D08	12.06.03 Prototype Availability Note	12.06.03 Prototype Availability Note		06/06/2014	**7/7/2014**	closed	No reservation (P)	No reservation (P)
	12.06.03	D10	D10 - Verification test execution	D10 - Verification test execution	LABILITY N	06/06/2014	**7/7/2014**	closed	No reservation (P)	No reservation (P)
	12.07.05	D20	Phase 2 - Verification Report	It reports the results of the preliminary	VR	17/05/2014	**7/2/2014**	closed	No reservation (P)	No reservation (P)
	12.04.08	D17	NATMIG V2 validation support	This task is dedicated to supporting the	GEN	08/10/2013	**6/27/2014**	closed	No reservation (P)	No reservation (P)

	12.07.05	D07	Phase 2 - IWIS Prototype Availability Note	This delivery sheet will identify the release of the	LABILITY N	30/04/2014	**6/13/2014**	closed	No reservation (P)	No reservation (P)
	12.02.01	D13	P2_Indra Test execution	This deliverable will be a report with the results of	VR	09/06/2014	**6/9/2014**	closed	No reservation (P)	No reservation (P)
	12.02.01	D08	P2_Indra research prototype	This deliverable will be focused on the	LABILITY N	09/06/2014	**6/9/2014**	closed	No reservation (P)	No reservation (P)
	12.07.05	D08	Phase 2 - Verification Plan - Report	Definition of requirements for tools	TS	30/04/2014	**5/28/2014**	closed	No reservation (P)	No reservation (P)
	12.02.01	D12	P2_Test cases specifications	This deliverable will include a definition of the	VP	26/05/2014	**5/26/2014**	closed	No reservation (P)	No reservation (P)
	12.07.03	D15	Phase 2 - System Test Beds		GEN	23/05/2014	**5/23/2014**	closed	No reservation (P)	No reservation (P)
	12.02.01	D10	P2_Indra Verification plan	Indra Verification plan will describe the specific	VP	23/05/2014	**5/23/2014**	closed	No reservation (P)	No reservation (P)
	12.03.01	D27	Phase2 -Specific Test Reports (Thales)	Test reports coming out from Phase 2 Thales	VR	20/05/2014	**5/20/2014**	closed	No reservation (P)	No reservation (P)
	12.03.04	D12	Phase 2 Technical Specification	Technical Specification Guidance server for Phase 2 of the project.	TS	30/04/2014	**5/19/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	12.03.01	D21	Phase2 -Prototype Documentation (Thales)	The Thales second release of research	LABILITY N	19/05/2014	**5/19/2014**	to be closed	No reservation (P)	No reservation (P)
	12.06.07	D08	Specific Verification Strategy for SELEX Prototype for Phase 1	This document describes the SELEX test	VP	16/05/2014	**5/16/2014**	closed	No reservation (P)	No reservation (P)
	12.04.06	D11	Target analysis technology prototype V2	Target Analysis V2 prototype	LABILITY N	01/05/2013	**5/14/2014**	closed	No reservation (P)	No reservation (P)
	12.04.06	D12	Visual reproduction technology prototype V3	Visual Reproduction V3 prototype	LABILITY N	01/05/2014	**5/14/2014**	closed	No reservation (P)	No reservation (P)
	12.04.06	D13	Target tracking technology prototype V3	Target Tracking V3 prototype	LABILITY N	01/05/2014	**5/14/2014**	closed	No reservation (P)	No reservation (P)
	12.04.06	D10	Interaction technology prototype V2	Interaction Technologies V2 prototype	LABILITY N	01/05/2013	**5/14/2014**	closed	No reservation (P)	No reservation (P)
	12.06.02	D27	Phase 2 AOP Verification Plan	Phase 2: Definition of the test cases and scenarios	VP	02/05/2014	**5/13/2014**	closed	No reservation (P)	No reservation (P)
	12.04.09	D07	Refined functional requirements report	Second version of system requirements	TS	12/05/2014	**5/12/2014**	closed	No reservation (P)	No reservation (P)
	12.03.02	D24	Phase2 -Prototype Documentation (DFS)	The DFS second release of research	LABILITY N	18/04/2014	**4/23/2014**	closed	No reservation (P)	No reservation (P)
	12.03.02	D28	Phase2 -Specific Test Reports (DFS)	Test reports coming out from Phase 2 DFS	VR	18/04/2014	**4/23/2014**	closed	No reservation (P)	No reservation (P)
	12.05.04	D82	Test cases specification - Phase 2 - Part 2		VP	15/11/2013	**4/7/2014**	closed	No reservation (P)	No reservation (P)
	12.04.03	D05	Phase 2 - Prototype availability note(Thales)	The prototypes will contain the minimum and	LABILITY N	01/04/2014	**3/31/2014**	closed	No reservation (P)	No reservation (P)
	12.03.01	D23	Phase2 -Prototype Documentation (DFS)	The DFS second release of research	LABILITY N	24/03/2014	**3/24/2014**	closed	No reservation (P)	No reservation (P)
	12.03.01	D29	Phase2 -Specific Test Reports (DFS)	Test reports coming out from Phase 2 DFS	VR	24/03/2014	**3/24/2014**	closed	No reservation (P)	No reservation (P)
	12.07.03	D13	Phase 2 - System Technical Requirements		TS	14/03/2014	**3/14/2014**	closed	No reservation (P)	No reservation (P)
	12.06.02	D20	Phase 2 AOP Technical Specification	Phase 2: Specification of the system requirements	TS	14/03/2014	**3/14/2014**	closed	No reservation (P)	No reservation (P)

	12.04.03	D04	Phase 2 - Verification strategy	Common scenarios and procedures to be tested	VP	31/01/2014	**3/12/2014**	closed	No reservation (P)	No reservation (P)
	12.04.07	D13	NATMIG multiple remote tower simulation prototype	The first NATMIG multiple remote tower	LABILITY N	13/01/2014	**3/10/2014**	closed	No reservation (P)	No reservation (P)
	12.03.02	D25	Phase2 -Specific Test Reports (Thales)	Test reports coming out from Phase 2 THALES	VR	07/02/2014	**3/6/2014**	closed	No reservation (P)	No reservation (P)
	12.03.02	D21	Phase2 -Prototype Documentation (Thales)	The THALES second release of research	LABILITY N	07/02/2014	**3/6/2014**	closed	No reservation (P)	No reservation (P)
	12.02.01	D05	P2_Preliminary System Requirements	Preliminary system requirements deliverable	TS	27/02/2014	**2/27/2014**	closed	No reservation (P)	No reservation (P)
	12.03.01	D31	Phase2 -Support to Operational Validation (INDRA)-Deliverable	This document summarizes the list of	GEN	27/02/2014	**2/27/2014**	closed		No reservation (P)
	12.03.02	D30	Phase2 -Support to Operational Validation (SELEX) - Report	This document summarizes the list of	GEN	21/12/2013	**2/21/2014**	closed	No reservation (P)	No reservation (P)
	12.06.03	D09	D09 - Specific Verification Strategy	D09 - Specific Verification Strategy	VS	01/08/2013	**1/23/2014**	closed	No reservation (P)	No reservation (P)
	12.03.03	D12	Phase 2- Integration Instructions	Instructions for integrating the Phase 2	GEN	02/02/2014	**1/13/2014**	closed	No reservation (P)	No reservation (P)
	12.06.07	D05	Common verification plan for Phase 1	This document describes the plan for the	VP	13/01/2014	**1/13/2014**	closed	No reservation (P)	No reservation (P)
WP	**Proj**	**Code**	**Deliverable Name**	**Deliverable Description**	**Templat e**	**Due date**	**Actual date**	**Assessment procedure**	**Provisional Assessment**	**Assessment Decision**
13	13.02.03	D401	OSED S2 V2 R5	Initial OSED for V3	OSED	19/12/2014	**12/12/2014**	shared	Reservation/s	
	13.02.03	D350	Technical Specification S1 R4 (initial) (Formerly: D75 Enhanced DCB step1 System Definition initial)	Task revived 17th September 2013 and attached to T006	TS	18/07/2014	**10/21/2014**	shared	Reservation/s requiring clarification/s	
	13.02.02	D17	R4 EXE 462 VALP	the same of 13.02.02.D08 but in the scope of Step 2 V3	VALP	01/09/2014	**10/20/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	13.02.02	D12	R4 EXE 462 TS	Will describe system requirements for the FB-	TS	13/06/2014	**10/10/2014**	closed	Major reservation/s	Major reservation/s
	13.02.03	D360	Availability Note S1 R4: Enhanced DCB Step1 (Formerly Enhanced DCB Step1 Prototype)	A regional prototype for a Demand Capacity	LABILITY N	30/06/2014	**9/30/2014**	closed	No reservation (P)	No reservation (P)
	13.02.02	D13	R4 EXE 462 Integrated Digital Briefing Prototype AN	Runtime (pre-operational) software		01/09/2014	**9/17/2014**	closed	No reservation (P)	No reservation (P)
	13.02.03	D321	SPR S1 R4	Initial OSED for V3 maturity of Step 1 detailing the process		30/05/2014	**3/31/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	13.02.03	D480	VALR S2 R3 (Formerly: STEP2 VALR - Initial V1)	Validation report	VALR	31/03/2014	**3/27/2014**	closed	Major reservation/s	No reservation
	13.02.03	D77	Performance Management baseline study	A report describing several existing Network	GEN	29/03/2014	**3/21/2014**	closed	Major reservation/s	Major reservation/s
	13.02.03	D301	OSED S1 R4	Initial OSED for V3		25/05/2014	**3/17/2014**	closed	Reservation/s	No reservation
	13.02.03	D83	CTOT2TTA Verification	Report on the verification of the (combined) Federated DCB	VR	14/03/2014	**3/10/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	13.02.03	D78	CTOT2TTA System Definition	Initial technical spec for a federated DCB system of larger functional scope	TS	31/01/2014	**1/30/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
WP	**Proj**	**Code**	**Deliverable Name**	**Deliverable Description**	**Templat e**	**Due date**	**Actual date**	**Assessment procedure**	**Provisional Assessment**	**Assessment Decision**

14	14.02.09	D30	V2.1.0 verification plan	Verification plan	VP	28/07/2014	**12/22/2014**	closed	No reservation (P)	No reservation (P)
	14.00	D15-004	Work Package Management Plan (WMP)	rk Package Managment F	GEN	20/12/2014	**12/18/2014**	closed	No reservation (P)	No reservation (P)
	14.01.04	D42-006	SWIM-TI Purple Profile Technical Specification 3.0	ments) together with funct	TS	27/10/2014	**12/9/2014**	closed	Reservation/s	No reservation
	14.01.04	D42-005	SWIM-TI Blue Profile Technical Specification 3.0	ents) together with functi	TS	27/10/2014	**12/9/2014**	closed	Reservation/s	No reservation
	14.01.04	D42-004	SWIM-TI Yellow Profile Technical Specification 3.0	ents) together with functi	TS	27/10/2014	**12/9/2014**	closed	Reservation/s	No reservation
	14.01.04	D42-003	SWIM-TI Run-Time Registry Technical Specification 3.0	s (e.g. ATM service non-fu	TS	27/10/2014	**12/9/2014**	closed	Reservation/s requiring	No reservation
	14.01.04	D42-002	SWIM-TI Identity Management Technical Specification 3.0	ATM service non-functiona	TS	27/10/2014	**12/9/2014**	closed	Reservation/s requiring	No reservation
	14.01.04	D42-001	SWIM-TI Technical Specifications Catalogue 3.0	to all the available Technic	TS	27/10/2014	**12/9/2014**	closed	Reservation/s	No reservation
	14.01.03	D36	SWIM Profiles for Step 3 - Iteration 3.0	Deliverable associated to	GEN	27/10/2014	**12/9/2014**	closed		No reservation
	14.01.03	D35	SWIM (GG AG) Architectural Definition for Step 3 - Iteration 3.0	Deliverable associated to T035.	GEN	27/10/2014	**12/9/2014**	shared	Reservation/s requiring	to be assessed
	14.02.02	D23	SWIM Security Risk Assessment update for iteration 3.0	Security risk assessment and list of mitigations	GEN	10/11/2014	**11/24/2014**	closed	Reservation/s requiring	No reservation
	14.04	D77-016	SWIM Communication action plan (quarterly) 16	Detailed description of quarterly actions	GEN	20/09/2014	**11/5/2014**	closed	No reservation (P)	No reservation (P)
	14.02.09	D84	WP1.3.1 Preliminary Solution Evaluations Report - V1	Task deliverable is a report on the evaluations	GEN	29/08/2014	**10/24/2014**	shared	Major reservation/s	
	14.02.01	D06-002	A-G SWIM Deployment Options Mock-up Assessment		GEN	15/10/2014	**10/16/2014**	closed	Major reservation/s	Major reservation/s
	14.02.09	D42-004	SWIM technical infrastructure demonstration - 2014	Demonstration		30/09/2014	**9/30/2014**	closed	No reservation (P)	No reservation (P)
	14.02.09	D23	V2.1.0 SWIM technical infrastructure definition	SWIM technical	TS	11/07/2014	**9/19/2014**	closed	Reservation/s	No reservation
	14.04	D77-015	SWIM Communication action plan (quarterly) 15	Detailed description of quarterly actions	GEN	20/06/2014	**8/25/2014**	closed	No reservation (P)	No reservation (P)
	14.01.02	D12	Project Closeout report			01/07/2013	**8/4/2014**	closed	No reservation	No reservation
	14.02.09	D42-003	SWIM technical infrastructure demonstration - 2013	Demonstration	GEN	30/05/2014	**6/18/2014**	closed	No reservation (P)	No reservation (P)
	14.02.03	D01	Close-up report	Close-up report	FINALR	20/04/2016	**5/28/2014**	closed	Reservation/s	No reservation
	14.04	D77-014	SWIM Communication action plan (quarterly) 14	Detailed description of quarterly actions	GEN	20/03/2014	**5/2/2014**	closed	No reservation (P)	No reservation (P)
	14.02.09	D76	V2.0.0 verification report	Test software that is able to stimulate the SWIM technical infrastructure.	VR	27/08/2014	**3/10/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	14.02.02	D19	T4.1 - Security technologies evaluation - for iteration 2.1	The document contains the result of evaluation of	GEN	31/01/2014	**2/27/2014**	closed	No reservation (P)	No reservation (P)
	14.02.02	D21	SWIM security spec-design for iteration 2.1	security requirements and design for iteration 2.1.	TS	24/02/2014	**2/24/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	14.04	D80-003	SJU Websites - SWIM Web Mastering 3		GEN	21/03/2014	**1/31/2014**	closed	No reservation (P)	No reservation (P)
	14.04	D79-003	SWIM Communication monitoring (annual) 3		GEN	19/03/2014	**1/31/2014**	closed	No reservation (P)	No reservation (P)
	14.04	D78-003	SWIM Communication execution (annual) 3		GEN	20/12/2013	**1/31/2014**	closed	No reservation (P)	No reservation (P)
	14.04	D77-013	SWIM Communication action plan (quarterly) 13	Detailed description of quarterly actions	GEN	20/12/2013	**1/31/2014**	closed	No reservation (P)	No reservation (P)

	14.04	D76-004	SWIM Communication management plan (annual) 4	Detailed description of SWIM Com processes ÿ	GEN	20/12/2013	**1/31/2014**	closed	No reservation (P)	No reservation (P)
	14.02.01	D01	Ground-Ground SWIM Evaluation Scenarios Definition (Iteration 2.1)	; to WP15 underlying to SV	GEN	20/09/2013	**1/8/2014**	closed	Major reservation/s	Major reservation/s
	14.01.03	D34	SWIM Profiles for Step 2 - Iteration 2.1	Deliverable associated to	GEN	07/01/2014	**1/7/2014**	closed	Reservation/s	No reservation
WP	**Proj**	**Code**	**Deliverable Name**	**Deliverable Description**	**Template**	**Due date**	**Actual date**	**Assessment procedure**	**Provisional Assessment**	**Assessment Decision**
15	15.03.06	D02-009	LATO and IGWG meeting reports 9		GEN	01/01/2015	**12/19/2014**	closed	No reservation (P)	No reservation (P)
	15.02.06	D108	Technical Performance Allocation (A/G and G/G Links)	This report provides apportionments of the	GEN	30/09/2014	**12/18/2014**	review in progress		to be assessed
	15.04.05.b	D21	Third Iteration - Verification Acceptance Report	ort. After approval of the v	VR	19/12/2014	**12/18/2014**	closed	No reservation (P)	No reservation (P)
	15.02.06	D116-01	V&V Test Plan for E-OCVM V3 (including V2 update)	s different validation scena	VP	31/10/2014	**12/17/2014**	review in progress		
	15.03.07	D11-001	T6.2- VDB Spectrum Use for MC-MF GBAS	: frequency band concerni	GEN	31/10/2014	**12/17/2014**	closed	No reservation (P)	No reservation (P)
	15.03.02	D01	D1.0. Project Management Report	Project management	GEN	28/02/2014	**12/16/2014**	review in progress		to be assessed
	15.03.02	D02-002	D1.1. Coordination Report	Summary of coordination	GEN	28/02/2014	**12/16/2014**	review in progress		to be assessed
	15.04.06	D02	ADS-B Security - ADS-B Threat Analysis Report	kelihood and impact on AI	OSED	15/12/2014	**12/15/2014**	review in progress		
	15.02.06	D110	SATCOM Spectrum allocation (final version)	he access to L-band spect	GEN	31/07/2014	**12/12/2014**	review in progress		
	15.02.06	D113-1	Iris Test bed Requirements document for E-OCVM V2 and V3	– V3 maturity achievemen	GEN	31/10/2014	**12/12/2014**	review in progress		
	15.03.07	D15	T2.1- MC-MF Assumptions Preliminary Requirements and Key Issues	earch activities, - Identicati	GEN	12/09/2014	**12/4/2014**	closed	No reservation (P)	No reservation (P)
	15.04.05.b	D22	Third Iteration - Provision of Final Safety Assessment Report	Safety Assessment Report - The results of	GEN	23/09/2014	**12/2/2014**	review in progress		to be assessed
	15.04.09.c	D09	Specific Verification Report	ecific verification principles	VR	26/09/2014	**12/2/2014**	closed	No reservation (P)	No reservation (P)
	15.03.06	D23-004	Report on submissions to and activities of relevant GBAS standardisation groups 4		GEN	15/04/2014	**11/26/2014**	closed	No reservation (P)	No reservation (P)
	15.04.05.b	D23	Third Iteration - Security Assessment Report	The analysis of the security implications of	GEN	15/07/2014	**11/19/2014**	closed	No reservation (P)	No reservation (P)
	15.02.07	D11	Availability Notes - Selex and Thales prototypes	Will describe, according	LABILITY N	14/08/2014	**11/7/2014**	to be closed		
	15.02.07	D10	Verification Plan & Report - Phase 2	Deliverable D06.2 will	VP	14/07/2014	**11/7/2014**	to be closed		
	15.03.06	D02-008	LATO and IGWG meeting reports 8		GEN	31/07/2014	**11/6/2014**	closed	No reservation (P)	No reservation (P)
	15.04.05.b	D20	Third Iteration - Provision of Verification Test Specifaction	the agreed prototype prov	VP	11/11/2014	**10/31/2014**	review in progress		to be assessed
	15.03.02	D07	D1.5. SESAR Navaids roadmap.	, Airspace users, Certificat	GEN	31/01/2014	**10/17/2014**	shared	Reservation/s	to be assessed
	15.04.02	D02	Preliminary operational requirements (SPR)	Preliminary SPR	SPR	19/08/2014	**10/16/2014**	closed	No reservation	No reservation
	15.02.08	D10	Unit Test Report for a Ground Station for Military Data Link Interaction with SESAR	Unit Test Report to demonstrate the SW	GEN	06/10/2014	**10/6/2014**	shared	Reservation/s requiring	
	15.02.04	D22	LDACS1 Transmitter Test Report	This deliverable aims at describing the results	VR	31/12/2013	**9/30/2014**	closed	No reservation (P)	No reservation (P)
	15.03.06	D15	TN: PT2 Safety Assessment Report (Phase 2)	ee analysis with actual val	GEN	02/07/2014	**9/30/2014**	closed	No reservation (P)	No reservation (P)

	15.04.05.b	D19	Third Iteration - Provision of ADS-B Ground Station Prototype (for Trajectory Based Operations) - Not verified	Provision of ADS-B prototype(s) by each prototype provider (Third	LABILITY N	09/09/2014	**9/25/2014**	closed	No reservation (P)	No reservation (P)
	15.04.05.b	D18	Third Iteration - Toolset for Validation Activities	The project team selects and provides a set of	GEN	16/06/2014	**9/25/2014**	closed	No reservation (P)	No reservation (P)
	15.04.09.c	D16	Report on Support for v2 Validation OFA 05.01.01	In the context of OFA05.01.01 Selex will		01/07/2014	**9/25/2014**	closed	No reservation (P)	No reservation (P)
	15.00	D24	WP15 Management Report 2014			30/09/2014	**9/22/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	15.02.05	D02	BAFO III V&V Strategy plan	Define the V&V Strategy	GEN	08/07/2014	**9/19/2014**	shared	Reservation/s	
	15.04.03	D01	Project Closeout Report	Project Closeout Report	FINALR	26/08/2014	**8/26/2014**	closed	No reservation	No reservation
	15.02.07	D13	AeroMACS support to Multilink concept analysis	This is an artificial	GEN	18/08/2014	**8/20/2014**	closed	No reservation	No reservation
	15.02.05	D04	System Interface Document ATSU-SATCOM	Description of the	IRS	15/07/2014	**8/7/2014**	shared	Reservation/s	
	15.01.06	D11	Navigation Spectrum Report Deliverable	ıg navigation spectrum, bc	GEN	13/09/2013	**7/30/2014**	closed	No reservation (P)	No reservation (P)
	15.02.06	D111-03	Iris Interface Control Document definition	SATCOM External	GEN	31/07/2014	**7/28/2014**	shared	Reservation/s	to be assessed
	15.02.06	D110-02	Spectrum allocation	, compatibility, etc). (D16	GEN	12/12/2013	**7/21/2014**	closed	No reservation (P)	No reservation (P)
	15.04.09.c	D08	Final System Specifications	h had not been defined wh	TS	23/05/2014	**7/15/2014**	closed	Reservation/s	No reservation
	15.04.09.c	D07	Preliminary Prototype Report	the preliminary weather m	TS	23/05/2014	**7/15/2014**	closed	No reservation (P)	No reservation (P)
	15.02.04	D05	FCI Security Requirements	Security requirements	GEN	28/03/2014	**6/9/2014**	closed	Reservation/s	No reservation
	15.04.09.c	D14-002	Coordination with WP11.2 Reports	A special separated coordination task is	GEN	11/04/2014	**5/19/2014**	closed	No reservation (P)	No reservation (P)
	15.02.10	D000	Final Progress status report	roject, taking into account	FINALR	28/02/2013	**5/15/2014**	closed	No reservation	No reservation
	15.03.01	D05	Consolidated deliverable D5. Roadmap towards SESAR Navigation Baseline	roadmap will identify the e	GEN	11/04/2014	**5/14/2014**	closed	No reservation	No reservation
	15.02.08	D09	performance report for a Ground Station for Military Data Link Interaction with SESAR	final analysis result of the performances for the	GEN	09/05/2014	**5/9/2014**	closed	No reservation (P)	No reservation (P)
	15.03.06	D17	Implementation & SIS validation report site 1	This report will describe the implementation, the	VALR	01/04/2014	**4/25/2014**	closed	No reservation (P)	No reservation (P)
	15.03.04	D02	Coordination Report	ders.It will provide a summ	GEN	17/12/2013	**4/15/2014**	closed	No reservation (P)	No reservation (P)
	15.01.06	D27	Frequency Management Tools Deliverable	ols to enhance frequency	GEN	28/06/2013	**4/11/2014**	to be closed	No reservation (P)	No reservation (P)
	15.03.06	D10	PT1 Delivery Form and Verification Report (Phase 2)	ill contain the key safety ra	VR	01/03/2014	**4/11/2014**	closed	No reservation (P)	No reservation (P)
	15.01.06	D22	Report on WRC-2012 Outcome Deliverable	2 Outcome and its impact	GEN	28/03/2013	**4/11/2014**	closed	No reservation	No reservation
	15.04.05.a	D03	Integration report for second iteration ADS-B Ground Station and SDPD Prototype (for Trajectory Based Operations)	2011,integrated into a larg	GEN	23/09/2013	**4/9/2014**	closed	No reservation (P)	No reservation (P)
	15.03.06	D02-007	LATO and IGWG meeting reports 7		GEN	31/01/2014	**4/4/2014**	closed	No reservation (P)	No reservation (P)
	15.02.07	D08	AeroMACS Safety and Security Analysis	Safety and Security analysis document	GEN	31/03/2014	**3/31/2014**	closed	No reservation (P)	No reservation (P)
	15.04.05.b	D17	Third Iteration - Baseline Report/Matrix	ns, Interface Specification	GEN	11/03/2014	**3/17/2014**	closed	No reservation (P)	No reservation (P)
	15.04.01	D11	Final project report		FINALR	14/02/2013	**2/3/2014**	shared	Reservation/s	

	15.00	D23	WP15 Management Report 2013			30/12/2013	**1/29/2014**	closed	No reservation (P)	No reservation (P)
	15.02.08	D03-004	Report on Civil-Military Consultation Activities	periodic report that will contain the status,	GEN	28/01/2014	**1/28/2014**	closed	No reservation (P)	No reservation (P)
	15.01.06	D30	Potential onboard radio Navigation-Identification interference Deliverable	Navigation/Identification i	GEN	29/03/2013	**1/17/2014**	closed	No reservation (P)	No reservation (P)
	15.01.06	D20	Report on ITU WRC onboard radio Navigation-Identification	eetings on onboard radio	GEN	28/03/2013	**1/17/2014**	closed	No reservation (P)	No reservation (P)
	15.03.02	D06	D1.4.B. ECAC-wide overall infrastructure assessment and guidance	alization and optimization	GEN	17/01/2014	**1/15/2014**	closed	No reservation	No reservation
	15.02.04	D21	Test Plans for LDACS Assessment	This deliverable aims at	GEN	31/08/2013	**1/14/2014**	closed	Reservation/s	No reservation
WP	**Proj**	**Code**	**Deliverable Name**	**Deliverable Description**	**Templat e**	**Due date**	**Actual date**	**Assessment procedure**	**Provisional Assessment**	**Assessment Decision**
16	16.06.01	D26	SRM 3		GEN	12/12/2014	**12/12/2014**	shared	Reservation/s	to be assessed
	16.06.01	D39	Quarterly Report on SAF Assessments - Q3 2014		GEN	26/09/2014	**11/28/2014**	closed	No reservation (P)	No reservation (P)
	16.06.03	D47	SE Release 5 Review 1	Participation to the System Engineering	GEN	31/10/2014	**11/21/2014**	closed	No reservation (P)	No reservation (P)
	16.06.05	D63	SE Release 5 Review 1		GEN	31/10/2014	**11/12/2014**	closed	No reservation (P)	No reservation (P)
	16.06.05	D40	Quarterly Report on HP Assessments - Q3 2014		GEN	26/09/2014	**11/12/2014**	closed	No reservation (P)	No reservation (P)
	16.06.03	D26	SESAR ENV Assessment Process 3 (ERM methodology update)	2014 - Maintenance of the guidance documents;	GEN	12/12/2014	**11/12/2014**	shared	Reservation/s requiring	to be assessed
	16.06.03	D31	Report on ENV Assessment Release 3	Report on support to Release 3 projects +	GEN	01/04/2014	**11/12/2014**	closed	No reservation (P)	No reservation (P)
	16.06.03	D45	SE Release 3 Review 3	Participation to the System Engineering	GEN	25/04/2014	**11/5/2014**	closed	No reservation (P)	No reservation (P)
	16.06.03	D62	Open-ALAQS V1 - Release document	Open-ALAQS V1 - Release document	GEN	01/06/2014	**11/5/2014**	closed	No reservation (P)	No reservation (P)
	16.06.02	D121	SE Release 3 SE#3	SE Release 3 SE#3	GEN	30/05/2014	**11/4/2014**	closed	No reservation (P)	No reservation (P)
	16.06.02	D107	Security Support Report 2013	ecurity Support Report 20	GEN	30/01/2014	**11/4/2014**	closed	No reservation (P)	No reservation (P)
	16.06.03	D65	V-PAT (Update and Documentation) - Release document	V-PAT (Update and Documentation) -	GEN	31/12/2014	**11/3/2014**	closed	No reservation (P)	No reservation (P)
	16.06.06	D26	BC & CBA Reference Material v5	BC & CBA Reference	GEN	31/12/2014	**10/31/2014**	shared	Reservation/s	to be assessed
	16.06.06	D67	New CBA Models and Methods 2014	New CBA Models and	GEN	30/12/2014	**10/30/2014**	shared	Reservation/s	to be assessed
	16.06.02	D102	SESAR Security Reference Material v4	R Security Reference Mat	GEN	30/01/2014	**10/23/2014**	shared	Reservation/s	to be assessed
	16.06.06	D37	Quarterly Support Report III-14	Quarterly Support Report III-14	GEN	30/09/2014	**10/13/2014**	closed	No reservation (P)	No reservation (P)
	16.01.04	D07	Final Guidance Material to execute proof of concept V2	step the flow chart, activity	GEN	30/06/2014	**10/10/2014**	shared	Reservation/s requiring	
	16.06	D12	2014 Release 3 SE3: Contribution from projects 16.06.XX	Contribution from projects 16.06.XX to	GEN	02/06/2014	**10/7/2014**	closed	No reservation (P)	No reservation (P)
	16.06.05	D80	CBA_Tool		GEN	01/08/2014	**9/30/2014**	closed	No reservation (P)	No reservation (P)
	16.01.03	D17	Final Project Report	Report to be produced	FINALR	11/07/2014	**9/28/2014**	closed	Reservation/s	No reservation

	16.06.05	D39	Quarterly Report on HP Assessments - Q2 2014		GEN	27/06/2014	**9/26/2014**	closed	No reservation (P)	No reservation (P)
	16.04.04	D05	Social Factors Integrated Framework final material	.002). This final deliverabl	GEN	28/04/2014	**9/16/2014**	closed		No reservation (P)
	16.01.04	D03	Application of POC GM to FAIRSTREAM Report	This document will laid down lessons learnt from	GEN	30/06/2014	**9/3/2014**	closed	No reservation (P)	No reservation (P)
	16.01	D04-017	Sub-WP16.1 Close Out Report	The Sub-WP Manager	FINALR	11/08/2014	**8/18/2014**	closed	No reservation	No reservation
	16.01.01	D18	Close out report	Final Project Report to	FINALR	13/07/2014	**8/18/2014**	closed	No reservation	No reservation
	16.04.03	D01	Impacts of future systems and procedures on STCS requirements: Closeout Report	he tasks and deliverables;	GEN	08/08/2014	**8/18/2014**	closed	Reservation/s requiring	No reservation
	16.02	D04-011	Sub-WP16.2 Close Out Report	The Sub-WP Manager	FINALR	20/06/2014	**8/18/2014**	closed	No reservation	No reservation
	16.01.02	D15	Final project Report	Report to be produced in	FINALR	14/08/2014	**8/14/2014**	closed	No reservation	No reservation
	16.04.04	D06	Closeout Report	Report to be produced	FINALR	27/06/2014	**8/14/2014**	closed	No reservation	No reservation
	16.04.03	D07	Finalisation of proactive analysis tools	Revised and final	GEN	08/08/2014	**8/8/2014**	closed	Reservation/s	No reservation
	16.04.03	D03	Impacts of future systems and procedures on STCS requirements: Good Practice Material - Report	The deliverable will describe the good practices and Human	GEN	08/08/2014	**8/8/2014**	closed	Reservation/s requiring clarification/s	No reservation
	16.04.03	D04	SELAT Selection requirements proactive analysis tool developped	uture SESAR operational	GEN	08/08/2014	**8/8/2014**	closed	Reservation/s requiring	No reservation
	16.05	D09	Sub-WP16.5 Close Out Report	The Sub-WP Manager	FINALR	15/07/2014	**8/8/2014**	closed	No reservation	No reservation
	16.05.02	D01-001	Project Closeout Report	ut the whole duration of th	GEN	30/09/2013	**8/6/2014**	closed	No reservation	No reservation
	16.04.01	D23	Final Project Report		FINALR	28/02/2014	**8/1/2014**	closed	No reservation	No reservation
	16.04	D09	Sub-WP16.4 Close Out Report	VP close out report for inc	FINALR	01/07/2014	**7/30/2014**	closed	No reservation	No reservation
	16.01.03	D11	Final guidelines for DRM application	This deliverable is the	GEN	29/07/2014	**7/29/2014**	closed	Reservation/s	No reservation
	16.06.01	D38	Quarterly Report on SAF Assessments - Q2 2014		GEN	27/06/2014	**7/22/2014**	closed	No reservation (P)	No reservation (P)
	16.04.02	D06	Closeout Report	Closeout Report	FINALR	06/05/2014	**7/11/2014**	closed	No reservation	No reservation
	16.06.03	D71	Trade-off final report - Ex 16.03.03 D05	Final report on Trade-Off	GEN	01/04/2014	**7/11/2014**	closed	No reservation	No reservation
	16.06.03	D70	Metrics Final deliverable - Ex 16.03.02 D13 - Airport emissions metrics	Airport Emissions: KPIs and Methods - Report	GEN	30/04/2014	**7/10/2014**	closed	Reservation/s requiring	No reservation
	16.06.03	D69	Metrics Final deliverable - Ex 16.03.02 D08 - Noise metrics	Noise: KPIs and Methods - Report	GEN	30/04/2014	**7/10/2014**	closed	Reservation/s requiring	No reservation
	16.06.03	D68	Metrics Final deliverable - Ex 16.03.02 D06 - GHG metrics	GHG: Advanced KPIs and Methods - Report	GEN	30/04/2014	**7/10/2014**	closed	Reservation/s requiring	No reservation
	16.06.03	D67	Metrics Intermediate deliverable - Ex 16.03.02 D04 - GHG metrics	GHG: KPIs and Methods - Report	GEN	30/04/2014	**7/10/2014**	closed	Reservation/s requiring	No reservation
	16.06.06	D36	Quarterly Support Report II-14	Quarterly Support Report II-14	GEN	30/06/2014	**7/2/2014**	closed	No reservation (P)	No reservation (P)
	16.01.03	D09	DRM test case application and lessons learned	Test case and lessons	GEN	23/06/2014	**6/23/2014**	closed	Reservation/s	No reservation
	16.04.03	D05	TACAT Training and competence proactive analysis tool	anges. It includes a short	GEN	20/06/2014	**6/20/2014**	closed	Reservation/s requiring	No reservation
	16.06.05	D25	SESAR HP Assessment Process 1		GEN	14/12/2012	**6/18/2014**	closed	No reservation (P)	No reservation (P)
	16.01.01	D17	TEST - Deliver SRM for 16.06.01	This will deliver the AIM E-STAR report for the	GEN	04/07/2014	**6/17/2014**	closed	No reservation (P)	No reservation (P)
	16.06.05	D26	SESAR HP Assessment Process 2		GEN	13/12/2013	**6/2/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s

	16.06.05	D60	SE Release 4 Review 1		GEN	25/10/2013	**6/2/2014**	closed	No reservation (P)	No reservation (P)
	16.06.05	D59	SE Release 3 Review 2		GEN	28/06/2013	**6/2/2014**	closed	No reservation (P)	No reservation (P)
	16.06.05	D61	SE Release 3 Review 3		GEN	25/04/2014	**6/2/2014**	closed	No reservation (P)	No reservation (P)
	16.06.05	D58	SE Release 2 Review 3		GEN	26/04/2013	**6/2/2014**	closed	No reservation (P)	No reservation (P)
	16.06.05	D38	Quarterly Report on HP Assessments - Q1 2014		GEN	28/03/2014	**6/2/2014**	closed	No reservation (P)	No reservation (P)
	16.06.05	D37	Quarterly Report on HP Assessments - Q4 2013		GEN	31/12/2013	**6/2/2014**	closed	No reservation (P)	No reservation (P)
	16.06.05	D36	Quarterly Report on HP Assessments - Q3 2013		GEN	30/09/2013	**6/2/2014**	closed	No reservation (P)	No reservation (P)
	16.06.01	D60	SE Release 3 - Review 3		GEN	25/04/2014	**5/19/2014**	to be closed	No reservation (P)	No reservation (P)
	16.01.01	D13	E-STAR	This deliverable will provide a final release of	GEN	14/05/2014	**5/14/2014**	closed	No reservation (P)	No reservation (P)
	16.06.01	D37	Quarterly Report on SAF Assessments - Q1 2014		GEN	28/03/2014	**4/22/2014**	closed	No reservation (P)	No reservation (P)
	16.06.06	D35	Quarterly Support Report I-14	Quarterly Support Report I-14	GEN	04/04/2014	**4/4/2014**	closed	No reservation (P)	No reservation (P)
	16.06.06	D66	New CBA Models and Methods 2013	New CBA Models and	GEN	28/03/2014	**3/28/2014**	closed	Reservation/s	No reservation
	16.06.06	D48	CBA & Business Case Building 2013	CBA & Business Case	GEN	14/03/2014	**3/14/2014**	closed	Reservation/s	No reservation
	16.06.06	D34	Quarterly Support Report IV-13	Quarterly Support Report IV-13	GEN	13/01/2014	**1/13/2014**	closed	No reservation (P)	No reservation (P)
	16.06.01	D36	Quarterly Report on SAF Assessments - Q4 2013		GEN	31/12/2013	**1/6/2014**	closed	No reservation (P)	No reservation (P)
WP	**Proj**	**Code**	**Deliverable Name**	**Deliverable Description**	**Templat e**	**Due date**	**Actual date**	**Assessment procedure**	**Provisional Assessment**	**Assessment Decision**
B	B.04.02	D105	SESAR Concept of Operations Step 2 edition 2014	Produce updated version of ConOps Step 2		20/02/2015	**12/21/2014**	review in progress		
	B.04.01	D107	Cycle 4 Performance Framework	Refined Performance	GEN	28/06/2014	**12/2/2014**	closed	No reservation	No reservation
	B.01	D69	Release 5 Rev. 1 Report		GEN	07/11/2014	**11/25/2014**	closed	No reservation (P)	No reservation (P)
	B.04.01	D41	Refined Performance Framework Cycle 3	This Deliverable is an	GEN	29/06/2014	**11/25/2014**	closed	No reservation	No reservation
	B.04.04	D02	Description of the scope of the Controller Workstation	It consists in providing a common understanding	GEN	10/09/2014	**11/21/2014**	shared	Reservation/s requiring	
	B.00	D34	Updated product backlog 4-2014	s main tasks is to maintai	GEN	30/09/2014	**11/20/2014**	closed	No reservation (P)	No reservation (P)
	B.00	D38	Supervision Final Report	Supervision Final Report	GEN	30/06/2014	**11/19/2014**	closed	No reservation (P)	No reservation (P)
	B.05	D85	Guidance on KPIs and Data Collection Version 1 (2014)	Guidance to X.02s, OFA Coordinators and	GEN	17/10/2014	**10/31/2014**	closed	Reservation/s requiring	No reservation
	B.04.02	D99	Updated Issue List (including prioritisation allocation and problem solving activities) 2014	Identify areas where there are still not	GEN	11/10/2014	**10/13/2014**	shared	Reservation/s requiring	
	B.01	D81	IR Dataset13 Release Note - Consolidated deliverable with contribution from B.04.02 and B.04.03			03/10/2014	**10/2/2014**	closed	Reservation/s requiring clarification/s	No reservation

	B.00	D33	Updated product backlog 3-2014	s main tasks is to maintai	GEN	30/06/2014	**8/13/2014**	closed	No reservation (P)	No reservation (P)
	B.00	D32	Updated product backlog 2-2014	s main tasks is to maintai	GEN	31/03/2014	**8/13/2014**	closed	No reservation (P)	No reservation (P)
	B.04.05	D02	Common Services Foundation - Definition	Definition of architectural	GEN	18/06/2014	**8/8/2014**	closed	Reservation/s	No reservation
	B.05	D70	Updated Performance Assessment in 2014	Update of Step 1	GEN	30/06/2014	**7/31/2014**	closed	Reservation/s	No reservation
	B.01	D100	Release 5 Rev. 1 Guidance Material		GEN	11/07/2014	**7/11/2014**	closed	No reservation	No reservation
	B.04.01	D116	EATMA Version 4.0	EATMA Model and	GEN	13/06/2014	**6/27/2014**	closed	No reservation	No reservation
	B.01	D80	IR Dataset12 Release Note		GEN	30/04/2014	**4/30/2014**	closed	No reservation	No reservation
	B.04.03	D74	ADD Step1 - released version	Produce a report on ADD		23/04/2014	**4/23/2014**	closed	Reservation/s	No reservation
	B.04.01	D121	Release 3 Delivery Note	Delivery Description for Release 3	GEN	09/04/2014	**4/9/2014**	closed	No reservation (P)	No reservation (P)
	B.05	D57	Guidance for Performance Assessment Cycle 2013 - Report	Guidance to X.02s, OFA Coordinators and	GEN	04/04/2014	**4/4/2014**	closed	Reservation/s requiring	No reservation
	B.04.03	D81	SESAR Working Method on Services Edition 2013	Produce an updated		01/04/2014	**4/1/2014**	closed	Reservation/s	No reservation
	B.04.03	D75	ADD Step2 second iteration	Produce a report on ADD		03/03/2014	**3/3/2014**	closed	Reservation/s	No reservation
	B.04.03	D79	DS11 review report	Produce a review report on DS 11	GEN	05/02/2014	**2/5/2014**	closed	No reservation (P)	No reservation (P)
	B.04.03	D78	DS10 review report	Produce a review report on DS 10	GEN	05/02/2014	**2/5/2014**	closed	No reservation (P)	No reservation (P)
	B.05	D88	Data Collection and Repository Cycle 2013	Report on Data Collection activities	GEN	05/02/2014	**2/5/2014**	closed	No reservation (P)	No reservation (P)
	B.05	D60	B.5 Contribution to SE Reviews in 2013	Final report on B.05 contribution to the	GEN	04/02/2014	**2/4/2014**	closed	No reservation (P)	No reservation (P)
	B.04.03	D80	Consulting activity report 2013	Produce a report on Consulting actvity for	GEN	14/01/2014	**1/14/2014**	closed	No reservation (P)	No reservation (P)
	B.04.02	D108	Report on Support the SJU global coordination activities 2013	On SJU request.	GEN	08/01/2014	**1/8/2014**	closed	No reservation (P)	No reservation (P)
	B.04.03	D76	Service Coordination activity report 2013	Produce an activity report on Service	GEN	06/01/2014	**1/6/2014**	closed	No reservation (P)	No reservation (P)
	B.04.03	D77	Technical Issue Management activity report 2013	Produce an activity report on Technical Issue	GEN	06/01/2014	**1/6/2014**	closed	No reservation (P)	No reservation (P)
WP	**Proj**	**Code**	**Deliverable Name**	**Deliverable Description**	**Templat e**	**Due date**	**Actual date**	**Assessment procedure**	**Provisional Assessment**	**Assessment Decision**
C	C.02	D02	Performance Plan (pan-European regional and national) for ATM-MP Ed. 3	der group, intermediate ye	GEN	04/07/2014	**9/27/2014**	closed	Reservation/s requiring clarification/s	Reservation/s requiring clarification/s
	C.02	D06-004	ESSIP Plan - Edition 2014	This deliverable at ATM	GEN	31/07/2014	**7/25/2014**	closed	No reservation	No reservation
	C.03	D05-003	Standardisation Roadmap 2014	Outlines the proposed activities required to	GEN	30/06/2014	**7/15/2014**	closed	Major reservation/s	Major reservation/s
	C.03	D04-003	List of Standardisation Activities 2014	f consultations where nec	GEN	30/06/2014	**7/15/2014**	closed	Major reservation/s	Major reservation/s
	C.03	D08-003	Regulatory Roadmap 2014	Outlines the proposed	GEN	30/06/2014	**6/30/2014**	closed	No reservation	No reservation
	C.03	D07-003	List of Regulatory Activities 2014	ed the basis of consultatio	GEN	30/06/2014	**6/30/2014**	closed	No reservation	No reservation
	C.02	D67	ESSIP Report for 2013	ll be assessed to recomm	GEN	27/06/2014	**6/23/2014**	closed	No reservation	No reservation
	C.02	D14-001	Report on Non-SJU States coordination - 2013	This deliverable is produced by T014 Non	GEN	14/02/2014	**4/10/2014**	closed	No reservation (P)	No reservation (P)
	C.02	D105	Report on contribution to IR-MP updates (DS 10 and 11)	ppropriate fact traceability	GEN	12/02/2014	**2/12/2014**	closed	No reservation (P)	No reservation (P)

	C.03	D10-001	Monitoring Progress Reports - Standardisation 2013	Actual need and contents to be	GEN	31/01/2014	**1/31/2014**	closed	Reservation/s requiring	No reservation
	C.03	D11-001	Monitoring Progress Reports - Regulations 2013	Actual need and	GEN	02/01/2014	**1/2/2014**	closed	No reservation	No reservation
WP	**Proj**	**Code**	**Deliverable Name**	**Deliverable Description**	**Templat e**	**Due date**	**Actual date**	**Assessment procedure**	**Provisional Assessment**	**Assessment Decision**
mo Proje	01.01	D02	CANARIAS Demonstration Report	ARIAS Demonstration Re	VALR	24/08/2014	**10/16/2014**	closed	No reservation	No reservation
	01.03	D02	AMBER Demonstration Report	MBER Demonstration Rep	VALR	31/08/2014	**10/7/2014**	closed	No reservation	No reservation
	02.06	D02	TOPMET Final Demonstration Report			20/09/2014	**9/29/2014**	closed	Reservation/s	No reservation
	01.02	D02	Demonstration Report (B1)	Demonstration Report	VALR	14/09/2014	**7/31/2014**	closed	No reservation	No reservation
	02.08	D02	AFD Demonstration report	rt with the results of Basic	VALR	12/06/2014	**7/24/2014**	closed	Reservation/s	No reservation
	02.09	D02	ICATS Demonstration Report	ICATS Demonstration	VALR	03/07/2014	**7/18/2014**	closed	No reservation	No reservation
	02.03	D02	Release of DB.1 - Final Results	lease of DB.1 - Final Resu	GEN	27/06/2014	**6/17/2014**	closed	Reservation/s	No reservation
	02.07	D02	TOPFLIGHT Demonstration Report	rt with the results of Basic	VALR	13/06/2014	**6/3/2014**	closed	Reservation/s	No reservation
	02.01	D02	FRAMaK Routes Validation Report (MUAC + KUAC) (RTS)	Validation Report (MUAC	VALR	30/04/2014	**5/19/2014**	closed	Reservation/s requiring	No reservation
	02.02	D02	FAIRSTREAM Demonstration Report		VALR	31/03/2014	**4/10/2014**	closed	Reservation/s	No reservation
WP	**Proj**	**Code**	**Deliverable Name**	**Deliverable Description**	**Templat e**	**Due date**	**Actual date**	**Assessment procedure**	**Provisional Assessment**	**Assessment Decision**
E	E.02.30	D02	D2.1 case descriptions	D2.1 case descriptions	GEN	01/12/2014	**12/12/2014**	closed	No reservation	No reservation
	E.02.39	D02	D2.2 emergent beahvior of simulation model	D2.2 emergent beahvior of simulation model	GEN	15/05/2014	**12/12/2014**	closed	No reservation (P)	No reservation (P)
	E.02.38	D03	Capacity model descriptions (D2.2)	cription of ACF capacity m	GEN	15/06/2014	**12/5/2014**	closed	No reservation	No reservation
	E.02.38	D02	System architecture (D2.1)	ACF components and thei	GEN	15/06/2014	**12/5/2014**	closed	No reservation	No reservation
	E.02.24	D03	D4.1 draft MAS algo	D4.1 draft MAS algo	GEN	15/11/2014	**12/3/2014**	closed	No reservation (P)	No reservation (P)
	E.02.36	D03	Safety scoping, change assessment and safety criteria (D3.1)	Safety scoping, change assessment and safety	GEN	15/10/2014	**11/28/2014**	to be closed		
	E.02.33	D02	Pricing mechanisms (D3.1)	Final design of both	GEN	30/10/2014	**11/28/2014**	closed	No reservation	No reservation
	E.02.31	D03	Quantitative and qualitative assessment of scenarios for ATM development (D4.1)	Includes a working conceptual model	GEN	15/10/2014	**11/21/2014**	closed	No reservation	No reservation
	E.02.06	D15	D8.2 Joint Event 2	entation at joint network e	GEN	18/11/2014	**11/18/2014**	closed	No reservation	No reservation
	E.02.27	D02	D2.1 analysis of algos	D2.1 analysis of algos	GEN	01/10/2014	**11/17/2014**	closed	No reservation	No reservation
	E.02.34	D02	Validation report of results of the RPAS separation experiments (D4.1)	Validation report of results of the RPAS	GEN	30/06/2014	**11/14/2014**	closed	No reservation	No reservation
	E.02.36	D04	Algorithm description and performance tests (D2.1)	Algorithm description and performance tests	GEN	15/08/2014	**11/10/2014**	to be closed		
	E.02.37	D03	Serious game design report (D2.1)	Design document for one or more serious games	GEN	01/11/2014	**11/6/2014**	closed	No reservation (P)	No reservation (P)
	E.02.37	D02	Evaluation Methodology (D3.1)	Definition of Evaluation Methodology	GEN	01/10/2014	**11/3/2014**	closed	No reservation (P)	No reservation (P)
	E.02.25	D02	D4.1 verification plan	D4.1 verification plan	GEN	15/06/2014	**10/28/2014**	to be closed	No reservation	No reservation
	E.02.20	D04	Wireless system requirement specification (D2.2.2)	System specification	GEN	30/06/2014	**10/28/2014**	to be closed		
	E.02.20	D02	Typical deployment scenarios and system performance requirements (D2.1.2)	Translating the operational environment	GEN	15/06/2014	**10/28/2014**	to be closed		
	E.02.20	D01	GA's priority CNS applications profiles (D2.1.1)	Translating retained	GEN	15/05/2014	**10/28/2014**	to be closed		
	E.02.20	D03	Wireless state-of-the-art and technology screening (D2.2.1)	Technical report	GEN	20/04/2014	**10/28/2014**	to be closed		

	E.02.40	D02	D2.1 Report on deterministic TP sensitivity to MET conditions uncertainty	Report on the sensitivity of deterministic TP to the	GEN	30/04/2014	**10/3/2014**	closed	No reservation (P)	No reservation (P)
	E.02.30	D01	D1.1 draft specs and guidelines	D1.1 draft specs and	GEN	01/08/2014	**9/15/2014**	closed	No reservation	No reservation
	E.02.24	D02	D3.1 experimental process	D3.1 experimental	GEN	15/07/2014	**9/2/2014**	closed	No reservation	No reservation
	E.02.23	D01	Plan of test applications (D2.1)	Description of	GEN	09/06/2014	**9/1/2014**	to be closed	No reservation	No reservation
	E.02.18	D15	final calibrated agent-based model	model	GEN	22/08/2014	**8/22/2014**	to be closed	No reservation	No reservation
	E.01.01	D13	y4 report from ICRAT2014	y4 report from		11/07/2014	**7/11/2014**	closed	No reservation	No reservation
	E.02.35	D01	Design mechanisms (D1.2)	Design mechanisms and cost allocations	GEN	01/07/2014	**7/1/2014**	closed	No reservation (P)	No reservation (P)
	E.02.31	D02	Selection of scenarios (D3)	Scenarios for application	GEN	30/05/2014	**6/30/2014**	closed	No reservation	No reservation
	E.02.32	D02	D2.1 scenarion descriptions	D2.1 scenarion	GEN	24/06/2014	**6/24/2014**	closed	No reservation	No reservation
	E.02.32	D01	D1.1 selection of risk assessment methods	D1.1 selection of risk	GEN	24/06/2014	**6/24/2014**	closed	No reservation	No reservation
	E.02.18	D18	validated decision support tool	tech report + prototype	GEN	23/06/2014	**6/23/2014**	closed	No reservation	No reservation
	E.02.18	D17	final report	final report	FINALR	23/06/2014	**6/23/2014**	closed	No reservation	No reservation
	E.02.18	D12	dissemination and external coordination	various	GEN	23/06/2014	**6/23/2014**	closed	No reservation	No reservation
	E.02.28	D04	Modelling Scenarios and Exercise Plan (D4.1)	Description of the set of	GEN	17/06/2014	**6/17/2014**	to be closed		
	E.02.21	D02	Study Reference Scenarios (D1.2)	The reference scenarios	GEN	12/06/2014	**6/12/2014**	closed	No reservation	No reservation
	E.02.36	D02	GA aircraft monitoring concept and overall system architecture (D1.2)	GA aircraft monitoring concept and overall	GEN	05/06/2014	**6/5/2014**	closed	No reservation	No reservation
	E.02.21	D03	Failure Emergency Scenarios (D2.1)	The failure and	GEN	03/06/2014	**6/3/2014**	closed	No reservation	No reservation
	E.02.18	D19	final validation report	tech report	FINALR	05/05/2014	**5/5/2014**	closed	No reservation	No reservation
	E.02.18	D16	final workshop	WS report	GEN	02/05/2014	**5/2/2014**	closed	No reservation	No reservation
	E.02.19	D01	Report on selected ATM application (D1.1)	Report on selected ATM	GEN	23/04/2014	**4/23/2014**	closed	No reservation	No reservation
	E.02.33	D01	Future airspace congestion - user discussion guide (D2.1)	Working draft of proposed pricing	GEN	22/04/2014	**4/22/2014**	closed	No reservation	No reservation
	E.02.29	D01	Market-based mechanisms formalisation (2.2)	Market based	GEN	17/04/2014	**4/17/2014**	closed	No reservation	No reservation
	E.02.27	D01	D1.1 potential business cases	D1.1 potential business	GEN	01/04/2014	**4/1/2014**	closed	No reservation	No reservation
	E.02.26	D01	D1.1 current conops, KPAs and system drivers	D1.1 current conops,	GEN	01/04/2014	**4/1/2014**	closed	No reservation	No reservation
	E.02.28	D03	Report on Stakeholder expectations (D5.1)	Definition of the project	GEN	20/03/2014	**3/20/2014**	closed	No reservation	No reservation
	E.01.02	D12	HALA! progress report year 3	HALA! progress report	GEN	28/02/2014	**2/28/2014**	closed	No reservation	No reservation
	E.02.28	D02	Modelling Approach and Traffic Data acquisition (D2.1)	Description of modelling mechanisms to be	GEN	28/02/2014	**2/28/2014**	closed	No reservation	No reservation
	E.02.24	D01	D1.2 dynamic models	D1.2 dynamic models	GEN	26/02/2014	**2/26/2014**	closed	No reservation	No reservation
	E.01.02	D02	HALA! Summer School 2011	HALA! Summer School	GEN	19/02/2014	**2/19/2014**	closed	No reservation	No reservation
	E.01.02	D04	HALA! progress report year 1	HALA! progress report	GEN	18/02/2014	**2/18/2014**	closed	No reservation	No reservation
	E.01.02	D08	HALA! progress report year 2	HALA! progress report	GEN	18/02/2014	**2/18/2014**	closed	No reservation	No reservation
	E.01.02	D03	HALA! Position Paper v1	HALA! Position Paper v1	GEN	18/02/2014	**2/18/2014**	closed	No reservation	No reservation
	E.01.02	D11	HALA! Position Paper v3	HALA! Position Paper v3	GEN	18/02/2014	**2/18/2014**	closed	No reservation	No reservation
	E.01.02	D07	HALA! Position Paper v2	HALA! Position Paper v2	GEN	18/02/2014	**2/18/2014**	closed	No reservation	No reservation
	E.01.02	D10	HALA! Summer School 2013	HALA! Summer School	GEN	18/02/2014	**2/18/2014**	closed	No reservation	No reservation
	E.01.02	D06	HALA! Summer School 2012	HALA! Summer School	GEN	18/02/2014	**2/18/2014**	closed	No reservation	No reservation
	E.01.02	D09	Network Conference ATACCS 2013	Network Conference	GEN	18/02/2014	**2/18/2014**	closed	No reservation	No reservation
	E.01.02	D05	Network Conference ATACCS 2012	Network Conference	GEN	18/02/2014	**2/18/2014**	closed	No reservation	No reservation
	E.01.02	D01	Network Conference ATACCS 2011	Network Conference	GEN	18/02/2014	**2/18/2014**	closed	No reservation	No reservation
	E.02.21	D01	Automation Level Baseline Assumption for the Definition of ATM Scenarios (D1.1)	Description of the foreseeable automation		17/02/2014	**2/17/2014**	closed	No reservation	No reservation

	E.02.37	D01	Applications report (D1.1)	Identification of ATM		17/02/2014	**2/17/2014**	closed	No reservation	No reservation
	E.01.01	D08	y3 CW final report	y3 CW final report	GEN	14/02/2014	**2/14/2014**	closed	No reservation	No reservation
	E.02.12	D19	final report	progress report	FINALR	04/02/2014	**2/4/2014**	closed	No reservation	No reservation
	E.02.28	D01	Problem Statement and Conceptual Framework (D1.1)	Definition of the conceptual framework		27/01/2014	**1/27/2014**	closed	No reservation	No reservation
	E.02.31	D01	Air transport sector specifications (D2)	Characteristics of air		23/01/2014	**1/23/2014**	closed	No reservation	No reservation
	E.02.17	D14	final report	progress report	FINALR	20/01/2014	**1/20/2014**	closed	No reservation	No reservation
	E.02.17	D15	demonstrator	tech report	GEN	15/01/2014	**1/15/2014**	closed	No reservation	No reservation
	E.02.12	D22	joint event contribution y3	scientific article	GEN	14/01/2014	**1/14/2014**	closed	No reservation	No reservation
	E.02.12	D20	experiment	tech report	GEN	14/01/2014	**1/14/2014**	closed	No reservation	No reservation
	E.02.25	D01	D1.1 techno and process eval	D1.1 techno and process		14/01/2014	**1/14/2014**	closed	Reservation/s	No reservation
	E.01.01	D12	y3 CW position paper progress on publication	y3 CW position paper	GEN	10/01/2014	**1/10/2014**	closed	No reservation	No reservation
	E.02.38	D01	Operational concept (D1.1)	verview of the ACF operational conce		15/11/2013	**1/10/2014**	closed	No reservation	No reservation
	E.01.01	D11	y3 CW position paper on wiki	y3 CW position paper on	GEN	10/01/2014	**1/10/2014**	closed	No reservation	No reservation
	E.02.18	D13	static decision support tool	tech report + prototype	GEN	07/01/2014	**1/7/2014**	closed	No reservation	No reservation
	E.02.18	D20	joint event contribution y3	scientific article	GEN	07/01/2014	**1/7/2014**	closed	No reservation	No reservation
WP	**Proj**	**Code**	**Deliverable Name**	**Deliverable Description**	**Templat e**	**Due date**	**Actual date**	**Assessment procedure**	**Provisional Assessment**	**Assessment Decision**
ale Dem	LSD.02.04	D01	Demonstration Plan	Demonstration Plan		09/12/2014	**12/15/2014**	closed	No reservation	No reservation
	LSD.02.02	D01	M3 - Demonstration Plan 1st Review	External, Deliverable		15/12/2014	**12/15/2014**	closed	No reservation	No reservation
	LSD.02.03	D01	Demonstration Plan	Demonstration Plan		06/11/2014	**12/11/2014**	closed	Reservation/s	No reservation
	LSD.02.05	D01	Demonstration Plan	Demonstration Plan		18/12/2014	**12/11/2014**	closed	No reservation	No reservation
	LSD.02.09	D01	Proud Demonstration Plan	Proud Demonstration		20/11/2014	**11/19/2014**	closed	No reservation	No reservation
	LSD.01.04	D01	P8.1:Demonstration plan delivery	P8.1:Demonstration plan delivery		17/11/2014	**11/6/2014**	closed	Major reservation/s	Reservation/s requiring clarification/s
	LSD.01.05	D01	Demonstration Plan - First Delivery	Demonstration Plan -		03/11/2014	**11/3/2014**	closed	Reservation/s	No reservation
WP	**Proj**	**Code**	**Deliverable Name**	**Deliverable Description**	**Templat e**	**Due date**	**Actual date**	**Assessment procedure**	**Provisional Assessment**	**Assessment Decision**
RPAS	RPAS.04	D01	MedALE Demonstration Plan	MedALE Demonstration		31/03/2014	**4/2/2014**	closed	Major reservation/s	No reservation
	RPAS.03	D01	D-A1 - Demonstration Plan			29/01/2014	**3/11/2014**	closed	Major reservation/s	No reservation
	RPAS.08	D01	AIRICA Demonstration Plan	AIRICA Demonstration		07/03/2014	**3/7/2014**	closed	Reservation/s	No reservation
	RPAS.02	D01	Deliverable A.1 Demonstration Plan			16/01/2014	**2/28/2014**	closed	Reservation/s	No reservation
	RPAS.09	D01	ARIADNA Demonstration Plan	ARIADNA		24/01/2014	**1/23/2014**	closed	No reservation	No reservation
	RPAS.01	D01	DEMORPAS Demonstration Plan	DEMORPAS		21/01/2014	**1/21/2014**	closed	No reservation	No reservation
	RPAS.06	D01	A1 Demonstration Plan	ODREA Demonstration		15/01/2014	**1/16/2014**	closed	Reservation/s	No reservation
	RPAS.05	D01	TEMPAERIS Demonstration Plan	TEMPAERIS		08/01/2014	**1/8/2014**	closed	No reservation	No reservation

Provisional Annual Accounts 2014 – Annual General Accounts

Balance sheet

all figures in EUR	Note	31/12/2014	31/12/2013
I. NON-CURRENT ASSETS		**75.379.787**	**63.669.050**
Intangible fixed assets	*1*	**288.122**	**571.332**
Tangible fixed assets		**264.204**	**360.786**
Furniture and Vehicles	*2*	*85.294*	*99.690*
Computer Hardware	*3*	*15.976*	*25.535*
Other tangible assets	*4*	*162.934*	*235.561*
Long-term Pre-Financing	*5*	**74.827.461**	**62.736.932**
II. CURRENT ASSETS		**27.047.761**	**31.567.774**
Short-term Pre-Financing	*5*	**5.008.559**	**25.533.298**
Short-term receivables		**882.200**	**818.215**
Current receivables	*6*	*9.761*	*78.293*
Sundry receivables	*7*	*9.437*	*273*
Accrued income	*8*	*4.245*	*29.380*
Deferred charges	*9*	*858.758*	*710.269*
Cash & cash equivalents	*10*	**21.157.002**	**5.216.262**
TOTAL ASSETS		**102.427.548**	**95.236.825**
III. CURRENT LIABILITIES		**336.941.304**	**319.096.672**
Accounts payable		**10.054.935**	**4.926.504**
Current payables	*11*	*776.785*	*356.228*
Accrued charges	*12*	*9.278.150*	*4.443.757*
Other accounts payable	*13*	*0*	*126.520*
Co-Financing to be paid to the Members	**14**	**81.418.072**	**72.683.628**
Contribution from Members to be validated	**14**	**245.468.297**	**241.486.539**
TOTAL LIABILITIES		**336.941.304**	**319.096.672**
NET ASSETS (Total Assets less Total Liabilities)		**(234.513.756)**	**(223.859.847)**

IV. NET ASSETS		**(234.513.756)**	**(223.859.847)**
Contribution from Members		**1.009.783.843**	**745.291.300**
European Union	*15*	*439.553.899*	*344.800.515*
Eurocontrol	*15*	*269.374.415*	*185.286.408*
Other Members	*15*	*300.855.529*	*215.204.377*
Accumulated contribution from Members used previous years	*16*	**(969.151.147)**	**(698.334.592)**
Contribution from Members used during the year (SPF)	*16*	**(275.146.451)**	**(270.816.555)**
TOTAL NET ASSETS		**(234.513.756)**	**(223.859.847)**

Statement of Financial Performance (SPF)

all figures in EUR	Note	2014	2013
OPERATING REVENUE			
Contributions from Members	*15*	**0**	**0**
Other Revenues		**0**	***0***
Total operating revenue		**0**	**0**
OPERATING EXPENSES			
Administrative expenses		**(7.394.626)**	**(7.692.834)**
Staff expenses	*19*	*(4.087.136)*	*(4.328.003)*
Fixed assets related expenses	*1-4*	*(448.460)*	*(539.706)*
Other administrative expenses	*20*	*(2.859.030)*	*(2.825.125)*
Operational expenses		**(267.793.373)**	**(263.162.801)**
Other operational expenses	*21*	*(267.793.373)*	*(263.162.801)*
Total operating expenses		**(275.187.999)**	**(270.855.635)**
DEFICIT FROM OPERATING ACTIVITIES		**(275.187.999)**	**(270.855.635)**
NON-OPERATING ACTIVITIES			
Financial operations revenues	*22*	*53.120*	*33.495*
Financial operations expenses	*22*	*(11.660)*	*(3.282)*
Other non operational income		*88*	*8.868*
Total non-operating activities		**41.548**	**39.081**
CONTRIBUTIONS FROM MEMBERS USED DURING THE YEAR		**(275.146.451)**	**(270.816.554)**

Cash-flow table

all figures in EUR	Note	2014	2013
Contribution from Members used during the year (EOA)		(275.146.451)	(270.816.554)
Operating activities			
Increase/(decrease) in Contribution in-kind from Members		264.492.542	76.385.672
Increase/(decrease) in Amortisation of Intangible assets		338.326	429.016
Increase/(decrease) in Depreciation of Tangible assets		110.134	110.690
(Increase)/decrease in long-term Pre-financing		(12.090.529)	31.013.619
(Increase)/decrease in short-term Pre-financing		20.524.739	(10.226.022)
(Increase)/decrease in short-term receivables		(63.986)	(734.554)
Increase/(decrease) in accounts payable		17.844.632	74.250.565
		291.155.858	**171.228.986**
Investing activities (except depreciat./amort. of the year)			
(Increase)/decrease of intangible and tangible assets		(68.668)	(372.402)
Cash Contributions from Members			
Increase/(decrease) in Cash Contribution from Members		1	89.462.934
NET CASHFLOW		**15.940.740**	**(10.497.036)**
Net increase/(decrease) in cash and cash equivalents		15.940.740	(10.497.036)
Cash and cash equivalents at the beginning of the year		5.216.262	15.713.298
Cash and cash equivalents at year-end		**21.157.002**	**5.216.262**

Statement of changes in net assets/liabilities

all figures in EUR	2014	2013
Balance at beginning of accounting period	**(223.859.847)**	**(118.891.899)**
Contribution from Members	**264.492.543**	**165.848.606**
Contribution from Members used during the year (SFP)	**(275.146.451)**	**(270.816.554)**
Balance as of 31 December	**(234.513.756)**	**(223.859.847)**

The tables show negative Net Assets at the end of 2014. This is due to the fact that

- the Programme activities are increasing substantially year after year;
- the contributions from Members related to a certain year are recognized by the SJU during the following year after the acceptance of the IFS of the year n-1.

With regard to the overall financial situation of the SJU, it should be noted that, by the end of 2014:

- the SJU has signed specific agreements related to the contribution of the European Union to the SJU for a total amount of EUR 700.000.000. In order to comply with the principle of budget equilibrium and to ensure strict financial management of its resources at year end 2014, out of EUR 700.000.000 the SJU has called and received cumulatively the amount of EUR 439.553.899, while the remaining amount will be requested at the moment of the recognition of the Members In Kind contributions and the payment of the relative co-financing;
- out of EUR 165.000.000 cash contribution of Eurocontrol, the SJU has requested and received a cumulative amount of EUR 97.005.881. Following the same approach applied for the EU resources, the SJU will call the difference when needed in order to face its financial obligations.

It can be consequently concluded that while the SJU shows negative Net Assets at the end of 2014, this is in no manner due to a going concern issue, but mostly to the nature of the SJU operations and the rules governing the recognition of Members' contributions.

Annex IV – Staff establishment Plan overview

Human Resources	2013		2014	
	Authorised under the EU Budget	Actually filled as of 31/12/2013	Authorised under the EU Budget	Actually filled as of 31/12/2014
Establishment plan posts:				
AD	33	32	33	30
AST	6	6	6	5
Total Establishment plan posts	**39**	**38**	**39**	**35**
Of which:				
- Temporary Agents	*32*	*29*	*36*	*31*
*- Secondment from SJU Members **	*7*	*6*	*3*	*1*
- Contract Agents	*0*	*3*	*0*	*3*
Seconded National Experts	**3**	**2**	**3**	**2**
Total staff	**42**	**40**	**42**	**37**