



SESAR JOINT UNDERTAKING

SINGLE PROGRAMMING DOCUMENT

(Years 2017 - 2019)

As amended on 15 September 2017
Annex to Decision No ADB(D)18-2017

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Foreword

The SESAR Joint Undertaking (SJU) is a key enabling organisation for the modernisation of European and global air traffic management (ATM), coordinating and concentrating of all ATM-related research and innovation (R&I) efforts in the EU.

Since its establishment in 2007, the SJU, together with its Members and partners, has provided a significant return on the original EU investment, delivering high-performing solutions in accordance with the European ATM Master Plan and its performance ambition, stimulating growth across the aviation sector, generating employment and other tangible societal benefits.

By successfully delivering the SESAR 2020 programme, the SJU will continue to provide investors with a sound return on investment as well as further contributing to the delivery of the Single European Sky (SES) and the broader EU Aviation Strategy.

The SJU's Single Programming Document for 2017–2019, outlines the roadmap to the successful implementation of SESAR 2020 and its contribution to the SES objectives for the next three years. This document describes five strategic areas of operation that the SJU will pursue during the reporting period in order to achieve its programme of work through the Horizon 2020 framework as well as in the wider context of the Aviation Strategy.

In parallel to delivering these strategic goals, the SJU will remain committed to strengthening its effective and efficient organisation by continually improving its processes, procedures, performance & risk management, ICT infrastructure, and investing in its talented people.

Florian Guillermet

Executive Director

SESAR Joint Undertaking

Document history

Edition	Date	Status	Justification
Version 1	15/12/2016	Approved	Initial version adopted by the SJU Administrative Board
Amendment 1	15/09/2017	Approved	Amended SPD 2017-2019 adopted by the Administrative Board, incorporating the following changes: 1. Budget 2017 amendment, reflected throughout the document and especially in sections 2.3, 3.2.4, 3.5, and in annexes I, II and XII; 2. Updated Staff Establishment Plan, in section 3.5.2 and table 2 of Annex III, 3. Update on the multi-annual objectives and multi-annual programming sections to reflect the need to allow for direct transition from ER to VLD in certain cases, in sections 2.1 and 2.2; 4. Two changes on the 2017 annual work programme (Section III): a. Update on the Geofencing call to complement the financing decision: information on applicable criteria, in section 3.1.6.2.1; b. Update to section 3.1.4 to reflect the mandate received by the SESAR JU to deliver the Common Project 2 proposal c. Update to sections 2.3, 3.1, 3.5 and to Annexes I, II and XII to reflect the mandate received by the SESAR JU from the Commission to develop a proposal for the future architecture of the European airspace; 5. Inclusion of information on the new U-Space call in the SJU multi-annual work programme, in sections 2.2, 2.2.3, 3.1.3 and 3.1.6.2.2 and a reference to the related preparation work in the 2017 annual work programme. Other changes have been introduced <i>inter alia</i> for editorial reasons and to ensure consistency with the main areas of amendment as detailed above¹

¹ For a version with track changes comparing this document to the originally adopted Single Programming Document for the period 2017-2019, please contact the SJU (info@sesarju.eu).

1 Section I – General Context

1.1 SJU Multi-Annual Objectives

Established in 2007 as a joint undertaking (Council Regulation (EC) No 219/2007 of 27 February 2007), the SESAR Joint Undertaking (SJU) is responsible for the modernisation of the European air traffic management (ATM) system by coordinating and concentrating all ATM relevant research and innovation efforts in the EU. The SJU is part of SESAR (Single European Sky ATM Research), the technological pillar of the Single European Sky (SES) legislative framework. In this framework, the SJU contributes to achieving the SES High-Level Goals, namely to:

- Enable a three-fold increase in capacity which will also reduce delays both on the ground and in the air;
- Improve safety by a factor of 10;
- Enable a 10 % reduction in the environmental impact of flights;
- Reduce the cost per flight by 50 %.

Founded by the European Union and EUROCONTROL, the SJU is augmented by stakeholder Members who together with their partners and affiliate associations represent over 100 organisations from across the ATM community, from civil and military air navigation service providers, to airports, civil and military airspace users, staff associations, academia and research centres. Through these partnerships and further collaboration with staff associations, regulators and the scientific community, the SJU unites the skills of approximately 3.000 experts to fast-track change in European ATM.

The SJU contributes to the SES targets by defining, developing and validating innovative technological and operational solutions for managing air traffic in a more efficient manner. With a budget of 2,1 billion € (up to 31/12/2016) and an additional 1,6 billion € (up to 31/12/2024), the SJU has established a research ‘pipeline to innovation’, comprised of three distinct strands of activities working in parallel with one another. These are Exploratory Research, Industrial Research and Demonstrations, with the aim to see a flow towards deployment between these strands of the innovation pipeline. These research activities are carried out in line with the European ATM Master Plan – the main planning tool for ATM modernisation in Europe – for which the SJU is responsible for maintaining.

1.2 Drivers Shaping SJU Strategic Areas of Operations

The role of technology and innovation are recognised in the EU Aviation Strategy as key enablers to secure Europe’s leading role in international aviation. SESAR and the SJU are part of the Strategy’s vision to overcome a number of short, medium and long-term challenges that stand in the way of fully exploiting the economic potential of the air transport industry. Solutions to these challenges are addressed by the SJU and are captured in the 2015 edition of the European ATM Master Plan. Some of these challenges and solutions are described below.

The number of flights has increased by 80% between 1990 and 2014, and is forecast to grow by a further 45% between 2014 and 2035. Although slower than expected, the increase of traffic will place pressure on an already congested network which is facing saturation. The situation calls for the introduction of more automated tools and data communications to enable air traffic controllers to concentrate on value-added tasks, thereby handling more traffic in a safer way. Airports are also reaching saturation with this increased growth and require solutions to maximise their capacity in all weather conditions, such as satellite-based tools for accurate navigation and landing (e.g. Galileo

that will start providing services during this period and EGNOS whose adoption can be further accelerated).

The European economic recovery remains slow, which challenges the aviation, air transport and ATM industries to increase their productivity, sustainability and competitive edge. **Technology and innovation** are key enablers in this regard, allowing for in the medium term the development of leaner and more modular systems that are easier to upgrade and more interoperable with each other. Virtualisation of ATM operations, such as remote towers, also will allow for a more efficient and flexible use of resources, substantially improving the cost efficiency of service provision and relieving congested airspace.

Drones are rapidly changing the landscape of aviation and this change is happening at a speed and scale that we have never seen before. Clear standards and low-cost system solutions which support interoperability will allow the integration of drones alongside other airspace user in an efficient manner, while also ensuring safety (e.g. via geofencing, where EGNOS/Galileo specific services can bring added value).

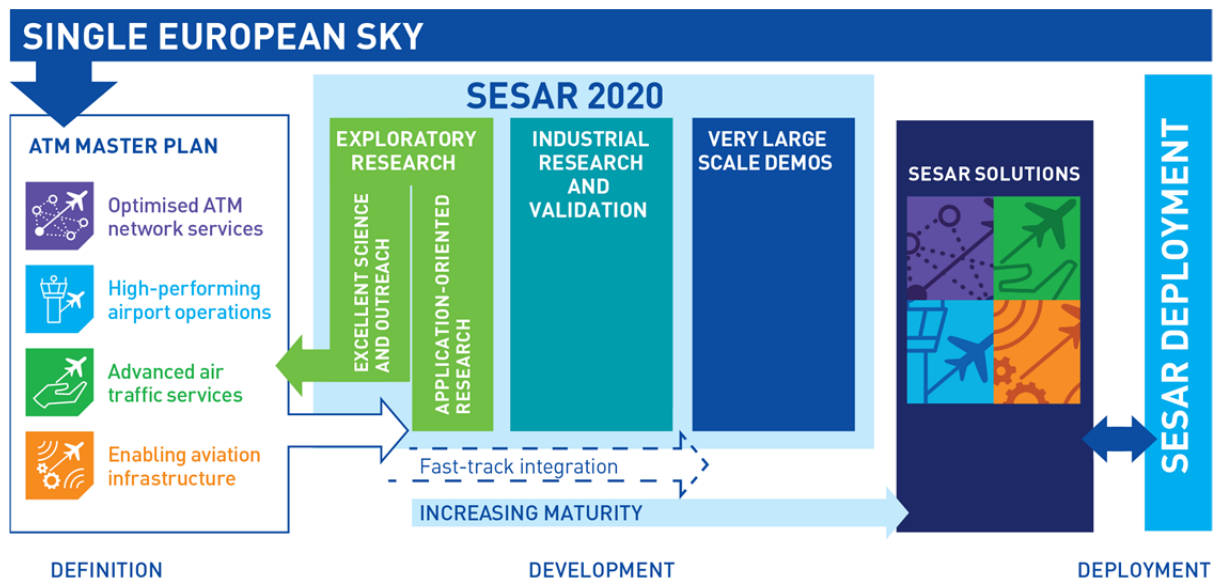
Increased **connectivity and digital information exchange** in ATM can also increase the risk of cyber-attacks. This requires solutions to protect critical information systems while ensuring that secure data exchange allows stakeholders to collaborate effectively.

2 Section II – Multi-Annual Programming 2017 – 2019

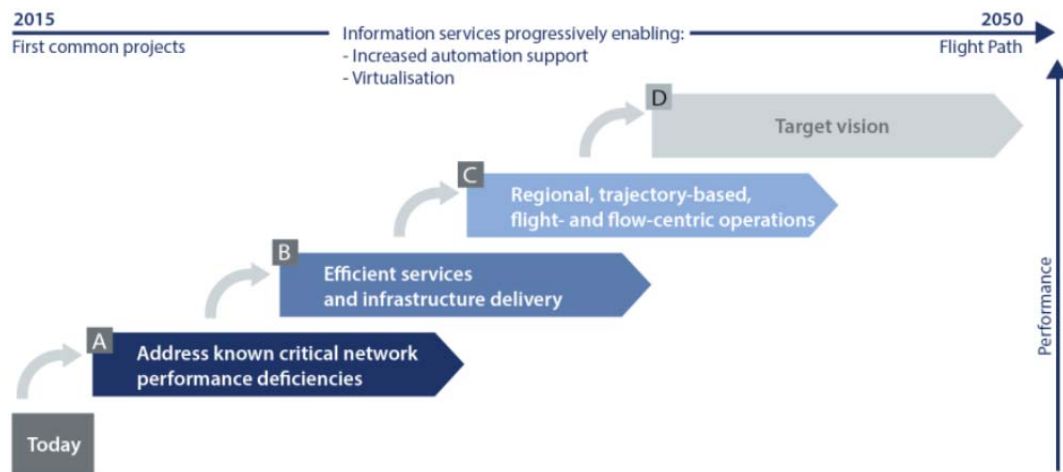
This section aims to provide stakeholders with a general overview of the activities planned by SJU in order to fully execute its mandate and deliver its long-term strategy. It is structured around the strategic goals for the period 2017 – 2019 that reflect the mandate of the SESAR Joint Undertaking (SJU) and its priorities. Intended to provide the bridge with the SJU's annual work programme, this section outlines the broad direction of travel for each of its strategic goals and supports this with relevant practical examples of ongoing or planned work. This section will be updated on an annual basis as a rolling plan, giving due consideration of the EU framework within which the SJU is operating.

2.1 SJU Multi-Annual Objectives and link to the European ATM Master Plan

Directly derived from the European ATM Master Plan – Edition 2015 – and its 4 Key Features, the second SESAR programme (SESAR 2020) activities are structured in three main research phases that aim to deliver a pipeline of innovation, which matures operational and technology solutions through the EOCVM (European Operational Concept Validation Methodology) well-established control and monitoring process linked to Technology Readiness Level (TRL). This pipeline starts with Exploratory Research, is further expanded with contributions from the SJU Members that undertake Industrial Research and Validation. This will ultimately deliver the SESAR Solutions that will contribute to firmly establishing the performance benefits in preparation for deployment. For some of the Solutions, further activities are conducted to demonstrate on a large scale the concepts and technologies in representative environments. In other cases, for instance where technology is mature in other sectors than ATM, a fast-track integration from Application-Oriented Research to demonstration activities is possible.



The SJU 2017-2019 Programming Document covers the technical inception phase of SESAR 2020 activities for Industrial Research and the Very Large-Scale Demonstrations, as well as the subsequent delivery of the relevant SESAR Solutions and other R&I results achieved through the first Exploratory Research grants awarded through the calls published in 2015 and 2016. The delivery of these results will contribute to the various phases of upgrade of the Air Traffic Management system as outlined in the Master Plan.



From 2017 to 2019, the primary objective of the SESAR Solutions that will be delivered will be to contribute to phases A & B, while preparing the ground for those Solutions that will be further developed in the next period and that will target more specifically Phase C. As for the Exploratory Research activities conducting through the grants awarded in 2016, they will primarily contribute to the further maturation of the scientific and technical challenges of the SESAR Target Vision (phase D).

The SJU results in the period 2017 – 2019 will continue to contribute to the Single European Sky and the European ATM Master Plan vision and ambition across the six main performance areas that are illustrated below.



The realisation of the SESAR vision will not only bring significant direct and quantifiable performance gains to ATM, air transport and aviation, but is expected also to deliver wider benefits for the EU economy and society in general. It is estimated that cost savings and the value of all performance benefits would amount to annual recurring benefits ranging from 8 billion € to 15 billion € per year in 2035, compared to a baseline where SESAR would not be deployed.

2.2 Multi-Annual Programming 2017 – 2019

The SJU's multi-annual programme concerns itself with the continued effective delivery of SESAR2020, as outlined in the SJU's multi-annual work programme (MAWP) that was adopted by the SJU Administrative Board in July 2015. The SJU will continue to manage its multi-annual work programme in three key phases – the 'pipeline to innovation':

- The first phase concerns Exploratory Research, itself further categorised into those elements/projects dealing with relevant fundamental scientific subjects and those which investigate the initial applications of such science for the ATM sector;
- The second phase, 'Industrial Research & Validation', includes applied research, pre-industrial development and validation projects and is delivered by the Members of the SJU. It is further split into two waves of call for proposals. Wave 1 that covers the period 2016-2019 and Wave 2 that will be launched in 2018 to cover the period from 2019 to 2021;
- The third phase deals with Very Large Scale Demonstrations (VLDs) which are designed as demonstrations of particular programme concepts elements and SESAR Solutions. These demonstrations provide the bridge between the development and deployment phases of SESAR and are delivered through work undertaken by SJU Members, supplemented by open calls to ensure the widest possible stakeholder participation;
 - In some cases, results of application-oriented Exploratory Research can be passed to the third phase 'VLD activities' directly; this is in particular the case when a technology is mature in other sectors than ATM and when the focus is more on the adaptation of that mature technology for the ATM than on developing the technology (cf. for instance activities related to U-Space in the annual work programme section).

Each of the above phases in the pipeline is dependent upon the progressive delivery of a number of specific operational or technical improvements – SESAR Solutions – which are systematically validated in order to have conclusive evidence to support a decision for their implementation and/or synchronised deployment. SESAR Solutions have been categorised according to four key areas of ATM (the Key Features of the European ATM Master Plan) that remain static to ensure there is a coherent way to present the solutions over the time span of the multi-annual work programme:

High-performing airport operations



The future European ATM system relies on the full integration of airports as nodes into the network. This implies enhanced airport operations, ensuring a seamless process through collaborative decision-making (CDM), in normal conditions, and through the further development of collaborative recovery procedures in adverse conditions. In this context, this feature addresses the enhancement of runway throughput, integrated surface management, airport safety nets and total airport management.

Advanced air traffic services



The future European ATM system will be characterised by advanced service provision, underpinned by the development of automation tools to support controllers in routine tasks. The feature reflects this move towards further automation with activities addressing enhanced arrivals and departures, separation management, enhanced air and ground safety nets and trajectory and performance-based free routing.

Optimised ATM network services



An optimised ATM network must be robust and resilient to a whole range of disruptions, including meteorological and unplanned events relying on a dynamic and collaborative mechanism. This will allow for a common, updated, consistent and

accurate plan that provides reference information to all planning and executing ATM actors. This feature includes activities in the areas of advanced airspace management, advanced dynamic capacity balancing (DCB) and optimised airspace user operations, as well as optimised ATM network management through a fully integrated network operations plan (NOP) and airport operations plans (AOPs) via system-wide information management (SWIM).

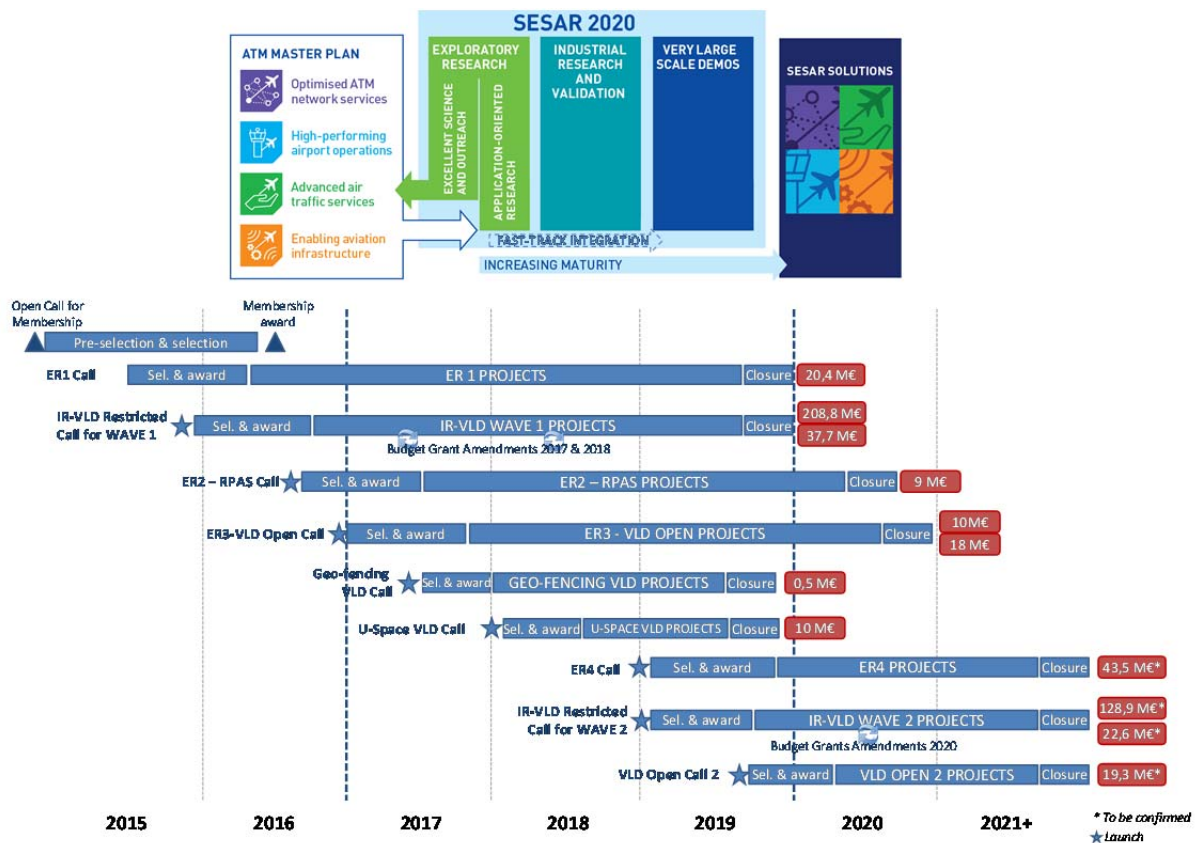
Enabling aviation infrastructure



The enhancements described in the first three Key Features will be underpinned by an advanced, integrated and rationalised aviation infrastructure, providing the required technical capabilities in a resource-efficient manner. This feature will rely on enhanced integration and interfacing between aircraft and ground systems, communications, navigation and surveillance (CNS) systems, SWIM, trajectory management and Common Support Services.

Furthermore, the safe integration of drones in all categories of airspace and the development of U-space is a new policy priority which will be reflected in the dedicated addendum to the Master Plan to be delivered by the end of 2017.

The SESAR 2020 programme has been designed to encourage the migration of concepts/ elements from Exploratory Research and to extend them in the Industrial Research & Validation phase and finally to pre-industrial development, validation, large scale demonstration and then preparation for deployment. This represents three strategic areas of operation for the SJU and the Multi-Annual Work Programme is also structured in such a way as to reflect this evolution of technological and operational components of the future ATM system. The Programme will be delivered using a range of instruments fully compliant with Horizon2020; Exploratory Research and part of the Very Large Scale Demonstrations being secured using open calls and the Industrial Research and remaining part of Very Large Scale Demonstration using restricted calls to Members of the SJU. The relationship between the various phases of Exploratory Research, Industrial Research and Validation and Very Large Scale Demonstrations together with the various call activities further detailed in the document are outlined in the figure below:



In addition to the continued effective delivery of SESAR2020 Solutions, there are a number of important deliverables supporting the execution of the SJU's mission and mandate. This includes, in particular, the European ATM Master Plan as the central element driving SESAR Project, as well as all the activities ensuring global outreach of the results achieved by the SJU. Beyond the three research-focussed strategic areas of operation (described in sections 2.2.1 to 2.1.3 below) there is also a need to ensure the proper coordination across the whole process through transversal steering as well as providing information to various entities including standardisation bodies, along with coordination on a regional and global scale through outreach activities (described in section 2.2.4 below) fully coordinated with the European Commission.

Finally there is the need to ensure the SJU itself operates fully in accordance with its obligations, while also striving to continually improve its financial, administrative and corporate management as these elements of the SJU's operations remain integral to the delivery of its mission and values. This area is also outlined in further detail in the section 2.2.5 below.

2.2.1 Strategic Area of Operation 1: Deliver Exploratory Research

During the period 2017-2019, SESAR2020 Exploratory Research (ER) will build upon the results developed in the previous SESAR1 programme under Work Package E (Exploratory Research Work Package) as well as from other relevant FP7 funded projects². ER can be further broken down into two areas, the first covering fundamental science and outreach, while the second investigates the initial applications of this science for ATM:

² All strategic areas of operation are described in greater detail within the SJU's Multi-Annual Work Programme, covering the period from 2014 to 2020 and describing the programme structure, detailed project descriptions and sets out clear deliverables and milestones. This document was adopted by the SJU's Administrative Board in July 2015.

- The science and outreach element aims to bridge ATM research with the wider research community and will provide the science necessary to support ATM change either directly or through connection to other funded research areas in other disciplines or sectors, in the transport domain as well as beyond. Outreach is twofold, firstly in ensuring its optimised integration in the future multimodal transport system and secondly in building on research activities in other sectors and industries.
- The ATM application-oriented research element will help mature new concepts for ATM beyond those identified in the ATM master plan as well as help mature emerging technologies and methods to the level of maturity required to feed the applied research conducted in the Industrial Research and Validation phase of SESAR.

Call ER1 with reference H2020-SESAR-2015-1

In 2015, the first call of the Exploratory Research Programme, fully funded under Horizon 2020 for an amount of 20,6 M€ ('ER1 Call' with Call reference H2020-SESAR-2015-1), was launched to enable continued work on conducting and consolidating innovative activities in order to achieve tangible results under the scope of:

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

The outcome of the call was an award for EUR 20,4 million and the selected projects will deliver the following objectives within the 2017-2019 timeframe:

Topic Description	Projects	2017	2018	2019
Automation, Robotics and Autonomy	AUTOPACE proposes research on a Psychological Model to quantitatively predict how automation would impact on human performance based on cognitive resources modelling, tasks characteristics (automation) and psychological factors modelling.		X	
	TACO aims to define an automated system sufficiently powerful to both accomplish complex tasks involved in the management of surface movements in a major airport and self-assess its own ability to deal with non-nominal conditions.		X	
	AGENT presents traffic alert and collision avoidance system and proposes the development of an Adaptive self-Governed aerial Ecosystem by Negotiated Traffic that provides mechanisms and tools for induced collision avoidance while dynamically creating virtual Ecosystems of aircrafts as soon as a conflict is forecasted.		X	

Topic Description	Projects	2017	2018	2019
	STRESS project will address various elements HP envelope, the real-time neurophysiological indexes, the guidelines and methods to match the HP envelope status with the highest possible level of automation, the monitoring of the controllers' mental status during automation failure.		X	
	MINIMA will research new human-automation interaction design concepts.		X	
Complexity, Science Information Management Data and	BigData4ATM will investigate how ATM and Aviation data can be analysed and combined with more traditional demographic, economic and air transport databases to extract relevant information about passengers' behaviour and use this information to inform ATM decision making processes.		X	
	DART (Data-driven Aircraft Trajectory prediction research) explores the applicability of data science and complexity science techniques to the ATM domain.		X	
	MALORCA project proposes a general, cheap and effective solution to automate re-learning, adaptation and customisation process to new environments, taking advantage of the large amount of speech data available in the ATM world.		X	
	BEST will determine how semantic technologies can be used effectively to maximise the benefits of adopting SWIM.		X	
Environment & Meteorology	TBO-MET project addresses the problem of analysing and quantifying the effects of meteorological uncertainty in Trajectory Based Operations.		X	
	ATM4E is to explore the scope for the potential reduction of air traffic environmental impacts in European airspace on climate, air quality and noise through optimization of air traffic operations.		X	
	PNOWWA project will produce methods for the probabilistic short-term forecasting of winter weather and enable the assessment of the uncertainty in the ground part of 4D trajectories.		X	
Economics & Legal Change in ATM	COCTA project proposes coordinated economic measures aiming to pre-emptively reconcile air traffic demand and airspace capacity.		X	
	Vista will examine the effects of conflicting market forces on European performance in ATM, through the evaluation of impact metrics on four key stakeholders and the environment.		X	

Topic Description	Projects	2017	2018	2019
	COMPAIR will investigate how to introduce competitive incentives in the ATM sector so as to best contribute to the achievement of the European high-level policy objectives for aviation.		X	
High Performing Airport Operations	MOTO will perform research on ATM Human Performance of using two senses: sight and hearing in the context of remote tower operations.		X	
	RETINA project will investigate the potential and applicability of SV tools and Virtual/Augmented Reality display techniques for the Air Traffic Control service provision by the airport control tower.		X	
Separation Management and Separation Standards	SALSA is an exploratory research project relating to multi-source ADS-B system.		X	
	R-WAKE aims at developing a simulation framework to assess the risk and hazards of potential wake vortex encounters for the en-route phase of flight.		X	
CNS & Enabling Infrastructure	NAVISAS project will propose a novel concept of APNT for small aircraft that will integrate novel technologies and will merge multiple navigation avionics into one with no major impact on avionics.		X	
	SAPIENT project addresses a new innovative application in the field of CNS/ATM system focusing exploitation of the synergies of Communications and Navigation technologies and the 4D trajectory management concept.		X	
Trajectory Based Operations (TBO)	OptiFrame will research a number of fundamental questions related to TBO, a key element of future ATM operating concepts.		X	
	COPTRA aims to propose, in a TBO, an efficient method to build probabilistic traffic forecasts on the basis of flight trajectory predictions.		X	
	PARTAKE will propose a causal model to enhance the potential synergies that could be achieved by exploiting to the maximum extend the gap provided by the strategic decision variables and the operational decision making at flight execution.		X	
Innovative ATM Architecture	PACAS will model and analyse changes at different layers of the ATM system to support change management, while capturing how architectural and design choices influence the overall system.		X	
ATM Performance	INTUIT will explore the potential of visual analytics, machine learning and systems modelling techniques to improve our understanding of the trade-offs between ATM KPAs.		X	
	AURORA will propose advanced metrics to assess the operational efficiency of the ATM system.		X	

Topic Description	Projects	2017	2018	2019
	APACHE proposes a new framework to assess European ATM performance based on simulation, optimization and performance assessment tools that will be able to capture complex interdependencies between KPAs at different modelling scales.		X	

Call ER2-RPAS with reference H2020-SESAR-2016-1

There are two work areas within the RPAS call launched in 2016. UAS/RPAS integration operational issues and UAS/RPAS integration technical issues.

- **UAS/RPAS integration operational issues** research aims at the development operational concept and requirements which support the operation of UAS and RPAS in the VLL and VFR environments without being constrained by pre-defined technology solutions. The SESAR Traffic Management (UTM) Concept Definition will develop an operational concept to enable the operation of drones of all capabilities in the very low-level (VLL) environment, while co-existing safely with existing manned aviation and respecting the needs of society at large. Work in this area will capitalise on on-going work carried out elsewhere (such as on-going work carried by JARUS, EASA and other stakeholders).
- **RPAS integration technical issues** research will address the feasibility of technology options which support UAS and RPAS operations and integration where required in the VLL and VFR domains. This Work Area will address the feasibility of technology options which support UAS and RPAS operations and integration where required in the VLL and VFR domains. Research should help mature emerging technologies for UTM – from advanced fields such as IT, telecoms, intelligent systems or robotics – which can be fast-tracked into providing solutions to specific problems that are core to the near term development of the EU drone industry. It should also help bridge SESAR UTM research with the wider scientific community and will provide the science necessary to support the safe integration of VLL drones, considering higher levels of automation.

Other future calls on Exploratory Research

Furthermore, the 2016 Annual Work Plan of the SJU identifies an additional Exploratory Research call ('ER3 Call' within the call with reference H2020-SESAR-2016-2 ER/VLD Open). This call is expected to deliver results in the domain of ATM application-oriented research topics, which builds on and complements the research topics already included in the ER1 call. The grants awarded in that context will deliver their results mostly in the period 2018-2019 with full closure by 2020. As indicated in the 2016 Annual Work Plan (and subject to the completion of the call procedure and successful awards of grants) these Exploratory Research projects cover the following range of activities:

- **Transversal Exploratory Research** will establish the **Knowledge Transfer Network** across ATM exploratory research, providing a coordinated exchange of research knowledge focussing on the assessment, transfer, communication and sharing of research results among the ATM community. The Network will support and encourage collaborative research on future and emerging innovative ideas, expertise and knowledge for the benefit of the future evolution of the European ATM system and its people, that will develop the mechanism to provide the required European ATM education & training as well as networking capability which can uniquely be created through SESAR and in the ATM Community as well as establishing effective knowledge transfer mechanisms – thus requiring

third party funding of related PhD research projects. The Network will also organise the interdisciplinary or themed network activities based around key ATM research subjects and SJU exploratory research projects with the aim to stimulate learning and the exchange of knowledge between academia, the research community and industrial partners. Introducing knowledge from other disciplines will encourage the exploration of innovative and unconventional ideas in ATM. The Network activities will cover all the topics, Key Features and transversal needs covered by ER projects in both research areas (ATM Excellent Science & Outreach and ATM Application-Oriented Research);

- **ATM application-oriented research** in ER3 will deliver new concepts for ATM beyond those identified in the ATM Master Plan as well as emerging technologies and methods to the level of maturity required to feed the applied research conducted in the Industrial Research and Validation phase of SESAR; thus connecting the ATM Exploratory Research to the ATM Applied Research in the context of the European ATM Master Plan.

Additionally, a further Exploratory Research call is planned to be launched in 2019 ('ER4 Call'). Subject to the completion of the call procedure and successful awards of grants, the Exploratory Research projects in that context should be launched into execution in Q4 2019 and would begin to deliver initial results in the 2020 timeframe. This call will build on and complement the research topics already included in the earlier ER calls in 2015 and 2016-2017 in both ATM Excellent Science & Outreach and ATM application-oriented research.

The SJU will comply with all provisions of H2020 Work Programme 2016-2017, including Annex L of 20. General Annexes related to open access to research data (see European Commission Decision C(2016)4614 of 25 July 2016).

2.2.2 Strategic Area of Operation 2: Deliver Industrial Research & Validation

During the reporting period, SESAR2020 Industrial Research and Validation (IR) activities will facilitate the migration of ideas from Exploratory Research and have them further extended in the Applied Research phase and finally to pre-industrial development, validation, large scale demonstration and then final preparation for deployment. Therefore, the main objective of this strategic area is to deliver SESAR Solutions derived from the ATM Master Plan and identified in the SJU's multi-annual work programme³.

Within IR, the S2020 programme will comply with all provisions of H2020 Work Programme 2016-2017. However, it should be noted that the S2020 programme will deliver results through the SESAR Solutions and not project by project. Therefore, it is not necessary for all IR projects to provide open access for all data, and IR projects will opt out of the provisions of Annex L of 20. General Annexes related to open access to research data (see European Commission Decision C(2016)4614 of 25 July 2016). This opt-out also aims to protect results that are expected to be commercially or industrially exploited.

In the period from 2017 to 2019 (covering Wave 1), the SESAR Solutions will be delivered through 17 industrial research and validation (IR) projects –subject to the results of grants awarded within the 2015 Restricted Call ('IR Wave 1 Call' within the call with reference H2020-SESAR-2015-2). There are new challenges deriving from an evolving concept of operations, new business models, integration of new air vehicle types and with the need for increased connectivity and digital information exchange for collaboration therefore an increased focus on cyber-security. These challenges are addressed across the IR projects in a fully integrated approach.

³ The exact scope and timeframe for the SESAR Solutions will be adapted with the award of the grants resulting for the various calls

The 17 IR projects (PJ.nn) are categorised according to Key Feature:

 Optimised ATM network services	PJ.07 Optimised Airspace Users Operations PJ.08 Advanced Airspace Management PJ.09 Advanced Demand & Capacity Balancing
 High-performing airport operations	PJ.02 Increased Runway and Airport Throughput PJ.03a Integrated Surface Management PJ.03b Airport Safety Nets PJ.04 Total Airport Management PJ.05 Remote Tower for multiple Airports
 Advanced air traffic services	PJ.01 Enhanced arrivals and departures PJ.06 Trajectory-Based Free Routing PJ.10 Separation Management En-Route and TMA PJ.11 Enhanced Air and Ground Safety Nets
 Enabling aviation infrastructure	PJ.14 CNS PJ.15 Common Services PJ.16 CWP – HMI PJ.17 SWIM infrastructures PJ.18 4D Trajectory Management

2.2.2.1 IR Projects Delivering Solutions Within ‘Optimised ATM Network Services’ Key Feature

The “Optimised ATM Network Services” Industrial Research and Validation projects aim at delivering the following results in the 2017 to 2019 timeframe. Each entry represents the achievement of an E-OCVM maturity level (V1, V2, or V3); an “S” represents the availability of the SESAR Solution.

SESAR Solution REF	SESAR Solution Title	2017	2018	2019
PJ.07-01	AU Processes for Trajectory Definition		V2	
PJ.07-02	AU Fleet Prioritization and Preferences (UDPP)		V1	
PJ.07-03	Mission Trajectory Driven Processes		V1	V2
PJ.07-04	AU Trajectory Execution from FOC perspective		V1	
PJ.08-01	Management of Dynamic Airspace configurations		V1	V2
PJ.08-02	Dynamic Airspace Configuration supporting moving areas			
PJ.09-01	Network Prediction and Performance		V1	V2

SESAR Solution REF	SESAR Solution Title	2017	2018	2019
PJ.09-02	Integrated Local DCB Processes		V2	
PJ.09-03	Collaborative Network Management Functions			V2

2.2.2.2 IR Projects Delivering Solutions in the ‘High-Performing Airport Operations’ Key Feature

The “High-Performing Airport Operations” Industrial Research and Validation projects aim at delivering the following results in the 2017 to 2019 timeframe. Each entry represents the achievement of an E-OCVM maturity level (V1, V2, or V3); an “S” represents the availability of the SESAR Solution.

SESAR Solution REF	SESAR Solution Title	2017	2018	2019
PJ.02-01	Wake turbulence separation optimization		V2	V3-S
PJ.02-02	Enhanced arrival procedures	V2	V3-S	
PJ.02-03	Minimum-Pair separations based on RSP			V3-S
PJ.02-05	Independent Rotorcraft operations at the Airport		V3-S	
PJ.02-06	Improved access into secondary airports in low visibility conditions	V1		V2
PJ.02-08	Traffic optimisation on single and multiple runway airports	V1	V2	V3-S
PJ.02-09	Enhanced Runway Condition Awareness	V1	V2	V3-S
PJ.02-11	Enhanced Terminal Area for efficient curved operation			V1
PJ.03a-01	Enhanced Guidance Assistance to Aircraft and Vehicles on the Airport Surface Combined with Routing	V2		V3-S
PJ.03a-03	Enhanced navigation and accuracy in low visibility conditions (LVC) on the airport surface		V1	V2
PJ.03a-04	Enhanced Visual Operations	V1		V2
PJ.03a-09	Surface operations by RPAS		V1	
PJ.03b-01	Enhanced Airport Safety Nets for Controllers		V1	V2
PJ.03b-03	Conformance monitoring safety net for Pilots			V3-S

SESAR Solution REF	SESAR Solution Title	2017	2018	2019
PJ.03b-05	Traffic alerts for pilots for airport operations			V3-S
PJ.03b-06	Safety support tools for runway excursions		V1	V2
PJ.04-01	Enhanced Collaborative Airport Performance Planning and Monitoring		V2	
PJ.04-02	Enhanced Collaborative Airport Performance Management	V1		V2
PJ.05-02	Remotely Provided Air Traffic Service for Multiple Aerodromes		V3-S	
PJ.05-03	Remotely Provided Air Traffic Services from a Remote Tower Centre with a flexible allocation of aerodromes to Remote Tower Modules			V2

2.2.2.3 IR Projects Delivering Solutions in the ‘High-Performing Airport Operations’ Key Feature

The “Advanced Air Traffic Services” Industrial Research and Validation projects aim at delivering the following results in the 2017 to 2019 timeframe. Each entry represents the achievement of an E-OCVM maturity level (V1, V2, or V3); an “S” represents the availability of the SESAR Solution.

SESAR Solution REF	SESAR Solution Title	2017	2018	2019
PJ.01-01	Extended Arrival Management with overlapping AMAN operations and interaction with DCB and CTA	V2	V3-S	
PJ.01-02	Use of Arrival and Departure Management Information for Traffic Optimisation within the TMA		V3-S	
PJ.01-03	Dynamic and Enhanced Routes and Airspace	V1	V2	
PJ.01-05	Airborne Spacing Flight Deck Interval Management		V2	
PJ.01-06	Enhanced Rotorcraft and GA operations in the TMA	V3-S		
PJ.01-07	Approach Improvement through Assisted Visual Separation	V1		V2
PJ.06-01	Optimized traffic management to enable Free Routing in high and very high complexity environments.		V3-S	
PJ.06-02	Management of Performance Based Free Routing in lower Airspace	V1		V2

SESAR Solution REF	SESAR Solution Title	2017	2018	2019
PJ.10-01a	High Productivity Controller Team Organisation		V2	V3-S
PJ.10-01b	Flight Centred ATC		V1	V2
PJ.10-01c	Collaborative Control		V2	
PJ.10-02a	Improved Performance in the Provision of Separation	V1	V2	V3-S
PJ.10-02b	Advanced Separation Management		V1	V2
PJ.10-04	Ad Hoc Delegation of Separation to Flight Deck		V2	
PJ.10-05	IFR RPAS Integration	V1		V2
PJ.10-06	Generic' (non-geographical) Controller Validations	V1		V2
PJ.11-A1	Enhanced Airborne Collision Avoidance for Commercial Air Transport normal operations - ACAS Xa			V3-S
PJ.11-A2	Airborne Collision Avoidance for Remotely Piloted Aircraft Systems – ACAS Xu	V1		V2
PJ.11-A3	ACAS for Commercial Air Transport specific operations – ACAS Xo	V1		V2
PJ.11-A4	Airborne Collision Avoidance for General Aviation and Rotorcraft – ACAS Xp	V1		V2
PJ.11-G1	Enhanced Ground-based Safety Nets adapted to future operations		V2	

2.2.2.4 IR Projects Delivering Solutions in the ‘Enabling Aviation Infrastructure’ Key Feature

The “Enabling Aviation Infrastructure” Industrial Research and Validation projects aim at delivering the following results in the 2017 to 2019 timeframe. Each entry represents the achievement of an E-OCVM maturity level (V1, V2, or V3); an “S” represents the availability of the SESAR Solution.

SESAR Solution REF	SESAR Solution Title	2017	2018	2019
PJ.14-01-01	CNS environment evolution		V1	V2
PJ.14-01-02	CNS Avionics integration		V1	V2
PJ.14-01-03	CNS Ground segment integration		V1	V2
PJ.14-02-01	FCI Terrestrial Data Link		V1	V2

SESAR Solution REF	SESAR Solution Title	2017	2018	2019
PJ.14-02-02	Future Satellite Communications Data link		V1	V2
PJ.14-02-04	FCI Network Technologies incl. voice solutions & military interfacing		V1	V2
PJ.14-02-05	Development of new services similar to FIS-B to support ADS-B solutions for General Aviation		V1	V2
PJ.14-02-06	Completion of AeroMACS development		V1	V2
PJ.14-03-01	GBAS		V1	V2
PJ.14-03-02	Multi Constellation / Multi Frequency (MC/MF) GNSS		V1	V2
PJ.14-03-04	Alternative Position, Navigation & Timing (A-PNT)		V1	V2
PJ.14-04-01	Surveillance Performance Monitoring		V1	V2
PJ.14-04-03	New use & evolution of Cooperative & Non-Cooperative Surveillance		V1	V2
PJ.15-01	Sub-regional Demand Capacity Balancing Service	V1	V2	V3-S
PJ.15-02	Delay Sharing Service		V2	V3-S
PJ.15-08	Trajectory Prediction Service	V1	V2	V3-S
PJ.15-09	Data Centre Service for Virtual Centres	V1	V2	V3-S
PJ.15-10	Static Aeronautical Data Service	V1	V2	V3-S
PJ.15-11	Aeronautical Digital Map Service	V1	V2	V3-S
PJ.16-03	Work Station, Service Interface Definition & Virtual Centre Concept	V1	V2	V3-S
PJ.16-04	Workstation, Controller productivity		V2	V3-S
PJ.17-01	SWIM TI Purple Profile for Air/Ground Advisory Information Sharing	V1	V2	V3-S
PJ.17-02	SWIM TI Federated Identity Management	V1	V2	V3-S
PJ.17-03	SWIM TI Green profile for G/G Civil Military Information Sharing			
PJ.17-07	SWIM TI Purple Profile for Air/Ground Safety-Critical Information Sharing			

SESAR Solution REF	SESAR Solution Title	2017	2018	2019
PJ.17-08	SWIM TI Common runtime registry	V1	V2	V3-S
PJ.18-01	Mission Trajectories		V1	V2
PJ.18-02	Integration of trajectory management processes in planning & execution	V1		V2
PJ.18-04	Management & sharing of data used in trajectory (AIM, METEO)			V2
PJ.18-06	Performance Based Trajectory Prediction	V1		V2

A second call related to Industrial Research & Validation ('IR Wave 2 call' within the call with reference H2020-SESAR-2019-2) will be in preparation in 2018, launched in 2019, and execution will take place during the period 2019-2021. This second IR call will enable the flexibility needed to align future research with the results of Wave 1, re-assess relative priorities and ensure the best value-for-money for the EU and delivery against SES goals. This call will also allow for the inclusion of those Solutions which have not been delivered within Wave 1 and of results of the outcome of Exploratory Research projects from ER1, ER2 and ER3 calls.

2.2.3 Strategic Area of Operation 3: Deliver Very Large Scale Demonstration Activities

The key role of Very Large Scale Demonstrations (VLDs) is to bridge the Research & Innovation with deployment, and not to replace either type of activity. VLDs use early versions of end-user systems (rather than pre-industrial prototypes) and include the integration of new technology elements into existing systems when needed and possible.

As Very Large Scale Demonstrations are designed to help fill the gap between development and deployment phases, they are at the boundary in terms of maturity transition from the Industrial Research & Validation and the industrialisation and subsequent deployment and will mostly derive from work matured through earlier phases of exploratory and/or Industrial research and validation.

Very Large Scale Demonstrations will be covered by 6 different calls:

- a first restricted call ('VLD Wave 1 call' within the call with reference H2020-SESAR-2015-2), the participation to which is restricted to the Members of the SJU, launched in 2015 and for which the grants have been established by the end of 2016,
- a first open call ('VLD Open call'⁴ within the call with reference H2020-SESAR-2016-2), launched at the end of 2016,
- a second open call focusing on geofencing ('Geofencing VLD call' with call reference SESAR-2017-1), to be launched in 2017,
- a third open call focusing on U-space ('U-space VLD call' with reference CEF-SESAR-2018-1) to be launched in early 2018,

⁴ As established in the 2016 Annual Work Programme, VLD Wave 1 Open Call will be launched in 2016 through a common procedure with the ER3 Call

- a second restricted call ('VLD Wave 2 call' within the call with reference H2020-SESAR-2019-2) the participation to which is restricted to the Members of the SJU, to be launched in 2019,
- a fourth open call ('VLD Open call 2'), to be launched in 2019.

The scope of VLD activities in 2017-2019 will include the following VLD activities⁵:

 Optimised ATM network services	PJ.24 Network Collaborative Management
 High-performing airport operations	PJ.28 Integrated Airport Operations (incl. TBS)
 Advanced air traffic services	PJ.25 Arrival Management extended to en-route Airspace
 Enabling aviation infrastructure	PJ.27 Flight Information Exchange PJ.31 Initial Trajectory Information Sharing

These projects are expected to deliver the following during the period:

VLD Deliverables 2017 -2019	2017	2018	2019
Demonstration Plan for FREE Routing operations and short term flight Plan update based on available airspace		X	
Demonstration Report for FREE Routing operations and short term flight Plan update based on available airspace			X
Demonstration Plan for Network Collaborative Management considering the Network Manager, Air Navigation Services, Airports and AUs Flight Operation Centres		X	
Demonstration Report for Network Collaborative Management considering the Network Manager, Air Navigation Services, Airports and AUs Flight Operation Centres			X
Demonstration Plan for Arrival Management extended to En-Route Airspace		X	
Demonstration Report for Arrival Management extended to En-Route Airspace			X

VLD Deliverables 2017 -2019	2017	2018	2019
Demonstration Plan for Flight Information Exchange		X	
Demonstration Report for Flight Information Exchange			X
Demonstration Plan for Integrated Airport Operations		X	
Demonstration Report for Integrated Airport Operations			X
Demonstration Plan for RNP Based Operations		X	
Demonstration Report for RNP Based Operations			X
Demonstration Plan for ATM Improvements Generated by Initial Trajectory Sharing (Extended Projected Profile)		X	
Demonstration Report for ATM Improvements Generated by Initial Trajectory Sharing (Extended Projected Profile)			X

Within VLD, the S2020 programme will comply with all provisions of H2020 Work Programme 2016-2017. However, it should be noted that the S2020 programme will deliver results through the SESAR Solutions and not project by project. Therefore, it is not necessary for all VLD projects to provide open access for all data, and VLD activities will opt out of the provisions of Annex L of 20. General Annexes related to open access to research data (see European Commission Decision C(2016)4614 of 25 July 2016). This opt-out also aims to protect results that are expected to be commercially or industrially exploited.

2.2.4 Strategic Area of Operation 4: Deliver Transversal Steering & SESAR Outreach

SESAR2020 activities are undertaken within a common structured framework to help develop key topics relevant for Air Transport evolution, and to enable transition from Exploratory Research to Industrial Research & Validation as well as migration from Industrial Research to Pre-Industrial Development. This framework applicable to the industrial research and validation relies on three elements:

- The European ATM Master Plan: within the framework of the Single European Sky (SES), the European ATM Master Plan is the main planning tool for defining SESAR, related modernisation priorities ensuring that the SESAR Concept of Operations (see below) becomes a reality. The Master Plan is an evolving roadmap building on SESAR results and solutions and a strong collaboration between all European ATM stakeholders. The Master Plan details not only a high-level view of what is needed to be done in order to deliver a high performing ATM system, but also explains why and by when. It therefore sets the framework for the development and deployment activities performed by the SESAR Project either by the SESAR Joint Undertaking with SESAR2020 or the SESAR Deployment Manager in accordance with the Deployment Programme to ensure overall synchronisation, consistency and alignment;
- Steering activities:
 - o Concept of Operations and Architecture activities ensure that the overall SESAR ambition level outlined in the European ATM Master Plan can be implemented by operational and

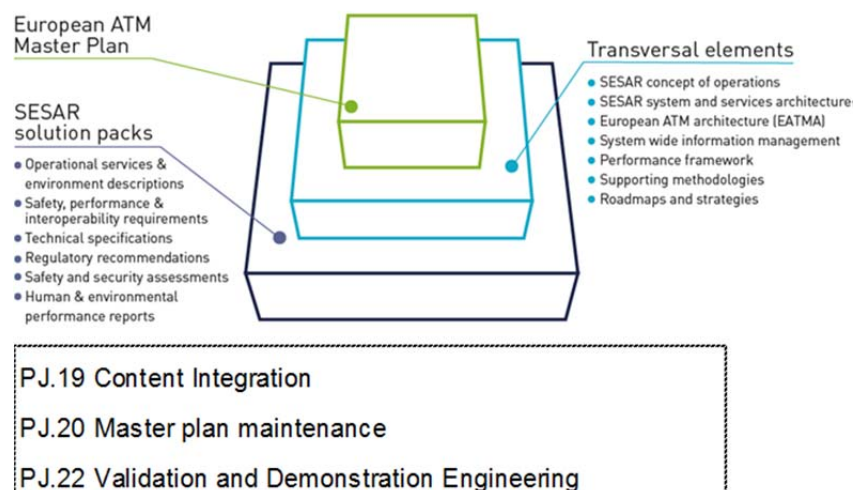
technical teams working on the development activities with a clear validation targets and targeted operation scenarios in mind. It is also at this level that the desired evolution of the high-level architecture is cross-checked with the results of the validation activities.

- o SESAR Solutions Packs: The SESAR Project Lifecycle of ATM Modernisation (Definition, Development and Deployment) represent all the activities for the definition and production of the deliverables and their grouping into SESAR Solutions. As the SESAR Project is driven by the Performance Framework, Business Case feasibility with a deployment focus, the overarching and transversal domains such as activities on Concept and Architecture are being conducted on a continuously iterative basis throughout the SESAR Project Lifecycle and feedback from Deployment experiences is necessary to ensure robustness.

In the period from 2017 to 2019, and in continuation with the activities in 2016, the execution of this framework is supported by the three following projects – subject to the results of the grants awarded within the 2015 IR Wave 1 call:

- PJ.20 'ATM Master Plan maintenance', covering the maintenance of the ATM Master Plan,
- PJ.19 'Content integration', covering the required coordination of IR projects to develop the concept of operations, architecture and performance, and align with the ATM Master Plan,
- PJ.22 'Validation and Demonstration engineering', covering the maintenance of programme-wide V&V infrastructure information.

These projects will work very closely with the SJU and with the support of external contractors in order to provide an additional level of independence and external assistance to de-risk the delivery of SESAR Solutions.



The execution of this framework in relation to the execution of the ATM Master Plan is supported by the three above projects dealing with transversal activities. During the period of 2017-2019 (and subject to the award of grants resulting from the Industrial Research call issued in 2015) these projects will work very closely with the SJU and with the SESAR Delivery Support Service contractor to deliver the following elements of the above mentioned framework:

Transversal Deliverables 2017 -2019	2017	2018	2019
Concept of Operations		X	
Concept of Operations Update			X

Transversal Deliverables 2017 -2019	2017	2018	2019
Validation Strategy	X		
Validation Strategy Update			X
Architecture Description Document	X	X	X
ATM Information Reference Model	X	X	X
ATM Information Reference Model Update 2			X
Information Service Reference Model	X	X	X
SESAR Lexicon		X	X
Performance Framework	X	X	
Validation Targets	X	X	
Consolidated Performance Assessment and Gap Analysis		X	
EATMA guidance material and report	X	X	X
EATMA Portal and model release notes	X	X	X
Integrated Roadmap Data Set	X	X	X
Update of Master Plan Level 1		X	
Update of Master Plan Level 2	X	X	X
Update of Master Plan Level 3	X	X	X
Update to Standardisation Roadmap	X	X	X
Update to Regulatory Roadmap	X	X	X
Consolidated Business Case		X	X
Validation Data Management Platform and Services	X	X	X
Validation Data traceability and coverage reports	X	X	X
Validation & Demonstration Platform Development methodologies			X
Technical Specifications for communalized and interoperable Validation tools			X

In addition to the above, stakeholder engagement with public and private sector organisations as well as with the International Civil Aviation Organisation (ICAO) will be even more critical for the SJU tasks of definition (Master Plan) and development (SESAR2020) in the 2017-2019 period. Collaboration will therefore continue to be further developed to secure stakeholder engagement (in particular European Airports, Airspace Users, Professional Staff Organisations, and National Authorities, as well as Regions), the overall commitment to the Master Plan and the development work addressed in SESAR2020.

The global interoperability and harmonisation efforts with other modernisation programmes will be growing in both detail and numbers based on the latest demand and in the light of the recognised and visible SESAR brand of alignment and support to the ICAO GANP/ASBU's.

The need for dissemination of SESAR solutions progress at dedicated events and then jointly with European and global partners will increase and will be crucial to prioritise development and to secure support to the needed level of global interoperability and harmonisation.

A special mention shall be given to the priority to continue the ongoing close collaboration with the U.S. FAA/NextGen Programme and the established links with Standard Making Organisations like EUROCAE, RTCA etc. to support standardisation with SESAR material and to ensure alignment of priorities in relation to SESAR2020, the ATM Master Plan and the ICAO GANP.

Closer cooperation with the Clean Sky 2 JTI will also continue in order to enable and enhance coordinated contributions to the Aviation Strategy from both ATM operations and Air Vehicle performance perspectives.

All above will continue in close coordination with the EC and within the context of the EU's external aviation policy framework to prepare and validate interoperability standards and other relevant technical agreements.

Finally, since 2017-2019 will be critical as well in terms of realising SESAR ambition through the deployment, the SJU will continue the close collaboration with the SESAR Deployment Manager to fully articulate and connect the full SESAR lifecycle of SESAR Solutions Definition, Development and Deployment in line with the areas identified in the cooperation agreement signed between the two parties.

2.2.5 Strategic Area of Operation 5: Deliver effective financial, administrative and corporate management

Management and administrative services are brought together primarily under this area of operation to ensure that core horizontal activities are planned, implemented, monitored and reported in a coherent and consistent way to facilitate efficient and effective delivery of SJU's work programme and to ensure sound financial & resource management. The integration of the organisation based on the mission, vision and the values of the SJU will also continue, aligning the capabilities of the organisation, technology and the extensive competencies of its human capital in order to maximise its added value.

This below table details the broad objectives for a number of the SJU's corporate service and administrative goals for the period 2017-2019 and summarises the projected improvements to the SJU's capabilities at the conclusion of the reporting period in 2019. More detailed corporate services deliverables for 2017 are outlined within sections 3.1.5 and 3.2.

2017-2019 Corporate Services Objectives	2017-2019 Enabling Activities	Projected Outcome(s) in 2019
Continuously align operational and strategic planning as well as capabilities of the organisation to best serve stakeholders' needs.	Ensure full regulatory compliance with reporting obligations and ensure production of relevant and accurate management information (from establishing Regulation, H2020, FFR etc.)	-Revised annual planning and reporting timetable in place -Regular and accurate management information reports produced
	SJU's IA function will continue to objectively examine, evaluate and report on the adequacy of SJU's internal controls as a contribution to the proper, economic and effective use of its resources	Full cooperation with external auditors and compliance with all audit recommendations
Continuously improve management and efficiency of resource allocation through the introduction of industry best practices and standards	Develop and further strengthen the SJU's finance and procurement procedures in line with relevant EU norms, guidance and best practice	Systematic achievement of budgetary implementation goals
	Identify key business areas and processes that need improvement, diagnose and analyse the reasons behind poor performance, plan and implement changes necessary to improve performance in a quantifiable or measurable way	Full Implementation of Quality Management System based on applicable standards
Develop and maintain strong corporate culture and positive image to its stakeholders and the EU institutions	Promote & maintain a positive image of the SJU through effective communication and leadership	-Quality improvement ethos embedded into all SJU's processes -Influence all staff to create positive perceptions of SJU
	Promote & maintain a positive image of the SJU through effective external communications (including outreach programmes and legal and statutory reporting obligations)	Cohesive & coherent corporate identity to maintain positive perceptions of the SJU through the execution of the COM strategy
Retain and continuously develop staff of the SJU through robust knowledge and skills management	-Identify, attract, develop & retain talented employees and ensure they are developed through the appropriate learning opportunities.	Individual and team commitment to the SJU consistently aligned through the provision of knowledge sharing, development and training opportunities

2.3 Financial Resource Outlook 2017 - 2019

In accordance with the Regulation extending the SJU and implementing financing over the perspective 2014-2020, an overall funding of EUR 585 million is available from H2020 research funds. In addition, the SJU has been entrusted,

- under delegation agreement EC/SESAR JU ref. MOVE/E3/DA/2016-669/SI2.743803 signed on 06/12/2016⁶, a EUR 500.000 assigned revenue to organise a call for a geofencing demonstration,
- an additional EUR 800 000 assigned revenue expected by end 2017 from the Commission to procure a study to develop a proposal for the future architecture of the European airspace⁷, and
- an additional EUR 10 million assigned revenue expected by end 2017 from the Commission from the Connecting Europe Facility (CEF) funds for a U-space demonstration⁸.

This section has been developed on that basis and on certain assumptions regarding the staff and financial resources that will be available to SJU in the period 2017-2019.

2.3.1 Funding Exploratory Research

This phase of research is wholly funded from H2020 funds (max 85 M€) and done in full compliance with H2020 and its relevant Rules of Participation. Once SJU running costs (maximum 5%) are taken into account, the preliminary estimate of funding available for research allocated across multiple calls will be up to 81 M€.

Call 1 for core ATM activity ('ER1 call' with Call reference 2015-1) has been launched in 2015 and resulted in a total funding of up to 20,4 M€. A separate call for Exploratory Research RPAS activities ('ER2-RPAS' with Call reference 2016-1) has been launched in 2016 with grants awarded for a maximum of 9 M€, and a third call (the second for core ATM activities, namely 'ER3 call' within the call with Call reference 2016-2, which is an open call) was launched in 2016 for 10 M€, amounting to a total of up to 39,4 M€ for ER. One or several further ER call(s) ('ER4 call') for the remaining budget is/are planned in 2019 with the launch of Wave 2 activities up to a maximum amount of c. 42 M€.

2.3.2 Funding Industrial Research, Very Large-scale Demonstrations, Transversal Activities and SESAR Outreach

The joint undertaking is co-financed by contributions from both the Members and EUROCONTROL through in-kind contributions and in accordance with the H2020 Regulation and the financial rules. The total EU funding available for the Members is proposed to be 398 M€, divided across Industrial Research & Validation and Very large Scale Demonstrations (VLD).

It is extremely important for its success to have an appropriate allocation of funding across the key features (allocated per project) as well as an indicative breakdown per major stakeholder type, specifically Airborne Systems, Ground ATM Systems and Service Provision. The detailed provision of the funding breakdown and corresponding activities is detailed in the Multi-Annual Work Programme, while the key elements are outlined below.

From the total maximum co-financing for Wave 1 and Wave 2 Industrial Research and VLD projects, 62,5 M€ are expected to be used for funding the VLD projects with the SJU Members, out of which

⁶ In accordance with Articles 54(2)(a) and 58(1)(c)(iv) of the Financial Regulation

⁷ Subject to the signature of a Delegation Agreement between the SJU and the Commission

⁸ Subject to the signature of a Delegation Agreement between the SJU and the Commission

42 M€ for Wave 1. The contribution of SJU Members to VLD projects for Wave 2 cannot be properly defined today, but co-financing will be established using the remaining funding reserve (up to 20,5 M€).

The distribution of funding across Wave 1 and Wave 2 for Industrial Research (including transversal activities) is estimated as a 65:35 split in favour of Wave 1 (Budget Title 3.3, restricted to SJU Members). The call supporting Wave 1 was launched during 2015 (Call reference 2015-2) with projects forecast to begin in Q4 2016. The second call supporting Wave 2 is expected to be launched in early 2019 to facilitate transition of results into Wave 2 and to establish Wave 2 Demonstration activities in good time. However, since the EU contribution for Wave 2 will only be available from the 2019 Budget onwards, budget commitments and actual Wave 2 activities will not commence before 2019.

In addition and in order to complement activities organised through a restricted call limited to the Members of the SJU, additional contributions will be required in order to operate large-scale demonstrations as well as to cover global demonstration activities; this additional resource is expected to be secured through open calls and an allocation of 37,8 M€ has been reserved (including the amount of 0,5 M€ specifically for demonstration (VLD) activities related to geofencing through a 'VLD Geofencing call' with Call reference 2017-1). The timing of calls for this activity is largely driven from the needs of the demonstration activity planning which will be finalised during the restricted IR-VLD call for Wave 1 ('Wave 1 IR-VLD Call'). As a consequence, it is expected that beyond the VLD open call in 2016 (with Call reference 2016-2) for 18 M€ and the VLD Geofencing call in 2017, there will be a further call in 2019 (with an estimated budget of 19,3 M€ part of the total 78,1 M€ 2019 Budget Title 3.1).

Furthermore, the SJU expects to be entrusted 2 mandates from the Commission (subject to the signature of the corresponding Delegation Agreements by the SJU and the Commission by end 2017):

- a EUR 800 000 assigned revenue to procure a study to develop a proposal for the future architecture of the European airspace⁹, and
- a mandate to manage a U-space demonstration activity in 2018-2019 for an amount of EUR 10 million through the 'U-space VLD call' with Call reference 2018-1.

Finally, as in 2016 a set of activities aiming at supporting the outreach of SESAR, securing stakeholder engagement and de-risking the delivery of the SESAR Solutions, will have been launched for the duration of Wave 1 for a total of 24,6 M€ (e.g. SESAR Development Support Services, Airspace Users expertise, Airports and Professional Staff Organisation's expertise etc.), then a second batch of such calls is expected to be launched in 2018/2019 for the duration of Wave 2 activities (part of the total 78,1 M€ 2019 Budget Title 3.1).

2.3.3 Funding for Staff and Administrative Activities for 2017 - 2019

Title 1 (Staff) and Title 2 (Administrative) expenditure are maintained at comparable levels to previous years for 2017, then reduced with 2 CAs positions (see 2.4 below) as from 2018. As for SESAR1, these "Running costs" of the SJU are expected to remain well below 5% of the Members' total contributions to the SJU for SESAR2020.

The costs for 2017-2019 in Title 1 take into account two additional Contract Agents Function Group IV limited to the 2016 and 2017 period and the costs related to increase of salaries and reclassifications. Consequently, the costs for 2017-2019 in Title 1 have been maintained practically

⁹ Subject to the signature of a Delegation Agreement between the SJU and the Commission

at the same level as 2016 with slight reductions from 2018 onwards stemming from a gradual reduction of interim and other staff costs after 2017. From 2017 onwards, Title 1 expenditure is exclusively funded through SESAR 2020.

Within Title 2 the budget for 2017 includes, in particular and in addition to the usual cost basis, costs required to cover IT projects brought forward from later years and is offset by revenue from EUROCONTROL (part of the transformation exercise towards standardisation and IT architecture alignment), the implementation and maintenance of the document management system and the revised costs of public relations and events in support of the new U-space activities.

2.4 Human Resources Outlook 2017 - 2019:

During the period 2017–2019, the SJU staffing figures will evolve.

The positions requested for 2017-2019 remain thus in total 39 Temporary Agent positions filled by personnel recruited under the following types of contracts:

- TAs contracts, for positions requesting long-term duration contracts, and CAs contracts for some administrative support functions,
- Secondments of personnel of SJU Members to the SJU in accordance with Article 8 of the SJU Statutes, especially where specific highly specialized and technical skills in the SESAR domain are requested for the position. The secondment from the members constitutes a highly flexible mechanism to attract skilled experts, with contracts with specific duration and a low risk scheme.

In addition, the Administrative Board authorized 3 SNEs positions where Member States' experience is requested. This expertise from the Member States air transport administrations will remain across the period 2017-2019 in the area of Master Planning, Regulatory Affairs and ATM.

Furthermore, in order to secure that the technical and budgetary effort done to successfully close the 2007-2016 work programme (SESAR1), and start SESAR 2020 and set up the new membership following the extension of the SJU is not compromised by a lack of sufficient legal and financial expertise, it has been accepted in 2015 by the Budgetary Authority to have a temporary reinforcement of the SJU capacities in the Financial and the Legal and Procurement Sectors, through the exceptional and temporary support of 2 additional Contract Agents (Function Group IV), 1 with financial background and 1 with legal background, exclusively during the 2016 and 2017 exercises and within budget. These staff needs remain in 2017 and could not be met by internal redeployment in the sense that almost all positions in the staff establishment plan were filled by end 2015, as demonstrated in Annex 3.

The anticipated evolution of both staff and budget allocations for the period 2017 – 2019 is presented in Annexes II and III.

3 Section III – Work Programme for 2017¹⁰

3.1 Work Programme 2017 Overview

In 2017, the SJU will continue through SESAR2020 to coordinate and manage research and innovation, including projects undertaken by its renewed membership, open calls for proposals under Horizon 2020 rules and open calls for proposals under other financial provisions. There is expected to one new call for proposals resulting in the award of grant(s) in 2017 as well as the need to continue the coordination and management activities on the calls for proposals launched in 2015 and 2016.

The grant amendment process for Wave 1 projects described in detail in section 3.1.6.1 will be implemented during the course of 2017. The payment amounts of these next instalments - to be recalculated by simple proportion of the activities performed under each project and of the SJU budget available - shall be formalised by grant amendments.

Stakeholder engagement is critical to the successful delivery of SJU's mandated goals. As such, there is a need to embed further the strategic and systematic approach to civil and military stakeholder engagement and management across the SJU in 2017. To do this, the SJU will continue to engage in partnerships with relevant actors in order to foster operational and policy coherence and to influence policies and actions that can have a positive benefit on the execution of SJU's mandate and that of its main stakeholders. Such partnerships will include, inter alia, EU institutions, ICAO, other regional R&D programmes (such as NextGen or CARATS), standardisation bodies and third-party organisations. SJU will continue as well to undertake effective outreach through the delivery of clear, targeted and effective communications on the SJU's activities to all its external stakeholders, increasing the visibility, credibility and accurate understanding of the SJU's work and mandate, leading to a significantly increased visibility of the SJU as an important stakeholder in the modernisation of the European air traffic management (ATM) system. Interaction with the European GNSS Agency (GSA) will also be strengthened in order to assure coordination on activities relevant for the EU GNSS (EGNOS/Galileo).

The European ATM Master Plan, the agreed roadmap driving the modernisation of the Air Traffic Management system and connecting SESAR R&I with deployment, is the key tool for SESAR, providing the basis for timely, coordinated and efficient research and deployment of new technologies and procedures. The maintenance and execution of the European ATM Master Plan, as defined in the SJU Regulation, are consequently at the heart of the SJU activities. There are two elements of this goal in 2017. Firstly, the maintenance of the ATM Master Plan and the alignment of its three levels; this activities will include ensuring that the ATM performance needs and expectations are correctly established at the highest level and can flow into the programme to drive research and deployment prioritisation. Secondly, preparatory work must continue for the next scheduled update of the Master Plan in 2018.

¹⁰ The content of the SPD annual work programme section includes the required content of a Work Plan as referred to in Article 16(1)(b) of Council Regulation (EC) No 219/2007 as amended. This term corresponds to the term "work plan" defined in Article 2(1)(22) of Regulation (EU) No 1290/2013 of the European Parliament and of the Council of 11 December 2013 laying down the rules for participation and dissemination in "Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)" ('Rules for Participation Regulation No 1290/2013') (OJ L 347, 20.12.2013 p.81): "the document similar to the Commission work programme adopted by funding bodies entrusted with part of the implementation of Horizon 2020 in accordance with Article 9(2) of Regulation (EU) No 1291/2013"

During the course of the year, the SJU will also continue to align the capabilities of the corporate services elements of its organisation to support the delivery of SESAR project activities. The challenge for the SJU in 2017 is the continued development and consolidation of SJU support processes, with an emphasis on further developing their efficiency and effectiveness in line with best practice within the overall operating framework of H2020.

Following the closure of all SESAR1 projects under implementation by 31 December 2016, the SJU will also ensure that there is a transparent and effective full administrative closure of SESAR1. In addition to ensuring archiving of relevant material, this will also involve, inter alia, ensuring that all ex-post project audits and control reports are finalised, all potential irregularities are sufficiently clarified and recovered and any remaining payment claims to Members processed.

To meet the challenges above, specific activities for 2017 are broken down into their corresponding strategic area of operation below. For each strategic area of operation, corresponding to those outlined in section II, the SJU has set itself ambitious objectives and targets for the year, to be measured where possible through quantifiable performance indicators that will be reported against in the SJU's consolidated annual activity report for 2017. It should be borne in mind that all information contained within this SPD document, particularly that relating to budgeting and resource allocation, remains provisional subject to its final adoption by the Budgetary Authority.

3.1.1 Strategic Area of Operation 1: Deliver Exploratory Research

In addition to those specific ER deliverables outlined within the multi-annual section of the SPD, the SJU has identified a number of other objectives to be delivered during 2017 which are outlined in the table below:

Key Performance Indicators for Strategic Area of Operation 1 in 2017

2017 Objectives	Indicators	Target 2017
Call reference H2020-SESAR-2015-1 (ER1 Call) projects execution: delivery of initial results	Percentage of ER1 projects initial results published in 2017	Initial results from 20% ER1 call projects published
Call reference H2020-SESAR-2016-1 (ER2 – RPAS Call): launch all projects into execution	Percentage of ER2 projects launched in 2017	100% ER2 awarded projects launched
Call reference H2020-SESAR-2016-2 (ER 3 Call): evaluation, grant preparation & signature, projects launched into execution	Percentage of ER3 projects launched in 2017	At least 60% ER3 awarded projects launched

3.1.2 Strategic Area of Operation 2: Deliver Industrial Research and Validation

In addition to those specific deliverables outlined within the corresponding multi-annual section, the SJU has identified a number of other objectives to be delivered during 2017 which are outlined in the table below:

Key performance indicators for Strategic Area of Operation 2 in 2017

2017 Objectives	Indicators	Target 2017
Call reference H2020-SESAR-2015-2 (IR Wave 1 Call): all projects launched into execution & relevant grant amendments completed	-Percentage of Wave 1 projects launched in 2017 -Percentage of Wave 1 grant budgets amended (see 3.1.6)	-100% Wave 1 awarded projects launched -100% of relevant grants amended
Execute validation exercises of	Percentage of Release 7	50% Release 7 validation

2017 Objectives	Indicators	Target 2017
Release 7 - 1 st Release under S2020	completed in 2017	exercises completed in 2017

3.1.3 Strategic Area of Operation 3: Deliver Very Large Scale Demonstration Activities

In addition to those specific deliverables outlined within the corresponding multi-annual section, the SJU has identified a number of other objectives to be delivered during 2017 which are outlined in the table below:

Key performance indicators for Strategic Area of Operation 3 in 2017

2017 Objectives	Indicators	Target 2017
Call reference H2020-SESAR-2015-2 (VLD Wave 1 Call): all projects launched into execution & relevant grant budget amendments completed	-Percentage of Wave 1 projects launched in 2017 -Percentage of Wave 1 grants amended for maximum amount (see 3.1.6)	-100% Wave 1 awarded projects launched -100% of relevant grants amended
Call reference H2020-SESAR-2016-2 (VLD Open Call): evaluation, Grant preparation & signature, projects launched into execution	Percentage of VLD projects launched in 2017	At least 60% 'Wave 1 VLD Open' awarded projects launched
Call reference SESAR-2017-1 (VLD Geofencing call): preparation, launch and evaluation	Call preparation finalised for call launch	All call material prepared and call launch effective by 15 th September 2017
Call reference CEF-SESAR-2018-1 (U-space VLD call) preparation	Call preparation finalised allowing for call launch in early 2018	All call material prepared by 31 st December 2017

3.1.4 Strategic Area of Operation 4: Deliver Transversal Steering & SESAR Outreach

In addition to those specific deliverables outlined within the corresponding multi-annual section, the SJU has identified a number of other objectives to be delivered during 2017 which are outlined in the table below:

Key performance indicators for Strategic Area of Operation 4 in 2017

2017 Objectives	Indicators	Target 2017
IR Wave 1 Call: all Wave 1 Transversal projects launched into execution & relevant grant amendments completed	-Percentage of Wave 1 projects launched in 2017 -Percentage of Wave 1 grants amended for maximum amount (see 3.1.6)	-100% Wave 1 awarded projects launched -100% of relevant grants amended
Strengthen the cooperation with the Deployment Manager to fully articulate and connect the full SESAR lifecycle of SESAR Solutions Definition, Development and Deployment	-Implementation of Memorandum of Cooperation with DM in 2017	- Alignment of the Master Plan and Deployment Programme to ensure continuous connection between SESAR research, development, innovation and validation activities and SESAR deployment and to ensure that common projects and the deployment programme are in

2017 Objectives	Indicators	Target 2017
		line with the ATM Master Plan; - Establish a joint Communications approach under the SESAR brand.
Strengthen the Global Interoperability activities aligned with EC expectations, especially towards ICAO in close collaboration with U.S. FAA/NextGen and other global modernisation initiatives	- Coverage of GANP ASBU modules aligned and agreed with NextGen; - State of Harmonisation reflected in the MP Edition 2017 including coverage of GANP ASBU modules; - Common timelines agreed between SESAR & Next Gen on VLDM2 transition.	- SJU input provided to ICAO for GANP 2019 update; - Ambassador role of the Master Plan to be further strengthened.
Strengthen links towards Standard Making Organisations like EUROCAE, RTCA etc. with the involvement of SESAR members and the availability of SESAR material in support of standardisation.	- Alignment of priorities in standards developments with the ATM Masterplan and S2020 needs.	- Updated standardisation roadmap; - SJU active participation to EASCG, EUROCAE Council and TAC to ensure alignment of the work programmes; - SESAR Member/Project contribution to standards development groups.
Strengthen dissemination of SESAR solutions/demonstrations through SESAR publications, communications events.	- SESAR dissemination and demonstration events.	- SESAR Innovation Days; - SESAR Solutions workshop; - SESAR Demonstration workshop.
	- SESAR participation to relevant ATM events	- ATC Global 2017; - World ATM Congress 2017; - ICAO ANC/13.
	- SESAR Publications	- SESAR e-news published.
Active cooperative arrangement with all European (Member States and Regions), International actors and other modernisation initiatives in Aviation relating to SESAR Definition and Development	- Active cooperative arrangements or agreements with European (Member States and Regions), International actors and other ATM modernisation initiatives	Actors and initiatives to be addressed in priority: - ACI - Clean Sky JU - EASA - EDA - ESA - European GNSS Agency (GSA) - EUROCAE - ICAO - FAA - ...
Strengthen coordination with relevant Master Plan stakeholders	- Continued coherence between all 3 levels of MP	- at least 2 meetings of the Master Planning Committee held

2017 Objectives	Indicators	Target 2017
Continue to address identified R&D needs and gaps to secure safe integration of Drones	- Minor update of the MP to secure the full coverage of SESAR as the vehicle to safely integrate drones in all classes of airspace with a particular focus on very low level operations and drones traffic management “UTM”; - SESAR UTM programme defined and ready to be initiated subject to appropriate funding	-Elements related to the safe integration of Drones in all classes of airspace are well covered by the Master Plan
Complete preparatory activities for the next significant update of the Master Plan	- Secure implementation of ADB decision on MP 2015 (implementation of EC comments) - Campaign charter ready to allow efficient campaign in 2018	-SJU ready to launch the next major update campaign in 2018
Provide support to EC on other areas linked to the technological pillar of the SES	-Requested reports are provided to the EC in time and with the right level of quality	- Answer specific requests from EC - Secure timely delivery of a robust Common Project 2 proposal - Develop a proposal for the future architecture of the European airspace

3.1.5 Strategic Area of Operation 5: Deliver effective financial, administrative and corporate management

In addition to those specific deliverables outlined within the corresponding multi-annual section, the SJU has identified a number of other objectives to be delivered during 2017 which are outlined in the table below:

Key performance indicators for Strategic Area of Operation 5 in 2017

2017 Objectives	Indicators	Target 2017
Effective support for EU's interim review of H2020 implementation	Provide full support for EC team during evidence gathering phase of H2020 review	- Ensure support to EU review enables on-time delivery
Compliance with EC reporting requirements	Ensure that relevant data is kept up to date to achieve full compliance in SJU with relevant H2020 reporting obligations	- Full compliance with H2020 reporting obligations for JUs concerning Industrial Leadership, Societal Challenges and Cross-Cutting Issues (annexes II & III of Council Decision 2013/743/EU) - Full compliance with EC reporting requirements (as per SJU establishing Regulation, FFR etc...)
Improve SJU's corporate,	- Ensure SJU corporate	- Corporate performance reports

2017 Objectives	Indicators	Target 2017
financial, HR & programme reporting & management information	reporting complies with all relevant regulatory guidelines and deadlines - Deploy and monitor the Quality Management System - Implement and deploy the Corporate Information & Document Management policy	produced quarterly - Quality Management System fully deployed and monitored throughout 2017 - Corporate Information & Document Management policy implemented by the end of 2017
Balancing payments to Members & beneficiaries	Percentage of SESAR1 balancing payments executed in a timely manner	- 100% SESAR1 IFS 2016 payments made
Administrative closure of SESAR1 delivered on time	SESAR1 formally closed during the reporting period	- Completion of all SESAR1 projects closure dossiers in 2017
Financial wind-up of SESAR1 to be completed on time	Financial closure of SESAR1 to be completed during 2017	- 2016 Annual Accounts finalised and approved
SESAR1 material archived	All SESAR1 data archived in line with best practice	- 100% SESAR1 data archived in line with applicable standards

3.1.6 Calls and Grants Management in 2017

3.1.6.1 Calls and Grants Management within H2020 set of rules

3.1.6.1.1 SJU Grant Amendment Procedure for Wave 1 IR and VLD Call

The procedure described in Annual Work programme 2016 will be complemented by the recently published grant amendment procedure for adjustment of maximum grant amount and associated EU contribution. The detailed H2020 procedure details are not repeated here.

Since the first IR/VLD call for proposals (Wave 1) had a total value of 260,075 M€ and the available funding for grants awarded before 2017 was limited to 50 M€ (+1,47 M€ EFTA contributions) a grant amendment procedure was introduced in the Amendment number 1 of the Annual Work Programme 2015, adopted by the Administrative Board on the 23/10/2015. This procedure, further detailed in the Annual Work Programme 2016 will be used in order to revise all complementary grants of call 2015-2 (Wave 1 IR-VLD) and applies from 2017 onwards and until the full funding of the grants are committed.

Consequently, for each project a complete Wave 1 description of action (i.e. running until 2019), in line with the approved SESAR Multi-Annual Work Programme, is to be attached to the grant agreement along with the corresponding total eligible costs proposed by the Grant Coordinator.

The description of each action will have an adequate level of detail, in particular for the activities to be initiated in the shortest term after the beginning of the project, in order to ensure that during the grant preparation phase the grant coordinator and all other beneficiaries, can identify the work that will be performed along with the associated deliverables under the first funding instalment.

The funding of projects/actions will be done in two or more instalments to be defined according to the estimated costs of the project activities over time and limited to the budget available to the SJU at that time. The availability of the next instalments - in proportion of the activities performed under each project and of the SJU budget available - shall be formalised by grant amendments in

accordance with the procedure described below.

In summary, once additional EU funding is made available to the SJU, in line with the SJU Financial Rules and H2020 grant amendment procedures, the SJU will first coordinate with the beneficiaries and grant coordinators and then trigger the grant amendment process:

- On the basis of the regular reporting made by the SJU members under both the Membership Agreement and the respective Grant Agreement(s), the SJU will analyse the financial and technical results of work undertaken with the first 50 M€ awarded across the projects;
- As a result, the SJU will initiate a request for Grant Amendment, in accordance with H2020, and invite the grant coordinators to submit detailed information on the use of the next available funding instalment to perform the subsequent part of the work under the project;
- This information will be evaluated by the SJU in order to check that the detailed information also remains coherent with the approved description of action and that if any scope amendment is required, it is properly identified, triggered and considered. This will be progressed in accordance with the H2020 grant amendment rules and timeline;
- As a result, grant(s) will be amended as needed, reflecting the detailed information submitted by the grant coordinators in particular regarding the reporting periods and updated grant financial information;
- This process will be repeated as necessary in future years until the scope of Wave 1 awarded projects has been covered and the full SJU budget appropriations contribution to the awarded grants have been committed.

This process steps and the overall procedure will be followed in accordance with the published H2020 Vademecum and using the COMPASS and SyGMA IT systems.

3.1.6.1.2 ER3 & VLD open call (call reference H2020-SESAR 2016-2) GAP and signature

In order to configure the grant correctly for the Knowledge Transfer Network to fund PhD research projects (see 2.2.1) and consequently stimulate learning and the exchange of knowledge between academia across the ATM community it is necessary to establish the possibility of third party funding in accordance with REGULATION (EU) No 1290/2013 (“Rules for Participation”), Article 23.7. Where *“The action may involve financial support to third parties under the conditions established in Regulation (EU, Euratom) No 966/2012 [Financial Regulation or FR] and Regulation (EU) No 1268/2012 [Rules of Application or RAP]. The amounts referred to in point (c) of Article 137(1) of Regulation (EU, Euratom) No 966/2012 may be exceeded where it is necessary to achieve the objectives of an action.”*

In particular enabling Article 15 of the AMGA is foreseen:

“FINANCIAL SUPPORT TO THIRD PARTIES

15.1 Rules for providing financial support to third parties

[OPTION to be used if foreseen in the work programme: 15.1.1 The beneficiaries must provide financial support in accordance with the conditions set out in Annex 1.

At a minimum, these conditions must include:

(a) the maximum amount of financial support for each third party.

The maximum amount may not exceed EUR 60 000 for each third party, unless it is necessary to achieve the objectives of the action as described in Annex 1;

(b) the criteria for calculating the exact amount of the financial support;

(c) the different types of activity that qualify for financial support, on the basis of a closed list;

(d) the persons or categories of persons that may receive financial support, and

(e) the criteria for giving financial support.

The beneficiaries must ensure that [the Agency,] the Commission, the European Court of Auditors (ECA) and the European Anti-Fraud Office (OLAF) can exercise their rights under Articles 22 and 23 also towards the third parties receiving financial support.

3.1.6.1.3 Dissemination and information about projects results

The SJU will systematically collate and disseminate data from completed and ongoing projects with the aim of obtaining a comprehensive view of the progress achieved in each financed project against targets outlined in the SJU's annual and multi-annual work plans. Such data collection will enable a holistic view of SESAR2020 activities and their impact. Output from projects, such as publications and patents, will be made available on the SJU website (either through uploaded documents or links to relevant websites). Information on H2020 calls and projects will continue to be made available through the H2020 portal and other H2020 reporting mechanisms. In addition, the SJU will continue to publish and promulgate SESAR Solutions once available and validated through the Release process.

The S2020 programme will comply with all provisions of H2020 programmes. However, while ER projects will comply with all the provisions of H2020 Annex L related to open access to research data, as explained in sections 2.2.2 and 2.2.3 IR and VLD projects may opt out of these provisions in order to protect results that are expected to be commercially or industrially exploited. In addition, the justification for project-by-project opt-out by IR and VLD projects can be further reinforced due to the nature of Complementary Grants awarded; meaning that collective results (SESAR Solutions) shall be published and accessible rather than individual project by project results. This process is coordinated and put in place by the SJU.

3.1.6.2 Management of Calls and Grants not falling within H2020 set of rules

3.1.6.2.1 SESAR-2017-1 Geo-fencing VLD call

As indicated in the previous sections, one call will be issued in 2017 (call reference 2017-1): the 'VLD Geofencing Call' (see section 3.1.3), funded through Commission / European Parliament funds in accordance with the standard EC Financial Regulation/Rules and managed in the SJU Accounts as Assigned Revenue. The SJU shall investigate with the CSC the feasibility of using the H2020 IT Tools for call publication, evaluation, grant preparation and award with a choice being taken to revert to manual SJU procedures where there will be a large development effort for the CSC and if the procedure can be easily handled by the SJU.

This call scope focuses solely on Active Geofencing Service and covers a specific Action of the European Parliament. It is targeting demonstrations of web-based Geofencing solutions that use location signals to prevent drones from flying in no-fly zones. No-fly zones can be generated, monitored and controlled by the authorities responsible. The SJU is looking to award 1 project in this purpose, with a maximum duration of 2 years and an end-date no later than December 2019, covering the following scope: Integrating Remotely Piloted Aircraft Systems (RPAS) in the European airspace using an Active Geofencing Service (AGS) – demonstrate the benefits of an Active Geofencing Service for drones for operations below 150 metres (500 feet) and propose the necessary deployment actions to fully deliver the benefits claimed.

In finalising the scope of this call the SJU shall take into consideration the outcome of call 2016-2: VLD (Open) that includes activities related to geofencing functions. This will ensure that any gaps can be targeted and opportunities explored in order to make the most of the limited funding available.

The indicative call planning has call closure by 30 November 2017 with the evaluation and award completed by early 2018, therefore payments are scheduled in 2018.

Eligibility conditions for the call shall be in accordance with the conditions associated with the funding.

The **indicative amount of the calls for proposals is EUR 500.000.**

Indicative Budget 2017	Commitment	Payment
B03100 'Studies/Development Conducted by the SJU (Assigned Revenue)	EUR 500.000	EUR 0

The maximum possible co-financing rate is 70%.

The evaluation shall follow standard SJU practice, involve independent experts and be performed on the basis of the following criteria, sub-criteria and scoring:

a. Eligibility criteria

The following criteria in terms of eligible applicants and activities as well as ineligible applicants apply to this call.

a.1 Eligible applicants

The following criteria in terms of type of entity, composition and geographical balance apply.

I. Type of entities

Non-profit organisation (private or public), public authorities (national, regional, local), international organisations, universities, educational institutions, research centres, profit making entities.

II. Geographical coverage

Only applications from legal entities established in the following countries are eligible:

- EU Member States;
- EFTA and EEA countries: Iceland, Liechtenstein, Norway, Switzerland.

III. Composition and geographical balance

Both single applicants, and applicants constituted as a Consortium may apply:

i. In case of Consortia

Proposals must involve a minimum of two legal entities. As such, the consortium will have at least one Coordinator and one partner:

- o The Coordinator shall be based in a EU Member State, and
- o The partner may be based either in a different Member State or in an EFTA and EEA country (ies).

ii. In case of a single applicant

A single applicant is eligible to send a proposal as long as the applicant is bringing at least one affiliate¹¹.

- o The applicant shall be based in an EU Member State and,

¹¹ Affiliated entities are legal entities having a legal or capital link with applicants, which is neither limited to the action nor established for the sole purpose of its implementation, may take part in the action as affiliated entities. For that purpose, applicants shall identify such affiliated entities in the application form.

- o The affiliate shall be based either in a different Member State or an EFTA and EEA country (ies).

a.2 Eligible activities

Types of activities eligible under this call for proposals include conferences, seminars, awareness and dissemination actions, studies, analyses, mapping projects as well as research activities (setting up of prototypes and demonstrators; testing in real life operating conditions).

a.3 Non eligible applicants

Natural persons are not eligible.

b. Selection criteria

Selection criteria should enable an assessment of the applicant's ability to complete the proposed action or work programme. The necessary ability of the applicant must be assessed under both aspects, financial and operational.

b.1 Financial capacity

Applicants must have stable and sufficient sources of funding to maintain their activity throughout the duration of the grant and to participate in its funding.

b.2 Operational capacity

Applicants (consortium or single applicant) must have the following minimum operational capacity in terms of professional competencies and technology necessary to complete the proposed action.

The applicant shall be composed of a minimum of:

- Two (2) Active Geofencing Service (AGS) providers
- Two (2) drone operators, understood as a company operating drones which provide a service to third entities as a commercial activity

An AGS provider could also be a drone operator.

It is possible that for a single applicant the AGS provider or drone operators are affiliates.

The drones to be used for the demonstrations should come from at least 2 (two) different drone manufacturers.

Further details will be provided in the Call for Proposals at the time of publication of the call.

c. Award criteria

Eligible applications/projects will be assessed on the basis of the following criteria:

Criteria	Excellence <i>The following aspects will be taken into account, to the extent that the proposed work corresponds to the topic description</i>	Impact <i>The extent to which the outputs of the project, as defined in the proposal should contribute at the European and/or International level to the expected impacts</i>	Quality & efficiency of the implementation <i>The following aspects will be taken into account:</i>
Sub-criteria	1. Clarity and pertinence of the proposal. 2. Soundness of the Concept; and feasibility of the proposed methodology 3. Added value to the SESAR Programme and benefits are clearly described (ambition).	1. The expected impact on the deployment of the Active Geofencing Service (AGS) in line with the current policy framework is clearly described. 2. The proposal clearly explains to what extent the project contributes to the related standardisation activities (when relevant). 3. Effectiveness of the proposed communication activities for promoting the projects and its outcome.	1. Coherence and effectiveness of the proposed work plan 2. Appropriateness of the proposed management structure and procedures, 3. Suitability of the proposed resources assigned to each activity in terms of skills and proposed material. 4. Consistency between the expected project results and the estimated budget.
Weight (%):	40	40	20
Threshold per Criteria (n/5):	3	3	3
Overall Pass Threshold (%):	70		

3.1.6.2.2 Preparatory work for CEF-SESAR-2018-1 U-space VLD call

In light of discussions held in June 2017 with the Commission, the SJU expects to be mandated to manage a call under the Connecting Europe Facility (CEF) programme for a value of 10 M€, related to the performance of a number of large-scale demonstrations to validate systems that support U-space services against the relevant requirements and standards. Anticipating on the reception of the corresponding Delegation Agreement by end 2017, the specifications and conditions for this call, to be launched in early 2018, will be prepared in the second half of 2017 and documented in the SPD 2018-2020.

This call will be an open call to complement ongoing U-space activities, speed up U-space deployment and stimulate close cooperation with EASA, standardisation bodies and industry including newly emerging stakeholders.

3.1.7 Risks and Mitigations

The SJU considers its Risk Management framework and processes as one of the key enablers of the smooth and effective implementation of its work programme. The SJU has developed and implemented an organisation-wide risk management process which is fully integrated into the annual planning and reporting cycle (in compliance with Internal Control Standard (ICS) N° 6 of the European Commission). When a high or very high risk requires specific mitigation actions and closer monitoring, dedicated action plans can then be defined. A risk should be considered significant and

reported in the work programme and subsequent annual Activity Report if it falls within one of the following impact categories:

- jeopardises the achievement of strategic goals or effective implementation of the mandate of SJU;
- causes serious damage to SJU's stakeholders or partners;
- results in critical intervention at political level (e.g. Council/Parliament) regarding the SJU's performance;
- results in the infringement of laws and regulations;
- results in significant material and/or financial loss;
- jeopardises the safety of staff or;
- seriously damages the Joint Undertaking's image and reputation.

In addition, the SJU regularly performs risk assessments at Programme level that are based on an approach that is triangulating the probability of occurrence/likelihood (grading the chance of the risk occurring) and the impact/severity (grading potential consequence should the risk materialise against defined levels). A four-point scale is used for this assessment ranging from 1 (low impact, little likelihood) to 4 (very high impact, extremely likely to happen). Both likelihood and severity are combined to define the level of risk.

The table in Annex VIII outlines the identified main risks in terms of criticality for 2017. These risks are periodically reviewed and may be further amended or re-categorised during the course of the reporting period as a result.

3.2 Support to Operations in 2017

3.2.1 Communications and Events

Communication & events play an integral role in engaging with and informing the wider Air Transport community about the SJU's work and results while encouraging wider international commitment to the SESAR approach to ATM modernisation as well as contributing to maintaining the momentum around the SESAR project. In 2017, SJU communication activities will support the delivery of SESAR2020 through the application of the following targeted objectives, in accordance with SJU 2015-2020 Communications Strategy:

- Continue to regularly illustrate and showcase SESAR solutions that are mature and ready for industrialisation and deployment, showing tangible benefits for the air transport industry and society as a whole;
- Continue the awareness and outreach activities on SESAR directly with stakeholders and at European and Global events/conferences to promote SESAR results securing European and global stakeholders knowledge and commitment;
- Promote SESAR as an integral part of the 'day-to-day' Air transport and ATM domain, both in Europe and globally;
- Enhance the arrangements of the SJU with its Members.

To meet these objectives, the SJU Strategy & External Affairs team will carry out the following activities:

- Promote and market the SESAR brand, the benefits that can be realised through SESAR Solutions and the availability of industrial products to deliver results in international for a, both in Europe and other regions including ICAO.;

- Create and disseminate appropriately targeted printed materials and digital communications in general and as needed based on SESAR 2020 progress results and specifically in relation to the events listed below;
- Provide effective press and media outreach.

The following main events/conferences can currently be foreseen for 2017:

- World ATM Congress 2017,
- ICAO ANC/13,
- ICAO GANIS,
- EUROCAE Annual Symposium,
- SESAR Innovation Days,
- SESAR Solutions workshop,
- SESAR Demonstration workshop,
- US-Europe Seminar,
- ATC Global 2017,
- RTCA Annual Conference,
- ATCA 2017,
- SESAR – NextGen workshop,
- JU/JTI events in the context of H2020,
- SESAR Military Implementation Forum (SMIF).

Various conferences and events organised by the EU and other European stakeholders which requires SESAR participation with speakers, workshops or stands.

The outcome of these activities will be measured according to the metrics indicated in the 2015-2020 Communications Strategy (e.g. level of participation of stakeholders, website analytics, social media analytics, etc.).

3.2.2 Stakeholder Engagement

A fundamental principle of the SJU is to broaden and deepen collaboration with a range of different stakeholders in order to benefit from their expertise and gain their assurance that SESAR Solutions meet the needs of the entire European and global ATM and air transport community. The fact that such stakeholders contribute to the SJU, the Master Plan and the work programme projects and validation activities secures to a large extent the operational inputs necessary and is in line with the users' expectations on the expected deliveries of SESAR solutions. As such, the SJU will in 2017 to continue and enhance the secured third party participation and active input into SJU, the Master Plan and the work programme projects and validations. Over the course of 2017, the SJU will continue to foster strong ties with all European and global key stakeholder groups, the details of which are included below:

- European Airports – under the established specific framework contract the SJU will secure support from all airport categories to the SJU. This includes the provision of expertise for specific airport-related activities. Likewise, the SJU will support airports activities such as roadshows and conferences etc. with SESAR specific inputs for securing awareness, buy-in and commitment;;
- Civil Airspace Users - under the specific framework contract the SJU will secure support to from the different airspace user categories as well as for the SJU to support airspace user categories in their respective activities agreed relevant and needed to secure, awareness, buy-in and commitment to the SESAR solutions;
- Professional Staff Associations - under the specific framework contract, the SJU will secure support from the different professional staff associations in the provision of operational

expertise for the programme. Moreover, this framework serves to enhance the ‘buy-in’ of the front-end users to the new ATM developments. Furthermore, the SJU will support the professional staff associations in their respective activities which are agreed, relevant and needed to secure inclusion in developments and commitment to the SESAR solutions;

- National Authorities – The SJU will work the established Memorandums of Cooperation with the European national authorities (NSA’s) to secure support to the SJU from the different national authorities in securing the early involvement and inputs to de-risk SESAR solutions readiness for industrialisation and subsequent deployments;
- European Aviation Safety Agency - The SJU will collaborate under the established Memorandum of Cooperation with the European Aviation Safety Agency to secure early involvement and inputs to the SJU to de-risk SESAR solutions development and readiness for industrialisation and subsequent deployments. The MoC’s will at the same time cater for the direct support of the SJU to EASA in activities related to securing the necessary regulatory arrangements.;
- Clean Sky JTI – the established Memorandum of cooperation caters for sharing of best practices, to identify gaps and secure synergies in areas where, a joint approach would be needed in respective development, validation and demonstration activities. The cooperation will also enhance the definition of the performance targets, in particular for environmental targets;
- EUROCAE – the participation of the SJU in the Council and Technical Advisory Committee (TAC) will continue in 2017 along with collaboration with EUROCAE to continue the involvement of SESAR members and the availability of SESAR material in support of standardisation to ensure alignment of priorities in relation to SESAR2020, the ATM Master Plan and the ICAO GANP;
- EASCG – The SJU will further strengthen its involvement in the European ATM Standardisation Coordination Group to ensure a consistent and credible plan for ATM standards developments is maintained, aligned with the priorities of SESAR2020, the ATM Master Plan and the ICAO GANP;
- European Defence Agency – the established Memorandum of Cooperation with the European Defence Agency will secure support from the military community (in their roles as ANSP, Airport operator, Airspace user and regulator) to the SJU as well as for the SJU to support the military community through EDA with SESAR specific inputs for securing awareness, buy-in and commitment to the ATM Master Plan and the SESAR2020 programme. In particular the areas of common interest include the Masterplan, regulations, space-based systems, RPAS integration, cyber-security threats and vulnerabilities to ATM and aviation/ATM standards development;
- European Space Agency – the established Memorandum of Cooperation will allow focusing on strategic cooperation to coordinate roadmaps specifically in relation to the integrated communication, navigation and surveillance (CNS) strategy and the ATM Master Plan, defining the role of satellite communication (SATCOM) as part of the Air Traffic Management (ATM) future enabling infrastructure;
- ICAO – as the ICAO Global Air Navigation Plan evolves requiring support from SESAR we will enhance this collaboration under the EC chairmanship and with the SJU 2020 members in order to prepare for the next update of the GANP/ASBU’s which is planned for 2019 and will be further discussed at relevant ICAO Conferences, work groups or task forces. The alignment between the ICAO GANP and the ATM Master Plan and SESAR2020 is crucial to de-risk development towards deployment;
- European GNSS Agency (GSA) – the current informal cooperation framework will be reinforced, by ensuring that all R&D projects with satellite navigation, positioning and timing

component will be cross-reviewed, to ensure maximisation of synergies and coherent messages to the industry;

- U.S./FAA/NextGen – the collaboration with the NextGen programme will continue with focus on the SESAR full life cycle of definition, development and deployment securing collaboration of not only the FAA but also entities like NASA for exploratory research coordination and RPAS. Harmonisation and interoperability risks will be further identified and mitigations further refined in order to agree standards and positions towards ICAO provisions;
- Other global partners and regions – the existing collaboration agreements either directly with the SJU or indirectly under the European Union agreements covering the ATM domain will be further enhanced during 2017 as the SESAR Solutions evolve and are getting deployed. The progress during 2016 will indicate the extent of this engagement which will be evaluated by the SJU in order to secure engagement across the SESAR members. The SJU will follow closely the policies of the EU and the needs of the Aviation Strategy and of the SES framework.

Achievement of these objectives with each stakeholder group listed will be measured through the following indicators:

- Establishment of collaborative arrangements relevant for SESAR 2020;
- Deliverables agreed and achieved per collaborative arrangement.

3.2.3 Procurement and Contracts

In 2017, all procurement processes will be carried out in compliance with the SJU's Financial Rules to ensure fair competition amongst suppliers and the most efficient use of SJU funds. Further efforts will also be made to develop procedures based on best practice and to further improve the coordination of activities between operational and procurement staff. A list of main procurement procedures currently scheduled to be launched in 2017 is included in Annex IX.

Furthermore, in 2017 as in previous years, an annual prize of 5.000 € will be awarded to the successful young Scientist applicant resulting from an open call. Should there be a need to establish the Prize as part of another call and grant then AMGA, Article 15 shall apply, in particular - "FINANCIAL SUPPORT TO THIRD PARTIES" 15.2 Financial support in the form of prizes.

3.2.4 Financial Management

In 2017, the SJU will continue to refine its internal financial processes and procedures and to streamline the workflows within SJU's Finance systems. It will also focus on maintaining a high level of accuracy in budgetary forecasting and the continuation of the authorship, review and approval of SJU's financial procedures.

Financial initiation and verification functions will continue to be performed in ABAC respecting the 'four-eye principle' and with a clear separation of responsibilities. The delegation of authority for budget implementation and the assignment of appropriate initiating and verifying functions to staff will continue to ensure that functions are adequately segregated. The processes for the programme's deliverables and payment acceptance (as described in the financial circuit) will continue to ensure full and continued compliance with the FFR and SJU's own financial rules. The Finance area will also undertake appropriate ex-post audits of SESAR1 projects following the completion of the payment cycle, thus continuing its pro-active approach to ensure the transparent and effective management of its financial resources.

A maximum of 67,4 M€ of payment appropriations to projects and transversal activities are expected to be disbursed during the 2017 reporting period, primarily to SESAR 2020 projects during their

ramp-up phase. Additionally, a large number of final payments (up to 69 M€) for SESAR1 projects will be made in 2017.

SESAR Development is a tightly integrated programme requiring continuity of work which has been so far progressively funded under the SJU financial rules applicable to FP7 and TEN-T funds, but with the introduction of H2020 grants and the fact that no provision was made in the amended SJU founding Regulation for 'budget commitments by annual instalments' it has been necessary to put in place a 'transitional arrangement' with DG-BUDG (see as well amendment procedure in section 3.1.6). Therefore, in 2017 and 2018, the SJU will continue to draw down additional commitment funds in order to meet the needs of grants awarded for the Wave 1 IR/VLD calls to Members. Achievement of these objectives will be measured through the following indicators:

- Availability of IFS templates for year n before 31/3/Yn+1,
- Availability of all the Members IFS for year n for SJU processing before 31/05/Yn+1,
- Availability of IFS for year n for AO signature before 15/12/Yn+1.

3.2.5 Corporate Planning and Reporting activities

By the end of 2017 (planned date: October 2017), the SJU will prepare and submit to the Administrative Board its Single Programming Document for 2019, covering the period 2019-2021. The submission of this document to the EC will be prepared for 31st January 2018.

In addition, the SJU will also prepare and submit its Consolidated Annual Activity Report for 2016, which will be ready for submission to the Budgetary Authorities by the 30th June 2017.

3.2.6 Corporate Quality Management

In 2017, the SJU will maintain its Quality Management System and monitor quality. Specific continuous improvement actions will be defined and followed up within the QICT Committee.

The SJU will also deploy its Information & Document Management System in the course of 2017; improvement actions may be planned and undertaken, and will be followed up by the QICT Committee.

In 2017, the SJU should also design and implement a renewed Corporate Performance Monitoring System.

3.2.7 Human Resources

The main objectives of HR are to ensure that the SJU's Staff Establishment Plan is filled, ensure the efficient management of staff resources and an optimal working environment. HR activities will focus on the following during 2017:

- 44 positions to be filled throughout 2017 (39 TAs, 3 SNEs and 2 temporary CAs);
- Efficient management of resources through appropriate revision of policies such as the training policy, the induction programme for newcomers and the teleworking policy;
- Adoption of Commission Decisions where appropriate (harassment, rules of engagement of Contract Staff, outside activities and assignments);
- Signature of the service Level Agreement with DH HR and DIGIT regarding the implementation of the Sysper Light software (HR information management system).

Achievement of these objectives will be measured through indicators defined at management level on a yearly basis.

3.2.8 Facilities Management, IT and Logistics

Facilities Management, IT and Logistics are provided through the SJU Corporate Support area. This element of the SJU is responsible for the provision of the following services:

- ICT Coordination (EC DIGIT, EC H2020, EUROCONTROL & SJU procured services);
- Missions & management of experts;
- Facilities management & insurance.

In 2017, in terms of facilities management, work will continue on a number of initiatives in SJU's premises in Brussels to improve the productivity, safety & efficiency of the working environment and facilities offered to SJU staff. Expert coordination and mission support will also continue to provide the requisite technical support to staff and contracted experts.

The priority objectives for IT in 2017 are to ensure stable and secure IT and support system(s), to provide IT support to staff in the use of IT applications and equipment and to cooperate with the other JUs to ensure synergy and efficient use of resources. During the reporting period, the migration from the IT infrastructure implemented to support the initial duration of the SJU (December 2016) to a new operating environment suitable to meet the needs and budget of SESAR2020 will be completed and service level measurement and performance improvement activities will be implemented.

Achievement of these objectives will be measured through the following indicators:

- Monitoring and reporting on established SLAs across the whole IT and infrastructure domain and an achievement of greater than 85% against all targets for 2017.

3.2.9 Data Protection

The SJU data protection officer will continue to ensure and apply the data protection legal framework within the Joint Undertaking, as stated in Regulation 45/2001, and the EDPS' "Position Paper on the role of Data Protection Officers in ensuring effective compliance with Regulation (EC) 45/2001". In particular, the SJU's DPO will undertake the following activities:

- Recurrent update of notifications, inventory/registry, privacy notices and legal notices in website.
- Expand Data Protection beyond HR activities covering Horizon 2020 processes.

Achievement of these objectives will be measured through the following indicators:

- Notifications and/or impact assessments submitted to the EDPS.
- Dissemination activities such as publications in website, meetings with data subjects (colleagues at the SJU), data protection issues solved.
- Participation in external activities such as meetings with EDPS and other DPOs and training activities.

3.3 Governance

3.3.1 Administrative Board

The Administrative Board (ADB) is the main governance body of SJU. It has overall responsibility for the strategic orientation and effective operation of the SJU and supervises the implementation of its activities in accordance with Article 5 of the Statutes. In accordance with the SJU founding Regulation the ADB is chaired by the European Commission, representing the EU, and constituted with a representative from each Member of the Joint Undertaking, the Military, Civil Airspace Users, ANSPs, equipment manufacturers, Airports, ATM Staff and the scientific institutions/community.

The ADB is planning to hold three meetings during 2017. The key activities and outputs of the ADB in 2017 are expected to be the following:

Provisional Timetable for Key ADB Activities & Decisions in 2017	
Q1	Adopt operating decisions required for 2017 and beyond
Q1	Adopt decision on Internal Audit Capability Work Plan
Q1	Adopt decision on Voting rights allocation
Q2	Appointment of Board vice-chairperson
Q2	Adopt decision on Consolidate Annual Activity Report (CAAR) 2016 & its assessment by the ADB
Q4	Adopt decision on Final Accounts 2016
Q4	Adopt the 2018 Single Programming Document (AWP/Budget and MSPP)

3.3.2 Programme Committee

The Programme Committee is composed of representatives of each of the Members of the Joint Undertaking and a representative of civil users of airspace, and the European Commission as observer. It is chaired by the SJU. These representatives shall be proposed to the ED by the relevant ADB Members for formal appointment to the Committee. By representing their organisations, the PC Members commit them on decisions taken by the PC that affect the SESAR Programme on technical and contractual matters.

The Programme Committee will continue to support the SJU ED in the SESAR 2020 programme delivery, covering the industrial research and validation and VLD phases of the programme. It will be supported by two sub-committees: a Delivery Management sub-committee focusing on the management of the programme and of the various contributions and an Operations and Technical sub-committee focusing on the content steering of the activities.

During 2017, the PC is scheduled to meet four times.

3.3.3 ATM Master Planning Committee

This Committee is composed of representatives of the European Commission, EUROCONTROL, civil users of airspace, the EDA representing the military, air navigation service providers, equipment manufacturers, airports, professional staff organisations in the air traffic management sector, EASA, EUROCAE, the Network Manager and the Deployment Manager.

These representatives have been put forward to the ED by the relevant ADB Members for formal appointment to the Committee. The Committee will provide advice to the ED on the progress of the execution and the implementation of the European ATM Master Plan, and will monitor coherence between its three levels. In particular, it will monitor and identify potential gaps or opportunities for improving Master Plan priorities and advise the ED of measures they see are needed.

3.3.4 Scientific Committee

The Scientific Committee (the membership for which has been revised following an open call in 2016) will support the SJU Executive Director in assuring the scientific excellence of the SESAR2020 Programme. In particular this Committee, under the chairmanship of the SJU, will take a monitoring view (content and results) over the Exploratory Research activities of the SESAR2020 Programme and transition to industrial research and validation, while also providing the ED with scientific advice covering the whole range of SJU's SESAR 2020 research activities. In order to foster transition between Exploratory Research and applied and industrial research an observer seat for a representative of the Programme Committee to the Scientific Committee can be assigned.

3.4 Internal Control Framework

3.4.1 Financial Procedures

In 2017 the SJU will continue to ensure the robustness and appropriateness of its financial circuits. This will involve the continuous improvement of checklists, delegations of authority and backup systems in order to provide clarity and consistency between financial procedures. Special emphasis will be placed on continuing to integrate the relevant provisions and workflows stemming from Horizon 2020 rules and tools into the existing SJU financial environment and set-up.

3.4.2 Ex-ante & Ex-post Controls

Ex-Ante Controls

Ex-ante controls remain an important tool for the SJU to prevent errors and avoid the need for ex-post corrective actions. In accordance with Article 66 of the Financial Regulation and Article 44 of the SJU's Financial Rules "each operation shall be subject at least to an ex ante control based on a desk review of documents and on the available results of controls already carried out relating to the operational and financial aspects of the operation". The main objective of ex-ante controls therefore is to ensure that the principle of sound financial management is applied. In 2017, the following ex-ante activities will take place:

- Generate and check grant agreements;
- Initiate, check and verify invoices for administrative expenditure;
- Assessment of periodic reports from grants and the verification and payment of cost claims.

Ex-Post Controls

One of the other major pillars of assurance for SJU is its ex-post audit activity and as such it represents a significant element of the Internal Control System. Its main objectives are to:

- Assess the legality and regularity of the validation of cost claims performed by SJU's management;
- provide an adequate indication on the effectiveness of related ex-ante controls;
- provide the basis for corrective and recovery activities, if necessary.

In 2017 the audit activity will be split in two focal points: a) The last year of audits under SESAR1 and b) the first year of SESAR 2020 Programme.

For the former, the audit activities will be performed as described in the SJU Ex-post Audit Strategy, On the basis of the ex-post audit strategy, as adopted by the SJU Administrative Board in October 2015 ((ADB(D)-12-2015)). The precise number of audits to be performed will depend on the cost claims submitted by the Members for IFS2016 and will be defined after their payment.

For the latter, the H2020 Audit Strategy will apply. As 2016 will be the first year of the SESAR2020 operations, the first payments of Grants are expected in 2017. Therefore, no SJU payment of costs will be included in the population of the first Common Representative Sample that will be drafted by the Common Audit Service of the EC.

3.4.3 Audits

Internal Audit Service (IAS) 2017 Audits

Internal audits are carried out by Internal Audit Service of the European Commission (IAS) in liaison with the SJU's Internal Audit Capability (IAC). In 2017, the IAS has planned the following:

- An audit on the "Coordination with Common Support Centre (CSC) and the implementation of CSC tools and services".
- An annual desk review of the recommendations reported as implemented.

- An annual desk review of the implementation of action plans for high risk areas identified in the IAS strategic risk assessment.
- On-the-spot checks as required.
- An annual light update of the strategic internal audit plan

The IAC will perform audit and consulting engagements based on risks identified in 2016.

European Court of Auditors (ECA) 2017 Audits

The SJU is aware of the following external audits that will take place in 2017:

- The Annual Audit of the accounts for the financial year 2016;
- A Performance Audit of the Single European Sky (fieldwork in 2016-2017 / final audit report June 2017) which includes the SESAR project as part of its scope.

3.5 Budget & Resource Information 2017

3.5.1 Budgetary Information 2017

Title 1

The initial approved budget for the SESAR 2020 programme under Title 1 of 6,195 M€ is to be reduced by 0,2 M€ due to an executed appropriation transfer of 30 k€ towards Title 2 and a required transfer of 170 k€ to recognise the change in nature of expenditure classified as staff costs towards operational.

No increase in the staff level compared to 2016 is foreseen and any costs for salaries' indexation, reclassifications and contract changes are sufficiently covered by the requested budget (demonstrated also by the lower level of execution for the 2015 budget).

Under the SESAR 1 programme an adjustment of 165 k€ is required within Title 1 to cover the costs of one seconded expert from the SJU members.

A detailed breakdown by budget line for Title 1 items is included in Annex II (Financial Resources).

Title 2

The initial amount approved for Title 2 in the 2017 budget of 3,175 M€ for the SESAR 2020 programme requires an amendment of +583,7 k€. The additional funds are needed to cover the ICT costs brought forward as part of the transformation exercise towards standardisation and ICT architecture alignment (300 k€), the implementation and maintenance of the document management system (200 k€), and revised costs for public relation and events in support of U-Space activities (54 k€) and a transfer from Title 1 to Title 2 for support to Governance bodies (30 k€).

Under the SESAR 1 programme an adjustment of +421,8 k€ is required within Title 2 to cover outstanding SJU obligations as follows:

- transition of the telecommunication system (41,5k€)
- updates to the SJU's website (21k€)
- IT transition costs from EUROCONTROL for 2016 (83,4k€)
- development of the archiving and retrieval system for SESAR 1 programme data stored on the Extranet to be decommissioned (275,9k€)

A detailed breakdown by budget line for Title 2 items is included in Annex II (Financial Resources).

Title 3

The total approved budget for Title 3 in the 2017 of 99,998 M€ requires an adjustment of 970k€ increase in commitment and 570 K€ in payment appropriations to record the change in nature of expenditure initially classified as staff costs (transfer from Title 1 to Title 3) and the new mandate to develop a proposal on the future Airspace Architecture. This Title includes operational activities directly conducted by the SJU ("Studies/developments conducted by the SJU", i.e. non-Members related operations) and those conducted by its Members ("Studies/developments conducted by the Members", i.e. Members related operations). A further distinction is made for SESAR1 and SESAR 2020 due to the obligation to hold separate accounts for each programme. An adjustment of 4,589 M€ is required within the payments appropriation in order to align it to the EU contribution received via Commission decision C(2017) 4097 of 19 June 2017.

Under the SESAR 1 programme an adjustment of 1,37 M€ is required within Title 3 to cover outstanding SJU obligations due to a reduction in available payment appropriations, as follows:

- estimated costs of possible legal actions in relation to SESAR 1 programme (100k€)
- cost claims received from members for the 2015 reporting period (137,6k€)
- final cost claim in relation to SESAR 1 Programme (131,7k€)
- estimated audit costs related to the closure of the SESAR 1 programme (998,1k€).

A detailed breakdown by budget line for Title 3 items is included in Annex II (Financial Resources).

A) Non-Members related operations (Title 3.1)

Payments appropriations amount to 39,5M€ for both programmes as follows:

- A1) Non-Members related operations SESAR1: Payment appropriations of 23,1 M€ include final payments against commitments carried forward from previous years (RAL) for operational activities conducted by EUROCONTROL on behalf of the SJU (13,34 M€), Demonstration activities (6,57 M€) and other contracts (3,19 M€).
- A2) Non-Members related operations SESAR2020: payment appropriations of 16,4 M€ include pre-financing and interim payments on open Exploratory Research calls (6,67 M€) and payments for programme support activities (9,73M€).

B) Members related operations (Titles 3.2 and 3.3)

For this line, the total 2017 commitment appropriations are 99,506 M€ and 96,719 M€ for payment appropriations, split as follows:

- B1) Members related operations SESAR1: final balancing payments of estimated 45,547 M€ for the conclusion of the programme of SESAR1 are foreseen when the final cost claims of all members will have been certified and fully accepted in 2017. This estimation is based on a prudent approach and will be further refined in cooperation with the Members during the second half of 2017.
- B2) Members related operations SESAR2020: 99,368 M€ of commitment appropriations are foreseen to be fully used for the second instalment of Wave1 approved in the Multiannual Work Programme for SESAR 2020. In terms of payment appropriations, an estimated amount of 51,172 M€ is expected for remaining Pre-Financings of Wave 1 projects. No Interim or Balancing payments to Members are yet foreseen in 2017.

3.5.2 Staff Establishment 2017

The SJU Staff Establishment Plan constitutes a document adopted by the Administrative Board defining the total number of positions by grade necessary to ensure the sound operational and financial management of the organization and in order to execute its Work programme.

The number of staff requested for 2017 is in line with the level of staff requested in the new Multi-Annual Staff Policy Plan (MSPP) 2017-2019 through the Single Programming Document. A more detailed breakdown of the staff establishment can be found in Annex III (Human Resources).

As explained in section 2.4, compared to the approved Budget for 2015, the 2016 Budget had foreseen a temporary staff increase of 2 additional Contract Agents (Function Group IV) in order to reinforce the resources in the Financial and in the Legal and Procurement Sectors, during the 2016 and 2017 exercises. As indicated already in the previous MSPP, following the decision on the extension of the SJU, an assessment of the resources needed for the coming years especially during the final phase of SESAR1 and the simultaneous phase-in of the SESAR 2020, has been done in the beginning of 2015. It was concluded that a substantial growth of existing administrative, financial and legal tasks will take place during 2016-2017 with the launching of SESAR 2020, which took place in the last quarter of 2015, and a ramp-up phase that will extend over 2016 and 2017. Simultaneously, the closure of SESAR1 will take place during 2016 and 2017 which will entail actions in strict cooperation with the operations to ensure proper and effective projects closing.

In 2017, the staff establishment plan includes in total 41 Temporary Agent positions filled by personnel recruited under the following types of contracts:

- TAs contracts, for positions requesting long-term duration contracts, and CAs contracts for some administrative support functions,
- Secondments of personnel of the SJU Members to the Joint Undertaking in accordance with Article 8 of the SJU Statutes, especially where specific highly specialized and technical skills in the SESAR domain are requested for the position. The secondment from the members constitutes a highly flexible mechanism to attract skilled experts, with contracts with specific duration and a low risk scheme. Compared to 2017, it is estimated that the number of secondments from Members will not change in the period 2018 - 2020, i.e. one position to cover the need of expertise in ATC and Airport Systems,
- In order to secure that the technical and budgetary effort done to successfully close SESAR 1 and start SESAR 2020 is not compromised by a lack of sufficient legal and financial expertise, it has been accepted in 2015 by the budgetary authority to have a temporary reinforcement of the SJU capacities in the Financial, the Legal and the Procurement sectors through the exceptional and temporary support of 2 Contract Agents (1 with financial background and 1 with legal background) exclusively during the 2016 and 2017 exercises and within budget.

In addition, the Administrative Board authorized 3 SNEs positions where Member States' experience is requested. This expertise from the Member States air transport administrations will remain across the period 2017-2019 in the area of Master Planning, Regulatory Affairs and ATM.

The proposed amendment of the 2017 establishment plan of SESAR2 is necessary in order to allow for the reclassification of the Executive Director upon mandate renewal (1 April 2017) following the favourable evaluation by the Administrative Board of the Joint Undertaking and the Commission. Moreover, a misalignment had occurred between the establishment plan and the grades due to fulfilling the requirements of the staff reclassification exercise. The overall budget and the total number of posts remain unchanged.

Annex I: Resource Allocation (Budget and Total HR) per Area of Operation

Budget Allocation (Million EUR)

The table below provides information related to Titles 1, 2 and 3 financial contributions for SESAR 2020. The total Budget 2017 can be found in annex XII.

Multi-Annual Strategic Area of Operation	2017 Estimate COMMITMENT Appropriations		2017 Estimate PAYMENT Appropriations	
	M€	%	M€	%
Multi-Annual Strategic Area of Operation 1: Deliver Exploratory Research	0,9	1%	7,6	8%
Multi-Annual Strategic Area of Operation 2: Deliver Industrial Research and Validation	80,5	72%	46,8	46%
Multi-Annual Strategic Area of Operation 3: Deliver Very Large Scale Demonstrations	17,2	16%	34,8	34%
Multi-Annual Strategic Area of Operation 4: Deliver Transversal Steering & SESAR Outreach	9,4	9%	9,2	9%
Multi-Annual Strategic Area of Operation 5: Deliver effective financial, administrative and corporate management	2,6	2%	2,6	3%
TOTAL:	110,6	100%	101	100%

Multi-Annual Strategic Area of Operation	2018 Estimate COMMITMENT Appropriations		2018 Estimate PAYMENT Appropriations	
	M€	%	M€	%
Multi-Annual Strategic Area of Operation 1: Deliver Exploratory Research	0,9	1%	6,5	8%
Multi-Annual Strategic Area of Operation 2: Deliver Industrial Research and Validation	82,3	69%	56,2	61%
Multi-Annual Strategic Area of Operation 3: Deliver Very Large Scale Demonstrations	24,9	20%	17,9	19%
Multi-Annual Strategic Area of Operation 4: Deliver Transversal Steering & SESAR Outreach	9,1	8%	9,5	10%
Multi-Annual Strategic Area of Operation 5: Deliver effective financial, administrative and corporate management	2,0	2%	2,0	2%
TOTAL:	119,2	100%	92,1	100%

Multi-Annual Strategic Area of Operation	2019 Estimate COMMITMENT Appropriations		2019 Estimate PAYMENT Appropriations	
	M€	%	M€	%
Multi-Annual Strategic Area of Operation 1: Deliver Exploratory Research	46,3	39%	13,7	12%
Multi-Annual Strategic Area of Operation 2: Deliver Industrial Research and Validation	32,3	27%	64,7	59%
Multi-Annual Strategic Area of Operation 3: Deliver Very Large Scale Demonstrations	20,9	17%	18,8	17%
Multi-Annual Strategic Area of Operation 4: Deliver Transversal Steering & SESAR Outreach	17,7	15%	10,2	10%
Multi-Annual Strategic Area of Operation 5: Deliver effective financial, administrative and corporate management	2	2%	2	2%
TOTAL:	119,2	100%	109,4	100%

Resource Allocation (Total HR)

Multi-Annual Strategic Area of Operation	Estimate 2017	
	Total HR	%
Multi-Annual Strategic Area of Operation 1: Deliver Exploratory Research	4	9%
Multi-Annual Strategic Area of Operation 2: Deliver Industrial Research and Validation	15	34%
Multi-Annual Strategic Area of Operation 3: Deliver Very Large Scale Demonstrations	5	11%
Multi-Annual Strategic Area of Operation 4: Deliver Transversal Steering & SESAR Outreach	9	21%
Multi-Annual Strategic Area of Operation 5: Deliver effective financial, administrative and corporate management	11	25%
TOTAL:	44	100%

Multi-Annual Strategic Area of Operation	Estimate 2018	
	Total HR	%
Multi-Annual Strategic Area of Operation 1: Deliver Exploratory Research	4	10%
Multi-Annual Strategic Area of Operation 2: Deliver Industrial Research and Validation	15	36%
Multi-Annual Strategic Area of Operation 3: Deliver Very Large Scale Demonstrations	5	12%
Multi-Annual Strategic Area of Operation 4: Deliver Transversal Steering & SESAR Outreach	9	21%
Multi-Annual Strategic Area of Operation 5: Deliver effective financial, administrative and corporate management	9	21%
TOTAL:	42	100%

Multi-Annual Strategic Area of Operation	Estimate 2019	
	Total HR	%
Multi-Annual Strategic Area of Operation 1: Deliver Exploratory Research	4	10%
Multi-Annual Strategic Area of Operation 2: Deliver Industrial Research and Validation	15	36%
Multi-Annual Strategic Area of Operation 3: Deliver Very Large Scale Demonstrations	5	12%
Multi-Annual Strategic Area of Operation 4: Deliver Transversal Steering & SESAR Outreach	9	21%
Multi-Annual Strategic Area of Operation 5: Deliver effective financial, administrative and corporate management	9	21%
TOTAL:	42	100%

Annex II: Financial Resources (Tables) 2017 -2019

Table 1: Expenditure

Expenditure (in €)	N (2017)		N+1 (2018)	
	Commitment appropriations	Payment appropriations	Commitment appropriations	Payment appropriations
Title 1	6.160.000	6.160.000	6.103.600	6.103.600
Title 2	4.180.351	4.180.351	3.222.734	3.222.734
Title 3	101.535.909	136.219.306	109.871.426	82.789.238
Total expenditure	111.876.260	146.559.657	119.197.760	92.115.572

EXPENDITURE	Commitment appropriations (in €)						
	Executed Budget N-1 (2016)	Budget N (2017)	Budget N+1 (2018)		VAR N+1 / N	Budget N+2 (2019)	Budget N+3 (2020)
			Agency request	Budget Forecast			
Title 1 - Staff Expenditure	6.191.500	6.160.000	6.103.600	6.103.600		6.214.372	6.327.359
11 Salaries & allowances (AO1110 + AO1210 + AO1220 + AO1310 + AO1320 + AO1410)	5.496.500	5.495.000	5.558.600	5.558.600	1,2%	5.687.372	5.800.359
- of which establishment plan posts (AO1110 + AO1210 + AO1220)	5.126.500	5.130.000	5.184.600	5.184.600	1,1%	5.309.292	5.418.118
- of which external personnel (AO1310 + AO1320 + AO1410)	370.000	365.000	374.000	374.000	2,5%	378.080	382.242
12 Expenditure relating to Staff recruitment (AO1630)	15.000	15.000	15.000	15.000	-	15.000	15.000
13 Mission expenses (AO15)	500.000	470.000	300.000	300.000	(36,2)%	300.000	300.000
14 Socio-medical infrastructure	-	-	-	-	-	-	-
15 Training (AO1610)	85.000	85.000	85.000	85.000	-	85.000	85.000
16 External Services (AO1640)	60.000	60.000	110.000	110.000	83,3%	92.000	92.000
17 Receptions and events	-	-	-	-	-	-	-
19 Other Staff related expenditure (AO1620)	35.000	35.000	35.000	35.000	-	35.000	35.000
Title 2 - Infrastructure and operating expenditure	4.058.500	4.180.351	3.222.734	3.222.734		3.223.841	3.233.640
20 Rental of buildings and associated costs ^[7] (AO21)	978.500	874.816	884.234	884.234	1,1%	893.841	903.640
21 Information and communication technology (AO27)	2.075.000	1.866.470	1.462.000	1.462.000	(21,7)%	1.462.000	1.462.000
22 Movable property and associated costs (AO22)	100.000	100.000	100.000	100.000	-	100.000	100.000
23 Current administrative expenditure (AO26 + AO28)	359.000	830.874	363.500	363.500	(56,3)%	355.000	355.000
24 Postage / Telecommunications (AO24)	141.000	51.500	10.000	10.000	(80,6)%	10.000	10.000
25 Meeting expenses (AO25)	20.000	50.000	50.000	50.000	-	50.000	50.000
26 Running costs in connection with operational activities	-	-	-	-	-	-	-
27 Information and publishing (AO23)	385.000	406.691	353.000	353.000	(13,2)%	353.000	353.000
28 Studies	-	-	-	-	-	-	-
Title 3 - Operational expenditure	88.823.761	101.535.909	109.871.426	109.871.426		109.728.493	106.298.507
3.1 Studies/Development Conducted By The SJU (BO3100)	88.823.761	2.029.808	-	-	(100,0)%	78.102.000	-
3.3 Studies/Development Conducted By The Members (BO3200 Cash + BO3300 Cash)	-	99.506.101	109.871.426	109.871.426	10,4%	31.626.493	106.298.507
TOTAL EXPENDITURE	99.073.761	111.876.260	119.197.760	119.197.760		119.166.706	115.859.506

EXPENDITURE	Payment appropriations (in €)						
	Executed Budget N-1 (2016)	Budget N (2017)	Budget N+1 (2018)		VAR N+1 / N	Budget N+2 (2019)	Budget N+3 (2020)
			Agency request	Budget Forecast			
Title 1 - Staff Expenditure	6.191.500	6.160.000	6.103.600	6.103.600		6.214.372	6.327.359
11 Salaries & allowances (AO1110 + AO1210 + AO1220 + AO1310 + AO1320 + AO1410)	5.496.500	5.495.000	5.558.600	5.558.600	1,2%	5.687.372	5.800.359
- of which establishment plan posts (AO1110 + AO1210 + AO1220)	5.126.500	5.130.000	5.184.600	5.184.600	1,1%	5.309.292	5.418.118
- of which external personnel (AO1310 + AO1320 + AO1410)	370.000	365.000	374.000	374.000	2,5%	378.080	382.242
12 Expenditure relating to Staff recruitment (AO1630)	15.000	15.000	15.000	15.000	-	15.000	15.000
13 Mission expenses (AO15)	500.000	470.000	300.000	300.000	(36,2)%	300.000	300.000
14 Socio-medical infrastructure	-	-	-	-	-	-	-
15 Training (AO1610)	85.000	85.000	85.000	85.000	-	85.000	85.000
16 External Services (AO1640)	60.000	60.000	110.000	110.000	83,3%	92.000	92.000
17 Receptions and events	-	-	-	-	-	-	-
19 Other Staff related expenditure (AO1620)	35.000	35.000	35.000	35.000	-	35.000	35.000
Title 2 - Infrastructure and operating expenditure	4.058.500	4.180.351	3.222.734	3.222.734		3.223.841	3.233.640
20 Rental of buildings and associated costs[*] (AO21)	978.500	874.816	884.234	884.234	1,1%	893.841	903.640
21 Information and communication technology (AO27)	2.075.000	1.866.470	1.462.000	1.462.000	(21,7)%	1.462.000	1.462.000
22 Movable property and associated costs (AO22)	100.000	100.000	100.000	100.000	-	100.000	100.000
23 Current administrative expenditure (AO26 + AO28)	359.000	830.874	363.500	363.500	(56,3)%	355.000	355.000
24 Postage / Telecommunications (AO24)	141.000	51.500	10.000	10.000	(80,6)%	10.000	10.000
25 Meeting expenses (AO25)	20.000	50.000	50.000	50.000	-	50.000	50.000
26 Running costs in connection with operational activities	-	-	-	-	-	-	-
27 Information and publishing (AO23)	385.000	406.691	353.000	353.000	(13,2)%	353.000	353.000
28 Studies	-	-	-	-	-	-	-
Title 3 - Operational expenditure	146.902.638	136.219.306	82.789.238	82.789.238		100.006.854	85.796.402
3.1 Studies/Development Conducted By The SJU (BO3100)	54.545.297	39.500.339	21.450.253	21.450.253	(45,7)%	28.142.667	22.276.000
3.3 Studies/Development Conducted By The Members (BO3200 Cash + BO3300 Cash)	92.357.341	96.718.967	61.338.985	61.338.985	(36,6)%	71.864.187	63.520.402
TOTAL EXPENDITURE	157.152.638	146.559.657	92.115.572	92.115.572		109.445.067	95.357.401

Table 2: Revenue

Revenues (in €)	N (2017)	N+1 (2018)
	Revenues estimated by the agency	Budget Forecast
EU contribution	103.240.000	112.684.000
Other revenue	8.636.260	6.513.760
Total revenues	111.876.260	119.197.760

REVENUES (in €)	N-1 (2016)	N (2017)	N+1 (2018)	N+1 (2018)	VAR N+1 / N	Envisaged N+2 (2019)	Envisaged N+3 (2020)
	Executed Budget	Revenues estimated by the agency	As requested by the agency	Budget Forecast			
1 REVENUE FROM FEES AND CHARGES	3.247.346	-	-	-	-	-	-
2 EU CONTRIBUTION	60.500.000	100.800.000	110.000.000	110.000.000	0	109.967.877	106.629.041
- of which Administrative (Title 1 and Title 2) (Budget line 1100)	-	3.241.507	3.250.683	3.250.683	0	3.250.683	3.250.683
- of which Operational (Title 3) (Budget line 1200 - EU)	60.000.000	97.558.493	106.749.317	106.749.317	0	106.717.194	103.378.358
- of which assigned revenues deriving from additional budget (Budget line 1300)	500.000	-	-	-	-	-	-
3 THIRD COUNTRIES CONTRIBUTION (incl. EFTA and candidate countries)	1.638.000	2.440.000	2.684.000	2.684.000	0	2.683.217	2.910.973
- of which EFTA (Budget line 1200 - EFTA)	1.638.000	2.440.000	2.684.000	2.684.000	0	2.683.217	2.910.973
- of which Candidate Countries					-		
4 OTHER CONTRIBUTIONS (Budget lines 2100 + 3100)	24.379.183	6.682.000	6.513.760	6.513.760	-	6.515.612	6.319.492
- of which delegation agreement, ad hoc grants					-		
5 ADMINISTRATIVE OPERATIONS					-		
6 REVENUES FROM SERVICES RENDERED AGAINST PAYMENT	-	-	-	-	-	-	-
7 CORRECTION OF BUDGETARY IMBALANCES	-	-	-	-	-	-	-
8 INTERESTS GENERATED	100.000	-	-	-	-	-	-
9 UNUSED APPROPRIATIONS FROM PREVIOUS YEARS (Budget line 5100)	9.209.232	1.954.260	-	-	-	-	-
TOTAL REVENUES	99.073.761	111.876.260	119.197.760	119.197.760		119.166.706	115.859.506

Table 3: Budget Outturn and Cancellation of Appropriations

Budget outturn	2013	2014	2015	2016
Revenue actually received (+)	105 486 020	118 765 599	123 174 781	132 813 000
Payments made (-)	-99 963 004	-97 328 996	-112 775 973	-102 973 000
Carry-over of appropriations (-)	-3 191 886	-2 973 065	-3 027 976	
Cancellation of appropriations carried over (+)				
Adjustment for carry over of assigned revenue appropriations from previous year (+)				
Exchange rate differences (+/-)				-1
Adjustment for negative balance from previous year (-)				
Total	2 331 130	18 463 538	7 370 832	29 839 000

*N – the year covered by the programming document drafted in N-1

Budget outturns are the result of the fact that all EU resources in terms of commitments were received by the SJU by the end of 2014 and these resources will cover, together with the resources from the other Members in the years 2015 - 2017, the commitments of the SJU for Title 1, 2 and 3 in each of the subsequent years 2015 - 2017.

The 2016 surplus that remains within the joint undertaking is 29,839 M€.

Given the multi-annual nature of SESAR1 and SESAR 2020, and in line with the SJU Financial Rules, cancelled appropriations may be entered in the estimates of revenue and expenditure up to the following three financial years. Therefore the commitment appropriations unused by year end 2016 will be cancelled in 2017. The payment appropriations unused by year end 2016 for Title 1 and 2 were carried forward automatically (RAL) and any appropriations left after closure of the contractual obligations will be cancelled in 2017.

Annex III: Human Resources (Tables) 2017 – 2019

Table 1: Staff population and its evolution; Overview of all categories of staff

Staff population		Actually filled as of 31.12 N- 2 (2014)	Authorised under EU budget N-1 (2015)	Actually filled as of 31.12.N- 1 (31.12.2015)	Authorised under EU budget for year N (2016)	To be filled of as 31.12.16	Budget for year N+1 (2017)	Envisaged in N+2 (2018)	Envisaged in N+3 (2019)
Officials	AD								
	AST								
	AST/SC								
TA	AD	30	33	32	33	33	33	33	33
	AST	5	6	6	6	6	6	6	6
	AST/SC								
Total		35	39	38	39	39	39	39	39
CA GFIV									
CA GF III									
CA GF II									
CA GFI									
Total CA					2	2	2		
SNE		2	3	3	3	3	3	3	3
Structural service providers ¹²		2	2	2	2	2	2	2	2
TOTAL		39	44	43	46	46	46	44	44
External staff for occasional replacement ¹³		4	4	4	4	4	4	4	4

¹² Service providers are contracted by a private company and carry out specialised outsourced tasks of horizontal/support nature, for instance in the area of information technology or reception services.

¹³ Replacement due to maternity leave, long term sick leave or unfilled positions

Table 2: Multi-annual staff policy plan Year N+1-Year N+3

Category and grade	Establishment plan in EU Budget N-1 (2015)		Filled as of 31/12/N-1 (31.12.2015)		Modifications in year N-1 in application of flexibility rule (2015)		Establishment plan in voted EU Budget N (2016)		Modifications in year N in application of flexibility rule (2016)		Establishment plan in EU Budget N+1 (2017)		Establishment plan N+2 (2018)		Establishment plan N+3 (2019)	
	officials	TA	officials	TA	officials	TA	officials	TA	officials	TA	Officials	TA	officials	TA	officials	TA
AD 16																
AD 15												1		1		1
AD 14		1		1				1								
AD 13																
AD 12		4		3				4				4		4		4
AD 11												2		3		3
AD 10		5		5				5				2		2		2
AD 9												3		3		3
AD 8		5		5				5				6		6		6
AD 7		4		4				4				5		6		6
AD 6		4		4				4				9		7		7
AD 5		10		10				10				1		1		1
Total AD		33		32				33				33		33		33
AST 11																
AST 10																
AST 9														1		1

Category and grade	Establishment plan in EU Budget N-1 (2015)		Filled as of 31/12/N-1 (31.12.2015)		Modifications in year N-1 in application of flexibility rule (2015)		Establishment plan in voted EU Budget N (2016)		Modifications in year N in application of flexibility rule (2016)		Establishment plan in EU Budget N+1 (2017)		Establishment plan N+2 (2018)		Establishment plan N+3 (2019)	
	officials	TA	officials	TA	officials	TA	officials	TA	officials	TA	Officials	TA	officials	TA	officials	TA
AST 8												1				
AST 7		1		1				1				1		1		1
AST 6																
AST 5		1		1				1								
AST 4												1		2		2
AST 3		2		2				2				2		1		1
AST 2																
AST 1		2		2				2				1		1		1
Total AST		6		6				6				6		6		6
AST/SC1																
AST/SC2																
AST/SC3																
AST/SC4																
AST/SC5																
AST/SC6																
Total AST/SC																
TOTAL		39		38				39				39		39		39

Annex IV: Human Resources Policy

The main objective of the SJU staff policy is to define the necessary framework for the recruitment, equal treatment, organization, assessment, development and training of the SJU staff members so that their collective skills and competencies which constitute an asset for the SJU will contribute to the achievement of the SJU mission and specific objectives.

The SJU Staff Establishment Plan constitutes the document adopted by the Administrative Board defining the total number of positions by grade necessary to ensure the sound operational and financial management of the organisation and in order to execute its Work programme. These positions are filled in by personnel recruited under the following types of contracts:

- TAs contracts, for position requesting a long-term duration of the contract within the limit of the existence of the SJU such as for the Chief ATM, the Chief Economics and Master Planning as well as some administrative functions such as the Head of Finance and Budget Sector, the Financial Officer, etc.
- CAs contracts for some administrative support functions, where the TAs recruitment did not prove to be effective or for short term needs,
- Secondments of personnel of the SJU Members to the SJU (see below) in accordance with Article 8 of the SJU Statutes, especially where specific highly specialized and technical skills in the SESAR Programme domain are requested for the position,
- SNEs where Member States' experience is requested.

The 2 CAs requested by the SJU to increase its capabilities exclusively during the transitional period will not imply an amendment of the Staff Establishment Plan.

A. Recruitment Policy

As of the entry into force of Council Regulation (EC) 1361/2008, the Staff Regulations of Officials of the European Union, the Conditions of Employment of other servants of the European Union and the rules adopted jointly by the Institutions of the European Union for the purpose of applying these Staff Regulations and the Conditions of Employment shall apply to the staff of the Joint Undertaking and its Executive Director.

Following the Council Regulation (EU) 721/2014 amending the Council Regulation (EC) 1361/2008, the staff of the Joint Undertaking consists of TAs and CAs recruited for a fixed period that may be renewed once for a fixed period up to 5 years. Any other renewal shall be for an indefinite period in accordance with the EU staff Regulations. The total period of engagement shall not exceed in any case the duration of the Joint Undertaking.

The staff of the SJU shall consist of highly specialized technical staff members in charge of the management and implementation of the SESAR Programme and highly specialized and diversified administrative and financial staff to support the operations. In establishing the different job descriptions and the organization chart of the SJU, particular attention is paid to preserve the adequate separation of functions, to manage the risk of conflict of interest, to ensure an efficient and cost-effective functioning of the organization. No overhead are present.

It has to be recognized that it is difficult to attract highly skilled persons on TA contracts for a limited duration, especially on technical activities where the SJU is in competition, on the recruitment point of view, with other entities such as EUROCONTROL.

1. Staff categories

1.1 Officials

The SJU has currently no post occupied by an official from an Institution. Furthermore, the SJU has no permanent posts on its establishment plan and, therefore, cannot appoint officials.

1.2 Temporary Agents

On the basis of the missions and tasks set out by the SJU Regulation, the SJU considers that most of its existing workforce can be identified as positions of long term duration within the limits of the existence of the SJU, whether in core business activities for which continuous expertise needs to be built and maintained or support activities in the area of Finance and Administration.

Where the type of expertise requested for a certain position is not easily available on the free market and is retained by personnel working for one of its Members, the SJU fills in these highly specialized positions with secondments from its Members, ensuring that proper measures to manage potential conflict of interest are in place (segregation of duties, annual declarations on conflict of interest, etc).

All temporary agent posts in the 2016 Establishment Plan have been identified as post of long duration and are offered a 5-year contract (except for staff who were under Belgian contracts at 1 January 2009, in accordance with the transition provisions of Council Regulation (EC) 1361/2008, who are indefinite duration contracts still subject to the end of functioning of the SJU on 31 December 2024 at the latest).

The table under point 3 provides the information on the key functions for which the positions have been filled by TAs. The process followed is in compliance with the SJU Implementing Rules on the engagement and use of Temporary Staff.

The entry grades are determined in function of the level of the tasks to be performed and are those indicated in the staff establishment plan.

It should be noted that the SESAR Programme requires highly specialised skills and competencies, and – often – advanced seniority of staff members. The SJU grading approved by the Administrative Board reflects the need of highly specialised staff members to fulfil the duties of the management of a high level research programme.

The European Commission guidelines on Staff Policy describe the flexibility as regard to the recruitment grades in agencies.

As already mentioned and notwithstanding the Transitional Provisions laid down in article 2 of Council Regulation (EC) 1361/2008, temporary agents are recruited for a fixed term contract, in principle of 5 years, renewable once and for a fixed period up to 5 years. Any other renewal shall be for an indefinite period. In exceptional cases, the Appointing Authority could decide on a different duration of the contract. The total period of engagement will not exceed in any case the duration of the SJU (Article 2a of Council Regulation (EU) 721/2014).

1.3 Contract Agents

Contract agents will serve the purpose of increasing capacity mainly in support functions (financial, legal or administrative).

In exceptional cases, the Appointing Authority could decide for the needs of the SJU to recruit a CA on a short term employment (to replace TA on maternity or parental leave, work overload, specific need).

The two additional CAs requested for 2016 and 2017 are identified as necessary to increase temporarily the SJU capacity to ensure a successful transition; as such they will be of short duration and will be offered a 2 years contract corresponding to the need for the SJU to reinforce its capacity in terms of Grant Management.

Contract agents are recruited for a fixed term contract, usually with a duration not exceeding 3 years, renewable once for a fixed period. Any other renewal shall be for an indefinite period. In exceptional cases, the Appointing Authority could decide on a different duration of the contract. The total period of engagement shall not in any case exceed the duration of the SJU (Article 2a of Council Regulation(EU)721/2014).

1.4 Seconded National Experts

For the need of specific expertise, the SJU recruits SNEs from competent organisations in the EU or EUROCONTROL Member States, especially where expertise within Regulators or public authorities is requested.

1.5 Seconded staff from SJU Members

At its meeting of 12 June 2009, the Administrative Board of the SJU, having regard to Article 8 of the SJU Statutes which establishes that “any member of the Joint Undertaking may propose to the Executive Director the secondment of members of its staff to the Joint Undertaking in accordance with conditions provided for in the relevant agreement referred to in Article 1(3) of these Statutes” and that “staff seconded to the Joint Undertaking must act with complete independence under the supervision of the Executive Director”, decided:

- to adopt specific conditions on the secondment of staff of the members listed under Article 1.2 of the SJU Statutes,
- to delegate the Executive Director to establish the necessary agreements in line with the aforementioned conditions and taking into account the particular nature of the founding members , for the secondment of staff of the founding members to the SJU.

The decision of the Administrative Board is also motivated by the nature of the SJU with its Members as public-private partnership, where public and private resources are commingled for the achievement of objectives.

The secondment from the members constitutes a highly flexible mechanism to attract skilled experts, with contracts with specific duration and a low risk scheme.

In compliance with the Administrative Board decision and in order to fill in some highly specialized positions, or where the open vacancy procedure was unsuccessful, the SJU launches a call for expression of interest to its members, to establish a list of potential candidates to fill specific positions. Staff seconded to the SJU by its Members is considered part of the Members’ contribution co-financed at 100% by the SJU.

1.6 Structural service providers

For the purpose of managing, plan and control reception services, the SJU has signed in 2011 a 1 year renewable contract with a service provider called “Receptel”. This service provider provides 1 FTE as receptionist. It is not always the same person providing the services. In terms of ICT coordination, 1 person is provided by EUROCONTROL.

1.7 The Programme Support Office

In 2008, EUROCONTROL established a Unit – the Programme Support Office (PSO) – hosted by the SJU in order to provide the necessary support in the management of the SESAR Programme and

consisting of a contribution in kind to the SJU. PSO provides programme management support to the SJU in strict coordination with the other SJU Teams. The number of staff part of this Office at the end of 2015 is 20 persons.

The PSO staff is covered by an agreement between EUROCONTROL and the SJU. The PSO staff assigned to the SJU for the execution of this Agreement shall remain subject to the EUROCONTROL's staff regulations and rules.

2. Selection procedure

The described selection procedure is the one applicable to the SJU until the adoption by the SJU administrative Board of new implementing rules on the selection of temporary agents 2 f.

The SJU launches recruitment procedures for Temporary Agents through the announcement of vacant posts on its website and the EPSO website. The SJU may also recruit Contract Agents from the European Personnel Selection Office - EPSO's reserve lists, for the specific needs here above identified.

Generally vacancies are online for one month. During this time candidates can submit their applications. Exceptionally, this period may be extended. The exact deadline to apply for a job is indicated in each vacancy notice of the selection procedure that provides as well information on the job requirements and the conditions of employment. Candidates are requested to submit their application exclusively by means of a functional email address specific to each vacancy notice.

The SJU is an equal opportunity employer and strongly encourages applications from all candidates who fulfil the eligibility and requirements without any distinction on the grounds of nationality, age, race, gender, political, philosophical or religious conviction or sexual orientation and regardless of disabilities, marital status or other family situation.

Eligibility of candidates is assessed according to compliance with all formal requirements by the closing date for the submission of applications. Eligible candidates whose application shows evidence of all essential selection criteria described in the vacancy notice may be invited for an interview, which is held for the most part in English. During the selection process candidates may be required to undergo a competency assessment exercise.

Candidates invited to an interview are requested to submit, on the day of the interview, a copy of their diploma(s) and evidence of their professional experience, clearly indicating the starting and finishing dates, the function(s) and the exact nature of the duties carried out. However, prior to contract signature, selected candidates are requested to provide SJU with original or certified copies of all relevant documents proving the eligibility requirements.

As a result of the interviews, the Selection Panel recommends the most suitable candidates for the post in question. The list of suitable candidates established by the Selection Panel may also be used for the recruitment for a similar post depending on the needs of the SJU. All candidates are informed by letter about the outcome of the selection procedure. Candidates are informed that inclusion on a reserve list does not guarantee recruitment.

Selection Panel's work and deliberations are strictly confidential and candidates are informed that any contact with its members is strictly forbidden.

The Executive Director, SJU AIPN, takes the final decision to offer the job to a selected candidate from the reserve list established by the selection panel.

Table of 39 positions of the Staff establishment plan per area and activity on 31/12/2015

Activity/Sector	Function / Job title	Contract Type/duration	Grade	# Staff
Executive Director	Executive Director	TA fixed term + renewable	AD 14	1
Vacant	TBD	TA fixed term + renewable	AD12	1
Military aspects of the Programme	Senior Advisor to the ED	TA fixed term + renewable	AD10	1
Audit	Internal Audit Capability	TA fixed term + renewable	AD 5	1
Executive secretariat	Assistant to the Executive Director	TA indefinite (*)	AST 1	1
Corporate Affairs including corporate support and corporate quality, planning and reporting	Deputy Executive Director Corporate Affairs	TA indefinite (*)	AD 12	1
	Head of corporate support	TA indefinite (*)	AD 7	1
	Administrative assistant	TA indefinite (*)	AST 3	1
	Administrative assistant	TA indefinite (*)	AST 1	1
	Head of Corporate quality, planning & reporting	TA fixed term + renewable	AD 8	1
	Corporate planning & reporting officer	TA fixed term + renewable (**)	AST3	1
Strategies and relations with ICAO, follow up of MoC with third countries and communication	Chief Strategies & external Relations	TA indefinite (*)	AD 12	1
Liaison FAA	Liaison Officer	TA fixed term + renewable	AD 10	1
Relations with different stakeholders and coordination of ED activities	Head of stakeholders and institutional relations	TA fixed term + renewable	AD10	1
Communication internal/external, media	Senior Communications & Media relations Officer	TA fixed term + renewable	AD 5	1
Implementation of the day-to-day communication strategy	Communications & Events officer	TA fixed term + renewable	AD 5	1
Development & delivery, Release and validation	Head of Release Management & Validation Team	TA fixed term + renewable	AD 7	1
	Release outcome manager & Environment officer	TA fixed term + renewable	AD 7	1
	ATM Operations Expert	TA fixed term + renewable	AD6	1
	ATM Architecture Framework Expert	TA fixed term + renewable	AD5	1
	ATM Performance expert	TA fixed term + renewable	AD 5	1
ATM	Chief ATM	TA fixed term + renewable	AD10	1

Activity/Sector	Function / Job title	Contract Type/duration	Grade	# Staff
	ATM Expert – Architecture & Systems Engineering	TA fixed term + renewable	AD 8	1
	ATM Expert - Airport & airspace user operations	TA fixed term + renewable	AD 6	1
	ATM Expert - TMA, En-route & network operations	TA fixed term + renewable	AD 6	1
	ATM Expert - CNS & Avionics	TA fixed term + renewable	AD 5	1
	ATM Expert - Exploratory Research & ATM Performance	TA fixed term + renewable	AD 7	1
	ATM Expert - ATC & Airport Systems	Secondment from Member / 2 years	NA	1
AU relations, business case, Master Planning	Chief Economist & Master planning	TA indefinite (*)	AD 10	1
General administration, Finance, legal and HR	Chief Administration Affairs	TA fixed term + renewable	AD 12	1
Project Audit	Project Auditor	TA fixed term + renewable	AD5	1
Coordination of the Finance and Budget and Sector and responsibility for the follow up of the SJU Budget	Head of Finance & Budget	TA indefinite (*)	AD 8	1
Accounting	Deputy Accounting Officer	TA fixed term + renewable	AST5	1
Financial administration	Financial Officer	TA fixed term + renewable	AD6	1
Legal Affairs and Contract	Head of the Legal Affairs & Contract	TA indefinite (*)	AD8	1
Legal Affairs and Contract	Legal & Procurement Officer	TA fixed term + renewable	AD 5	1
Procurement procedures, personal data protection, day-to-day legal issues	Legal & Procurement Officer	TA fixed term + renewable	AD 5	1
HR Legal matters	HR Legal Officer and Data Protection Officer	TA fixed term + renewable (**)	AD5	1
Recruitment, HR Administration, staff development	HR Officer	TA indefinite (*)	AST 7	1

(*) Staff member eligible to Transitional Provisions Article 2 of Council Regulation (EC) 1361/2008 (10 staff)

(**) Positions currently covered by a CA (see below)

The 2 additional positions requested for 2016 and 2017 are the following:

Financial administration	Financial Officer	CA fixed term (2 years)	FGIV	1	Admin
Legal Affairs and Contract	Legal Officer	CA fixed term (2 years)	FGIV	1	Admin

B. Reclassification/Promotion of staff:

Table 1 - Reclassification of temporary staff/promotion of officials

Category and grade	Staff in activity at 1.01.2014		How many staff members were promoted / reclassified in Year N-1 (2015)		Average number of years in grade of reclassified / promoted staff members
	officials	TA	officials	TA	
AD 16					
AD 15					
AD 14					
AD 13					
AD 12		4			
AD 11					
AD 10		4		1	6.50 (7.71 ¹⁴)
AD 9		1			
AD 8		3			
AD 7		4		1	5.83
AD 6		5		3	3.76
AD 5		4		2	3.15
Total AD		25		7	
AST 11					
AST 10					
AST 9					
AST 8		1			
AST 7					
AST 6		1			
AST 5					
AST 4					
AST 3		1			
AST 2		1			
AST 1					
Total AST		4			

¹⁴ Under Belgian contract from 16/04/2008 till 01/07/2009

Category and grade	Staff in activity at 1.01.2014		How many staff members were promoted / reclassified in Year N-1 (2015)		Average number of years in grade of reclassified / promoted staff members
	officials	TA	officials	TA	
AST/SC1					
AST/SC2					
AST/SC3					
AST/SC4					
AST/SC5					
AST/SC6					
Total AST/SC					
Total		29		7	

Table 2 – Reclassification of contract staff

Function Group	Grade	Staff in activity at 1.01.2014	How many staff members were reclassified in Year N-1 (2015)	Average number of years in grade of reclassified staff members
CA IV	18			
	17			
	16			
	15			
	14	3	1	4.29
	13	1		
CA III	12			
	11			
	10			
	9			
	8	1		
CA II	7			
	6	1		
	5			
	4			
CA I	3			
	2			
	1			
Total		6	1	

Since 2012, an individual development review is launched at the beginning of the year for a given year, laying down the objectives and the performance of the staff member in relation to the Work Programme and the tasks related to the staff member's job description. A career Development Report (CDR) is carried out on the basis of the Appraisal guide that is published at the beginning of the exercise. Currently, all TA's and CA's are going through the annual appraisal of performance as described in the ADB Decision 04-2012 of 29 March 2012.

Concerning reclassification of TAs and CAs, no exercise has taken place during the previous years due to the fact the SJU has been waiting the agreement of the Commission Services to adopt the appropriate implementing rules.

In line with the MSPP 2016-2018 and the Provisional Draft Budget 2016, the SJU launched its second reclassification exercise for temporary agents and contract agents at the end of 2015, in compliance with the Commission implementing rules that apply to the SJU by analogy in application of article 110 of the EU Staff Regulations.

C. Staff gender and geographical balance;

Since its establishment, the SJU has ensured equal opportunities for staff and has done its best to attract specialised technical staff of the highest calibre. The equal opportunities policy is applied to recruitments in order to secure gender and geographical balance in a domain of operations that appears to be highly unbalanced.

Geographical balance is regularly sought in accordance to Article 27 of the Staff Regulations and 12 and 82(1) of the Conditions of Employment of Other Servants; bearing in mind the small size of the SJU, that search for the best qualified staff for the vacant post will be the first priority.

To date, the SJU has not noted any significant gender and geographical imbalance in its staff.

At 31/12/2015, the Establishment Plan (i.e. including TAs and CAs) is as follows:

Nationalities	#	Of which women
Belgium	5	4
Bulgaria	1	0
France	5	2
Greece	1	1
Germany	2	0
Italy	3	1
Ireland	2	2
Lithuania	1	1
Netherlands	3	2
Portugal	2	2
Spain	5	3
Sweden	1	0
UK	7	1
TOTAL	38	19

Table 1: Nationalities and gender balance (excluding 3 Seconded National Experts)

Gender/Grade	Male	Female	Total
AD	18	14	32
AST	1	5	6
Total	19	19	38
AD	47%	37%	84%
AST	3%	13%	16%
Total	50%	50%	100%

Table 2: grade versus gender balance (excluding 3 Seconded National Experts)

D. Mobility Policy

Mobility (internal mobility, between EU Bodies and between EU Bodies and the institutions)

1. Mobility within the SJU

Vacancy notices are accessible internally as well as externally and staff members are always given the opportunity to apply.

2. Mobility among EU Bodies

The SJU was previous excluded from the possibility for its staff to benefit of mobility between the agencies, limiting substantially one of the key elements of the career development of its staff. It is expected that this situation will change with the adoption in April 2016 of new implementing rules on the selection of temporary agents 2f under the new Staff Regulations.

3. Mobility between the SJU and the Institutions

The SJU has currently no post occupied by an official from an Institution¹⁵; nevertheless where appropriate the SJU can consider favouring mobility with the Institutions.

E. Schooling

European Schools in Brussels should cover the SJU staff needs in this respect, for the staff currently eligible.

¹⁵ There is 1 temporary agent (Liaison Officer) who is in secondment from the European Commission in its own interest respectively for 4 years.

Annex V: Buildings (table)

The SJU has already established its location in Brussels through the rental of suitable office accommodation and ancillary space secured for the duration of the extended SJU. There is no plan to acquire any property or buildings in the future.

Current building(s)

	Name, location and type of building	Other Comment
<i>Information to be provided per building:</i>	Avenue de Cortenbergh 100 – 1000 Brussels	Joint occupancy building with non-EU bodies.
<i>Surface Area (m2)</i>	1828	
<i>Surface Area (m2): Office space</i>	1765	
<i>Surface Area (m2): Non-Office space</i>	63	There are an additional 28 Car Parking Spaces (not measured in surface area)
Annual rent (in EUR)	427 925	
Type and duration of rental contract	9 year lease from 2016	With Diplomatic Clause for rupture of rental contract with 6 months' notice.
Host country grant or support	N/A	
Present value of the building	N/A	

- Building projects in planning phase: n/a
- Building projects submitted to the European Parliament and the Council: n/a

Annex VI: Privileges and Immunities (table)

Agency privileges	Privileges granted to staff	
	Protocol of privileges and immunities / diplomatic status	Education / day care
VAT exemption as of 16.10.2008, Administrative Agreement with the Belgian Authorities since 30.03.2009	Protocol of Privileges and Immunities applicable to staff with regard to VAT.	N/A

Annex VII: Evaluations

The SJU has been subject to a mid-term evaluation in 2014 initiated by the DG MOVE.

The purpose of the evaluation was to assess the functioning of the SJU from January 2010 to December 2012, as required by the SJU Regulation.

This second mid-term evaluation concludes that the SJU carried out the tasks assigned to it during the evaluation period (2010-2012). The organisation operated effectively, thus contributing to the objectives of the SESAR Programme. The SJU has also proven to be a structure that can adapt to specific needs and changes, while still operating under the rules and procedures governing it. Finally, the SJU complied with the principles of sound financial management. It was also found that the SJU took the recommendations of the first midterm evaluation into account and addressed them adequately during the period 2010-2012.

The evaluation resulted in two recommendations; one for the working methods of the SJU, and one for the results obtained by the SJU. Both have been followed up by SJU management.

A new interim Evaluation of the SJU is planned by the European Commission for 2016-2017. The completion of the evaluation is expected to be completed by end June 2017.

Annex VIII: Risk Management in 2017

The below table outlines SJU's identified top risks relevant for 2017. These risks are periodically reviewed and may be further amended or re-categorised during the course of the reporting period as a result

Risk #	Risk Description	Type of Risk	Summary of Response Actions	Risk Owner
1	Ineffective bridging between development and deployment activities may put industrialisation at risk and delay deployment	R&D + MP execution	- Launch first wave of SESAR Very Large Scale Demonstration activities to bridge R&D with Deployment in the context of SESAR 2020 - Strengthen cooperation arrangements with Standardisation Bodies to ensure alignment of their respective work programmes with the needs identified in the ATM Master Plan - Strengthen current engagement of the regulatory authorities in the development phase to prepare for deployment.	EC, SJU, SDM, Standardisation Bodies
2	The R&D Programme does not deliver solutions that are ready for the preparation for deployment	R&D	- Ensure consistency between the expectations outlined in the Master Plan and the delivery of SESAR Solutions in terms of time and scope. - SJU has set up an an IOP TF which report provided a set of mitigation actions including a close monitoring of the new roadmap as follow: an initial IOP will be delivered end 2016 within SESAR 1 framework and the complementary R&D is integrated in to SESAR 2020 for a delivery of the complete SESAR Solution in 2018. - Deliver and publish SESAR Solution Packs to prepare for deployment of the SESAR R&D results	SJU
3	Governance Structure is not capable of ensuring successful Deployment	MP execution	Define and implement an appropriate Deployment Governance mechanism and efficient interaction of all parties involved in order to ensure an effective execution of the Deployment Programme consistently with the ATM Master Plan and the Network Strategy Plan.	EC, SDM, SJU, All Stakeholders

Risk #	Risk Description	Type of Risk	Summary of Response Actions	Risk Owner
			Governance has to ensure that the required resources are available for the timely local and synchronized deployment.	
4	Failure to manage Human Performance (Human Factors, Competency and Change Management) issues in the development and implementation of the ATM Target Concept	MP execution	- Ensure that operational staffs are included in development and validation activities. - Issue regular recommendations and activity plans for Human Performance in the area of R&D, regulation, standards, and management at industry level. - Monitor all SESAR oriented R&D and validation phases regarding Human Performance standards, methods and requirements. - Examine Staffing implications of all deployment activities for all groups of operational aviation staff and publish results and related recommendations. - Ensure appropriate coordination between all stakeholders concerned to ensure consistency between initiatives related to Human Factors, Competency and Social Dialogue.	SJU, All Stakeholders
5	Delays in the implementation of the Pilot Common Project (PCP)	MP execution	- Coordinate deployment to ensure timely and synchronized deployment of the PCP - Synchronisation and coordination by SDM. - Ensure a strong promotion of the Deployment Programme. - Identify, stabilize and ensure implementation of elements that are prerequisite for SESAR deployment and/or essential for contributing to the performance ambition. - Implement the pre SESAR changes and the PCP precursors according to Stakeholder roadmaps.	EC, SDM, All Stakeholders
6	Interoperability and global harmonisation are not ensured	MP execution	- Work towards global interoperability in the framework of ICAO working arrangements. - Continue to strengthen SESAR/NextGen coordination under the	EC, SJU

Risk #	Risk Description	Type of Risk	Summary of Response Actions	Risk Owner
			EU/US MoC with a particular focus on securing further alignment between the ATM Master Plan and the NextGen Implementation Plan.	
7	Deployment of SESAR Solutions leads to unaddressed cyber-security vulnerabilities	MP execution	• Ensure efforts on ATM cyber-security are coordinated, and assess policy options for strengthening cyber-security and resilience • Establish principles and processes for ensuring cyber-security and resilience is included appropriately within the work programme	EC, SJU
8	Investments to support deployment beyond 2020 is not secured	MP execution	• Prepare for the deployment of SESAR R&D results (business cases, impact assessments, future Common projects when appropriate). • Ensure that financial and operational incentive mechanisms are defined and implemented in a timely manner in order to facilitate the deployment of SESAR. • Ensure consistency between the stakeholder roadmaps in the ATM Master Plan and stakeholders' investment plans.	EC, SDM, SJU

Annex IX: 2017 Procurement Plan

Article 84(2) of the EU Financial Regulation states that: *“Except in the case of appropriations which can be implemented without a basic act in accordance with point (e) of the first subparagraph of Article 54(2), the commitment of expenditure shall be preceded by a financing decision adopted by the institution or the authorities to which powers have been delegated by the institution”.*

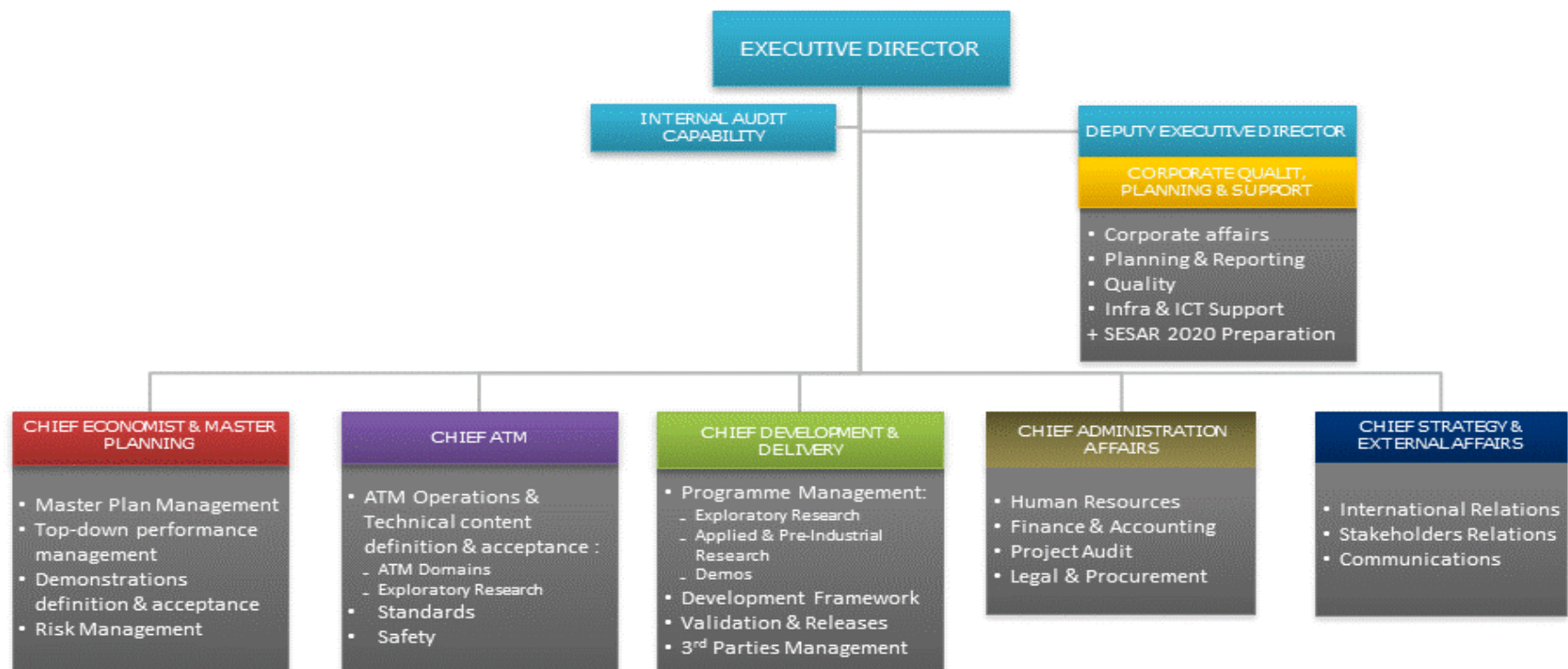
Article 94 of Commission Delegated Regulation (EU) No 1268/2012 of 29 October 2012 on the rules of application of Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council on the financial rules applicable to the general budget of the Union (hereinafter referred to as “the Rules of Application”), states under paragraph 2, that the financing decision shall in particular set out certain essential elements for an action involving the expenditure from the budget for grants and for procurement. In addition under paragraph 3 it is stated that the work programme which contains the information set out in paragraph 2 shall be considered to be the financing decision for procurement.

REF	Procurement Description	Explanation / Rationale	Target Launch Date	Target Signature Date	Total Est. Budget (€)	Type of Procedure (restricted, open etc.)	Comments
1	Security Services and Maintenance of Security System		Q1 2017	Q2 2017	115.500	Open	
2	Information & Document Management System	Consultancy services for the deployment of the SJU Corporate Information & Document Management System	Q2/Q3 2017	Q1 2017	100.000	Specific order under Framework Contract	It could be implemented through several different procurement actions; target launch date is indicative
3	Events, Graphic and Press	Acquisition of small products or services related to events or communication actions.	Q1 2017	Q1 2017	77.500	Negotiated / Specific order under Framework Contract	It could be implemented through several different procurement actions; target launch date is indicative
4	Facilities improvement & maintenance	Replacement of worn-out fixtures and fittings with associated handyman services	Q1 2017	Q2 2017	71.070	Open	It could be implemented through several different procurement actions; target launch date is indicative
5	Catering services	Catering services for meetings at the SJU premises	Q1 2017	Q1-Q4 2017	60.000	Open	It will be implemented through several different procurement actions; target launch date is indicative

REF	Procurement Description	Explanation / Rationale	Target Launch Date	Target Signature Date	Total Est. Budget (€)	Type of Procedure (restricted, open etc.)	Comments
6	Information & Document Management System	Maintenance contract of the Corporate Support DMS	Q1 2017	Q1 2017	50.000	Specific order under Framework Contract	
7	Insurance	Responsabilité Civile, Group Insurance, Travel Insurance, Fire Insurance, Electronic risks full insurance	Q1-Q3 2017	Q2-Q4 2017	17.500	Specific order under Framework Contract	
8	Airspace architecture	Develop a proposal for the future architecture of the European airspace, in response to mandate expected from the Commission in September 2017	Q4 2017	Q4 2017	800.000	Open or Specific order under Framework Contract	Subject to the signature of the corresponding delegation agreement between the SJU and the Commission in due time

Annex X: 2016 SJU Organisation Chart

SJU Organisational Chart



Annex XI: List of Acronyms

Acronym	Long Name
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
AIM	Aeronautical Information Management
AMAN	Arrival Manager
AOC	Airlines Operational Communication
AOP	Airport Operation Plan
ASAS	Airborne Separation Assistance System
ASPA	Airborne Spacing
ATC	Air Traffic Control
ATM	Air Traffic Management
ATSA ITP	Air Traffic Situation Awareness- In-Trail Procedure
AU	Airspace Users (Civil)
CA	Contract Agent
CCD	Continuous Climb Departure
CDA	Continuous Descent Approach
CDM	Collaborative Decision Making
CNS	Communication, Navigation, Surveillance
CTA	Controlled Time Arrival
CWP	Controller Working Position
DART	Data-driven Aircraft Trajectory
DCB	Demand and Capacity Balancing
DCMAC	Directorate Civil Military ATM Coordination (part of EUROCONTROL)

Acronym	Long Name
DMAN	Departure Manager
EGNOS	European Geostationary Navigation Overlay Service
EOCVM	European Operational Concept Validation Methodology
EPP	Extended Projected Profile
ER	Exploratory Research
EU	European Union
FCI	Future Communication Infrastructure
GA	General Aviation
GA/R	General Aviation & Rotorcraft
GANP	Global Air Navigation Plan (from ICAO)
GBAS	Ground Based Augmentation System
GNSS	Global Navigation Satellite System
H2020	Horizon 2020 Framework Programme
HMI	Human Machine Interface
I 4D	Initial 4 Dimensions
ICAO	International Civil Aviation Organisation
IFR	Instrument Flight Rules
IOP	Inter-operability
IR	Industrial Research & Validation
LVC	Low Visibility Conditions
LVP	Low Visibility Procedure
MSP	Multi Sector Planning
NOP	Network Operation Plan
OAT	Operational Air Traffic
P-RNAV	Precision Area Navigation
R&I	Research & Innovation
RNP	Required Navigation Performance
RPAS	Remotely Piloted Aircraft System
RSP	Required Surveillance Performance
RTS	Real Time Simulation
STAM	Short Term ATFCM Measures
S&M	Sequencing & Merging

Acronym	Long Name
SBT/RBT	Shared Business Trajectory/Reference Business Trajectory
SES	Single European Sky
SESAR	Single European Sky ATM Research
SJU	SESAR Joint Undertaking
SNE	Seconded National Expert
STCA	Short Term Conflict Alert
SWIM	System Wide Information Management
SWIM-TI	System Wide Information Management Technical Infrastructure
TA	Temporary Agent
TMA	Terminal Manoeuvring Area
TRL	Technology Readiness Level
TTA	Target Time Arrival
UAS	Unmanned Aerial System
UDPP	User Driven Prioritisation Process
UTM	UAS Traffic Management
VLD	Very Large-Scale Demonstration
VLL	Very Low-Level

Annex XII: Budget 2017

1. Legal Basis

This Budget 2017 is established in accordance with Article 32.9 of the SJU Financial Rules approved by the Administrative Board (ADB) on 25 June 2015.

2. Background

In accordance with Article 32.9 of the SJU Financial Rules “the Executive Director shall prepare the draft budget for the following year (N) and submit it to the Administrative Board for adoption. The draft budget shall be submitted to the Administrative Board no later than 30 September of the preceding year (N-1)”.

Furthermore, in accordance with the SJU Financial Rules, the 2017 provisional draft estimate was submitted to the European Commission at the end of January 2016, followed by the Annual Activity Report 2015 and a draft of the new Single Programming Document (SPD) for the years 2017-2019 on 10 June 2016. The amounts indicated in the present document are based on these documents, however, some adaptations were necessary since then to reflect updated information and necessary changes requiring the approval of the Administrative Board. In this respect, the budgetary information contained in this Budget 2017 document should be considered as updated budgetary information of the draft SPD 2017-2019.

On 16 June 2014, the Council of Ministers of the European Union adopted Council Regulation (EU) 721/2014 which extends the legal duration of the SJU until 2024 and entrusts the SJU with EUR 585 million from the European Union Horizon 2020 Programme to pursue the Research and Innovation (R&I) in view of delivering the necessary technologies and operational procedures to ensure the execution and completion of the European ATM Master Plan (Master Plan). Through a delegation agreement signed in December 2016,¹⁶ the European Commission allocated to the SJU additional 500k EUR to further develop the knowledge regarding the operation and the required technology that will allow the implementation of an Active Geo-fencing service to prevent the incursion of drones into protected areas.

In view of this extension and the establishment of the next SESAR Programme in parallel to the closing first Programme, this Budget 2017 is presented in two sections:

- Section 1 “SESAR1” (FP7/TEN-T):

The remaining payment obligations related to the first Programme of the Joint Undertaking stemming from commitments entered into before 2017 will be presented, together with the remaining revenues to cover these payments. Even though the SESAR 1 programme activities ceased at the end of 2016 there are a few more new commitments required to cover outstanding obligations. The budget outturn of 2016 will be partially reused in this case.

- Section 2 “SESAR2020” (HORIZON2020):

Revenues, Commitments and Payments related to the SESAR 2020 Programme activities are presented, including for the first time the Running Costs of the SJU.

This Budget 2017 contains all the approved revenues, expenditures and staff resources needed to be committed and paid calculated on the basis of the information available at the end of November

¹⁶ Delegation Agreement EC/SESAR JU ref. MOVE/E3/DA/2016-669/SI2.743803 signed on 06/12/2016

2016 plus all transfers executed by the Executive Director and identified amendments in the subsequent period that will require the adoption of the Administrative Board.

3. 2016-2017 Key Facts

The following are the key facts for the period up to the end of September 2017:

- a. Further to the extension of the SESAR JU in 2014 and the adoption of the multi-annual work programme, presenting the activities for the period 2016-2019 and a further outlook to 2021, in July 2015, Membership Agreements were signed in June 2016.
- b. Regarding the launching of SESAR 2020, the first call for research projects on SESAR Exploratory Research was published in March 2015 as an open call fully under the rules of Horizon 2020. The Grant Agreements have all been signed in 2016 Q1 – Q2.
- c. The first SJU main programme call for proposals - Wave 1 of its industrial research, validation and preparation for large scale demonstration activities was published on 22 October 2015 and closed on 20 April 2016. This call was restricted to Members of the SJU and brought the results from the SESAR Programme 1, requiring further research, as well as new research content aligned with the European ATM Master Plan together in a coordinated programme of activities performed across 25 closely connected actions. All resulting Grant Agreements are signed.
- d. The main procurement activities in 2016 comprised the launch of the call for SESAR Development Support Services (SDSS), Civil Airspace Users Advice Services and a call for expression of interest to support SJU Scientific Committee.
- e. Simultaneously, during 2016, the SESAR 1 programme continued its execution phase with the execution of Release 5 that will constitute the last delivery cycle of SESAR 1.
- f. The SESAR Showcase event took place in Amsterdam in June 2016 and showcased the majority of SESAR research work and the results achieved to date, industry/stakeholder operational/business perspectives and experiences/expectations as well as what comes next in the SESAR research programme, with a view on SESAR 2020, upcoming standardisation activities and the SESAR deployment programme.
- g. A solution catalogue was produced and made available from the SESAR Showcase event in June 2016 to further promote and provide a living reference of the results of SESAR Research. Those results have been made available as well in an electronic format on the SJU website for wide public dissemination.
- h. With regard to programme reporting, the SJU received by the end of July 2017 from the Members all the Interim Financial Statements for the reporting period 2016.
- i. The assessment process of the Members' Interim Financial Statements 2016 is on-going, most clarification requests have been sent out, the objective remains to finalise the IFS exercise by end of quarter three 2017 including the co-financing disbursements.
- j. During 2016, 21 audits have been launched and no material issue has been identified in the audits performed to date that would require the attention of the ADB.
- k. The Administration Board authorised through the MSPP 2016-2018 the reinforcement of the legal and financial capabilities of SESAR through the recruitment of two additional contractual agents for a 2 year period in order to support the transition from SESAR 1 to SESAR 2020. These 2 positions were filled during the first quarter 2016.
- l. The SESAR JU signed a Service Level Agreement with DG BUDG to outsource accounting services and treasury. Entry into force on 01/11/2016 after formal approval on October 2016 by the SJU ADB.
- m. The European Commission allocated to the SJU additional EUR 500 000 to further develop the knowledge regarding the operation and the required technology that will allow the

implementation of an Active Geo-fencing service to prevent the incursion of drones into protected areas¹⁷.

- n. The European Commission allocated to the SJU additional EUR 800 000 to develop a proposal for the future architecture of the European airspace¹⁸.

4. Budget 2017

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

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

4.1 Section 1 (SESAR1)

4.1.1 Revenues

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

European Union (Title 1)

- a. The cumulative revenue entitlements from the funds of the 7th Framework Programme for Research and Development (hereinafter FP7) amounted to EUR 350.0 million and to EUR 350.0 million from the funds of the multi-annual budget of the Trans-European Transport Networks (hereinafter TEN-T) at the end of 2013 respectively. Consequently, there are no more entitlements foreseen.
- b. In terms of revenue, the SJU has received during 2016 EUR 75.0 million from the EU (EUR 52.5 million from FP7 and EUR 22.5 million from TEN-T). For 2017, depending mainly on the level of the Members' final payment requests and applying the principle of rigorous cash management, it is currently estimated that the SJU will require maximum additional EUR 41.8 million in terms of FP7 funds and EUR 20.1 million as TEN-T funds plus will reuse EUR 1.95 million of its 2016 budget outturn to cover outstanding obligations. The General Agreement between the EU and the SJU governs all the provisions related to the payment requests from the SJU to the EU.

The following table gives an overview of Revenues from the EU, both in terms of maximum revenue entitlements and actual payments received or estimated to be received. With regard to the EU contribution to the SJU Running Expenditure (Title 1 and 2), which is limited to EUR 35 million, please refer to section 4.1.2.1.

Revenue	2007 - 2015	2016	2017	2007 - 2017
<u>Entitlements</u>	<u>Total</u>	<u>am. budget</u>	<u>budget</u>	<u>Total</u>

¹⁷ Through the delegation agreement EC/SESAR JU – MOVE/E3/DA/2016-669/SI2.743803 of 6 December 2016

¹⁸ Through a delegation agreement to be signed between the Commission and the SJU in 2017

FP7	350,0	0,0	n/a	350,0
TEN-T	350,0	0,0	n/a	350,0
Total	700,0	0,0		700,0

Revenue	2007 - 2015	2016	2017	2007 - 2017
<u>Payments received</u>	<u>Total</u>	<u>am. budget</u>	<u>budget</u>	<u>Total</u>
FP7	235,2	52,5	41,8	329,5
TEN-T	286,9	22,5	20,1	329,5
Total	522,1	75,0	61,9	659,0

It should also be noted that -based on current Programme Forecasts and subject to the final actual costs incurred at the end of the SESAR1 Programme- the EU Contribution is currently estimated to be 5-10% lower than the maximum of EUR 700 million. The final actual costs incurred will not be known before the administrative and financial closure of the Programme in 2017/2018, however, updated and more reliable estimates will be provided regularly beforehand.

EUROCONTROL (Title 2)

- All revenue entitlements from EUROCONTROL have been established so no further ones are foreseen for 2017.
- In terms of actual revenue, the SJU is expected to receive and recognise as financial contribution related to 2016 from EUROCONTROL an amount of EUR 10.3 million:
 - EUR 5.8 million for WP 11,
 - EUR 3.3 million for WP E,
 - EUR 4.2 million related to Military, Professional Staff Associations and Airspace Users,
 - EUR 0.9 million related to the IT and administrative support provided to the SJU.
 - EUR -3.9 million provisional reimbursements for a potential surplus already received for the co-financing of WPs 7,13,16 and C or in order to balance the contribution to the SJU Running Costs, subject to the final costs incurred by all Members and the final Running Costs of the SJU (please see also comments below).

Revenue	2007 - 2015	2016	2017	2007 - 2017
<u>Entitlements</u>	<u>Total</u>	<u>am. budget</u>	<u>budget</u>	<u>Total</u>
Financial	127,4	22,0	n/a	149,4

Revenue	2007 – 2015	2016	2017	2007 - 2017
<u>Payment received</u>	<u>Total</u>	<u>am. budget</u>	<u>budget</u>	<u>Total</u>
Financial	111,9	15,1	10,3	137,3

It should be noted that -based on current Programme Forecasts and subject to the final actual costs incurred at the end of the SESAR1 Programme- the financial contribution from EUROCONTROL is currently estimated to be 10-20% lower than the initial maximum of EUR 165 million. The total revenue-entitlements of EUR 149.4 million accumulated since 2007 will be sufficient to cover all payments expected to be received by the end of 2017. The final actual costs incurred will not be known before the administrative and financial closure of the Programme in 2017/2018, however, updated and more reliable estimates will be provided regularly beforehand.

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

Other Members (Title 3)

As will be explained in Section 4.1.2.1, the total SJU Running Costs are expected to be lower than the maximum 5% (EUR 27.8 million) financial contributions from Other Members (as foreseen in the amendment 4 of Schedule 14 MFA). Provisional reimbursements of EUR 4.9 million are therefore foreseen in the 2017 Budget, however, these are subject to the final costs incurred by all Members and the final Running Costs of the SJU which will not be known before the administrative and financial closure of the Programme in 2017/2018.

4.1.2 Expenditure)

4.1.2.1 Overview of the contribution to the SJU Running Costs (SESAR1)

Commitments	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	amend.	Total
	2007-2008	2009	2010	2011	2012	2013	2014	2015	Budget	2007 - 2016
Title 1	3,2	4,0	5,0	5,4	5,3	5,6	6,2	6,0	6,2	46,8
Title 2	1,5	3,9	3,0	3,1	2,9	3,1	3,2	3,2	4,1	28,0
Total	4,7	7,9	8,0	8,5	8,2	8,7	9,4	9,2	10,3	74,8

Funded with

EU	FP7	4,0	5,5	-	-	2,2	4,1	3,7	2,4	6,1	27,9
	TEN-T	-	-	-	-	-	-	-	-	-	-
	Total	4,0	5,5	-	-	2,2	4,1	3,7	2,4	6,1	27,9
Eurocontrol		0,7	2,4	8,0	5,8	1,1	1,2	1,2	1,0	2,3	23,7
Other Members		-	-	-	2,7	4,9	3,4	4,4	5,9	1,9	23,2
Total		4,7	7,9	8,0	8,5	8,2	8,7	9,4	9,2	10,3	74,8

With the last Budget Commitments of EUR 10.3 million in 2016 (amendment 2 to the budget), the total Running Costs would amount to EUR 74.8 million, considerably lower than the agreed 5% on all Members' maximum Contributions. With the current Programme Forecasts for the SESAR1 Programme, the total Commitments of EUR 74.8 million for Running Costs would represent 4.2%.

Moreover, it is likely that the actual costs incurred and paid by 2017 will be actually still lower than the above shown maximum Commitments (the current best estimate remains below 4.0%). However, the final actual amounts, both for the SJU Running Costs and for all Members' Contributions and necessary to perform a final balancing exercise as foreseen by the MFA/MAs, will not be known before the administrative and financial closure of the Programme in 2017/2018. Updated and more reliable estimates will be provided regularly beforehand.

Part of the 2016 budget outturn was used in order to cover the following outstanding obligations amounting to 586 844 EUR :

- secondment costs of staff from one of the SJU members 165k EUR;
- costs related to the transition of the telecommunication system amounting to 41,5k EUR;
- costs of revamping SJU's website amounting to 21k EUR;
- EUROCONTROL IT costs of 2016 amounting to 83,5k EUR;
- expenditure incurred with the development of data management system for which the invoice was received in 2017 and the costs of archiving the SESAR 1 related data stored on Extranet amounting to 275,8k EUR.

4.1.2.2 Studies and developments carried out by the SJU (Title 3.1)

Apart from the open Commitment and Payment Appropriations for SESAR1 under this budget title, which can be summarised as follows:

- Out of the total EUR 21.9 million payments, EUR 13.4 million relate to contracts managed by EUROCONTROL on behalf of the SJU (as detailed in section 4.1.1. for EUROCONTROL Contributions)

- b. EUR 6.4 million relate to the final payments for the 2014 Large Scale Demonstration Activities call;
- c. EUR 1.0 million necessary to cover the remaining two years of ex-post Programme Audit in accordance with the SJU Audit strategy ;
- d. EUR 1.1 million final payments related to the remaining open calls and studies;

three more estimated obligations require the approval of the Administrative Board for the reuse of the 2016 budget outturn in 2017:

- a. An estimated amount of 100 000 EUR to cover the costs of possible legal actions in relation to SESAR 1;
- b. The amount of 131 665 EUR to cover the final cost claim received from one consortium's member;
- c. An amount of 998 143 EUR to cover the estimated costs of audit services related to the closure of the SESAR 1 programme.

The table below therefore details only the remaining final payments of commitments carried forward from previous years and the above amendments

Million EUR	<u>BUDGET 2016</u>	<u>BUDGET 2017</u>	
	<i>Commitment Appropriations</i>	<i>Commitment Appropriations</i>	<i>Payment Appropriations</i>
ACAS			0.2
Ad hoc studies	0,1		
Airport Expertise (ACI)	0,2		
Associates of the SJU			
ATMPP Strategic Performance Partnership	0,1		
Cyber Security	0,0		
Datalink VDL (**)			
Definition Phase RPAS (**)			
Demonstration Activities (call 2012)			
Demonstration Activities (call 2013)			
Demonstration Activities (call 2014)		0,1	6,5
DMS/Technical support for SESAR2020 (**)			
Independent Experts	0,5		
Industrial Support	5,0		0.5
NSA Advisory Group			
Programme Support	1,0		0,4
Programme Audit Services	1,5	1,0	2,0
Programme Legal Services	0,1	0,1	0,1
Programme Strategy Advice	0,8		
Scientific Committee			

Airspace Users (*)	10,9		3,6
Military and Professional Staff Associations (*)	0,4		0,6
WP11 (*)			5,8
WPE (*)	6,1		3,3
Total	26,7	-	23,0

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

(**) In accordance with ADB(D)05-2014 of 26 June '14.

4.1.2.3 Studies and developments carried out by the Members (Title 3.3)

All Members' commitments were recorded by the SJU by the end of 2013, taking into account the results of the Reallocation and BAFO III processes.

One final cost claim has been received in 2017 from a member for the reporting period 2015 as it has been mistakenly excluded from the reports of the previous period. The claim has not been expected that late and its' assessed value of 137,6k EUR will be paid out of the 2016 budget outturn.

Against the remaining open commitments, the last Co-Financing claims by the Members, to be submitted as Final Financial Statements during 2017, are expected to be settled for a maximum estimated amount of EUR 45.5 million. These final payments will take into account the clearings of any remaining Pre-Financings and the reimbursement of any retained amounts from previous years where Members had reached the maximum payments ceilings of 80% stipulated in the MFA/MAS (85% with Bank Guarantee).

As stated under the section 4.1.1. for Revenues above, it should also be noted that the above payment appropriations for 2017 are based on a Programme Forecast which is 4% lower than the maximum Co-Financing to Members (EUR 556.1 million as per amendment 4 of the MFA). However, quarterly effort-consumption indicators provided by the Members by the end of September 2016 and the planning of the projects closure process suggest the Programme might be completed with an actual consumption lower than 96% while the liability of the technical content is expected to be delivered. In cooperation with the Members, the SJU is closely monitoring this development and will continue to regularly inform the Administrative Board and the European Commission as soon as information becomes available about any need to revise the budget for the expected final payments to the Members of the SESAR1 programme.

4.1.3 Overall SESAR1 financial contributions (Revenues and Expenditures)

The tables below contain the Budgets for SESAR1 for information purposes only and only related to the financial part as approved at the end of 2016.

SESAR JOINT UNDERTAKING

Budget 2017 (Section 1 - SESAR1)

STATEMENT OF REVENUE

all figures in Euro

Title / Chapter	Programme maximum (MFA amend.4)	Revenue Entitlements				Revenue			
		Implemented 2014	Amendment 2 Budget 2015	Amendment 2 Budget 2016	Amendment Budget 2017	Implemented 2014	Amendment 2 Budget 2.015	Amendment 2 Budget 2016	Amendment 1 Budget 2017
1. European Union Contribution	700.000.000					94.753.384	82.582.275	75.000.000	61.910.145
1.1 7th Research and Dev. Framework Programme	350.000.000					41.008.643	46.826.075	52.500.000	41.808.596
1.2 Tran-European Network Programme	350.000.000					53.744.741	35.756.200	22.500.000	20.101.549
2. Contribution from Eurocontrol	165.000.000	3.236.920	20.558.736	22.033.264		14.279.914	14.859.510	15.134.605	10.310.920
2.1 contribution in cash	165.000.000	3.236.920	20.558.736	22.033.264		14.279.914	14.859.510	15.134.605	10.310.920
3. Contributions from Other Members	27.824.089	4.246.362	4.246.362	2.345.919		4.246.362	4.246.362		(4.944.920)
3.1 contribution in cash	27.824.089	4.246.362	4.246.362	2.345.919		4.246.362	4.246.362		(4.944.920)
4. Other Revenue		21.649	47.839	3.347.346		(37.077)	50.031	100.000	
4.1 Revenue From Interests Yielded		21.649	47.839	100.000		66.713	50.031	100.000	
4.2 Revenue From Taxes Recovered									
4.3 Programme revenues from non Members									
4.4 Exceptional Revenues - Decommittments				3.247.346		19.980			
4.5 Interest to be returned to the EU						(123.770)			
Budget Outturn previous year		20.074.906	14.533.412	9.209.232	1.954.260	5.523.016	21.436.603	10.398.808	1.954.260
TOTAL REVENUE	892.824.089	27.579.837	39.386.349	36.935.761	1.954.260	118.765.599	123.174.781	100.633.413	69.230.405

STATEMENT OF EXPENDITURE

<i>all figures in Euro</i>		Commitment Appropriations				Payment Appropriations			
<u>Title / Chapter</u>	Programme maximum (MFA amend.4)	Implemented 2.014	Amendment 2 Budget 2.015	Amendment 2 Budget 2016	Amendment Budget 2017	Implemented 2014	Amendment 2 Budget 2.015	Amendment 2 Budget 2016	Amendment 1 Budget 2017
1. Staff Expenditure	62.824.089	6.181.609	5.954.705	6.191.500	165.000	5.146.061	4.927.129	6.191.500	165.000
1.1. Staff Expenditure As Per Staff Establish. Plan		4.100.000	4.320.000	4.436.500		3.412.698	3.763.597	4.436.500	
1.2. Contract Agents, Interim Staff		550.000	620.000	690.000		436.433	420.426	690.000	
1.3. Secondments From Members		690.000	165.000	170.000	165.000	858.930	297.730	170.000	165.000
1.4. Seconded National Experts		180.000	180.000	200.000		69.181	108.156	200.000	
1.5. Mission Costs		500.000	500.000	500.000		273.112	255.896	500.000	
1.6. Other Staff Expenditure		161.609	169.705	195.000		95.707	81.324	195.000	
2. Administrative Expenditure	35.000.000	3.187.216	3.231.138	4.058.500	421.844	2.474.909	2.446.655	4.058.500	421.844
2.1. Rental Of Buildings And Associated Costs		931.716	950.000	978.500		804.682	651.909	978.500	
2.2. Movable Property And Associated Costs		54.000	128.000	100.000		14.158	21.545	100.000	
2.3. Pr And Events		394.500	330.000	385.000		403.940	166.597	385.000	
2.4. Postage And Telecommunications		141.000	175.500	141.000	41.500	93.724	105.595	141.000	41.500
2.5. Administrative Board Expenditure		20.000	10.000	20.000		4.205	1.216	20.000	
2.6. Current Administrative Expenditure		311.000	291.000	265.000		117.341	234.939	265.000	
2.7. It Expenditure And Technical Facilities		1.290.000	1.270.000	2.075.000	104.470	1.012.513	1.202.457	2.075.000	104.470
2.8. Administrative Support Services		45.000	76.638	94.000	275.874	24.346	62.397	94.000	275.874
3. Operating Expenditure	795.000.000	3.677.600	20.991.274	26.685.761	1.367.416	89.708.026	105.402.189	90.383.413	68.643.561
3.1. Studies/Development Conducted By The SJU	231.878.000	3.677.600	20.991.274	26.685.761	1.229.808	24.119.075	38.437.801	38.026.072	23.096.479
3.2. Studies/Development Conducted By EUROCONTROL	7.000.000								
3.3. Studies/Development Conducted By The Members	556.122.000				137.608	65.588.951	66.964.388	52.357.341	45.547.082
TOTAL EXPENDITURE	892.824.089	13.046.425	30.177.117	36.935.761	1.954.260	97.328.996	112.775.973	100.633.413	69.230.405
BALANCE OF BUDGET OUTTURN		14.533.412	9.209.232			21.436.603	10.398.808		

4.2 Section 2 (SESAR 2020)

4.2.1 Revenues

European Union (Title 1)

- a. The cumulative revenue entitlements in terms of Horizon 2020 resources amount up to EUR 133,7 million and include the initial contribution of EUR 20,6 million in 2014 for Exploratory Research, EUR 51,5 million in 2015 used as a first global commitment for the start of the Wave1 SESAR 2020 Members' calls and EUR 62,1 million in 2016 used to launch in parallel open and non-members related calls (please refer to chapter 4.2.2.4 for more details). The process to establish the new SESAR 2020 Partnership is finished and it is expected that the first activities will be launched in Q4 of 2016. The first in kind contributions of the new SESAR2020 Members are expected to phase in during 2016 and 2017 as well. For 2017, in line with the Provisional Draft Estimates submitted to the Commission earlier this year, the EU is expected to provide to the SJU further revenue entitlements for EUR 102.4 million with the following split:
 - i. EUR 3.2 million Horizon 2020 contributions to the first administrative expenditure of SESAR2020 (i.e. staff and administrative expenditure - also referred to as 'SJU Running Costs'. Please refer to Chapters 4.2.2.1 and 4.2.2.2 below for more details);
 - ii. EUR 99,2 million contributions to operational expenditure of the SJU of which EUR 96.8 from Horizon 2020 funds and an estimated EUR 2,4 from EFTA funds, which will be used exclusively for further commitments towards the new SESAR 2020 Members,
 - iii. EUR 800 000 from the Commission to prepare a study to develop a proposal on future Airspace Architecture.
- b. In terms of revenues to be received, on the other hand, EUR 66,1 million total financial contributions are estimated to be provided by the EU in 2017, split as follows:
 - i. EUR 3,2 million Horizon 2020 contributions to the first administrative expenditure of SESAR2020;
 - ii. EUR 62,6 million contributions to payments of operational expenditure of the SJU of which EUR 60,2 from Horizon 2020 funds and an estimated EUR 2,5 from EFTA funds;
 - iii. EUR 0,25 million assigned revenue from Commission/ European Parliament funds to contribute to Very Large Scale Demonstration activities,
 - iv. EUR 0,4 million assigned revenue from Commission funds to prepare a study to develop a proposal on future Airspace Architecture.

In addition to the above:

- the received financing decision, Commission Decision C(2017) 4097 of 19 June 2017 shows an increase of payment appropriations by 4,19 million that was aligned to the initially approved budget for the year.

EUROCONTROL (Title 2)

On 7 September 2016, EUROCONTROL and the SJU signed an agreement outlining EUROCONTROL's renewed role in and commitment to the SJU and its next ATM research and development work programme (SESAR 2020). This agreement foresees an estimated amount of EUR 25 million financial contribution to the SJU's running costs until the end of 2024. This amount shall consist of an estimated amount of EUR 10.0 million for IT support and EUR 15 million financial contributions to other running costs. For 2017, both in terms of revenue entitlements and revenue to be received, an amount of EUR 3.5 million is estimated as budget.

The SJU accepted from EUROCONTROL a financial contribution for 2017 amounting to 3,2 million EUR that will be offset against future years contribution ensuring the total financial contribution from EUROCONTROL for the duration of the programme is not exceeded.

Other Members (Title 3)

During 2016, the SJU signed agreements with all 19 Members participating in the SESAR2020 Programme. The Membership agreements specify that each Member shall financially contribute to the SJU running costs, that the financial contributions shall correspond to 5% of each Member's Gross In-Kind Contribution after deduction of the SJU Co-Financing and that every year, no later than 1st July, each Member shall pay to the SJU one seventh (1/7) of its estimated total financial contribution to the SJU. In total, the initial estimated financial contribution for all other Members amounts to EUR 18.5 million, consequently EUR 2.6 million (1/7) are foreseen in the 2017 Budget both in terms of revenue entitlements and revenue to be received.

Taking into account the total financial contribution from EUROCONTROL for 2017 and the positive SJU' cash flow position of the year 2017, the SJU does not need to collect the financial contribution from its other Members this year, and will postpone it to the next year. Overall this has no impact on the total financial contribution to the running costs of the SJU from any of the members.

4.2.2 Expenditure

4.2.2.1 Staff Expenditure (Title 1)

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

In accordance with the Multi-Annual Staff Policy Plan, the staff establishment plan 2017 of the SJU includes 39 posts, as indicated in annex III above. The Budget 2017 is estimated based on the assumption that the 39 positions will be fully occupied during the year.

At the end of September 2016, 1 TA position is still vacant; it is expected that the recruitment process will be completed before the end of the first half of 2017.

The 2017 expenditure for staff is estimated at EUR 5.995 million in total, practically at the same level as the 2016 Budget under the SESAR1 Programme. The staff costs have been determined considering appropriate increase of the index or steps in accordance with the Staff Regulations.

Concerning reclassification of TAs and CAs, the first exercise took place at the end of 2014 following the adoption of the appropriate implementing rules by the Commission Services. In line with the Multi-Annual Staff Policy Plan 2016-2018, the 2016 annual reclassification exercise was initiated in October 2016.

With regard to the expenditure for missions (chapter 1.5), the SJU adopted a policy to reduce the costs of the missions giving preference to web-conferencing and to video conferencing. For the Budget 2017 the figure from previous budget years has still been maintained at EUR 0.5 million, however, the actual amount is expected to be significantly lower. A revision of the mission costs revealed such a surplus (30k EUR) that has been used via a transfer to cover the funding gap under the Administrative Board expenditure within Title 2.

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

4.2.2.2 Administrative Expenditure (Title 2)

The administrative expenditure, core to the support of the smooth running of the Programme and to ensure compliance with the EU regulations, is estimated at EUR 3.2 million, slightly lower than the level of the Budget 2016 under the SESAR1 Programme and with some shifts between cost categories.

The main differences concern:

- Chapter 2.1 – EUR 0.1 million decrease of annual rental costs taking into account the new rental lease signed in 2016;
- Chapter 2.4 – EUR 0.18 million shift of unified communication services to Chapter 2.7 'IT Expenditure and Technical Facilities' to accommodate the technical developments in this field;
- Chapter 2.8 – EUR 0.04 million increase to accommodate increased translation costs and the fees to DGBUDG for the provision of the Accounting Officer's services.

With regard to the PR activities, over the course of 2017 the SJU Communications Sector will conduct the communications and outreach activities in accordance with the 2015-2020 Communications Strategy and as further detailed in the Work Programme (Section III of the Single Programming Document 2017-2019).

With regard to the IT Expenditure and Technical Facilities (chapter 2.7), out of the total EUR 1.48 million for 2017, estimated EUR 0.8 million will be provided by EUROCONTROL in line with agreement with the SJU (see also Chapter 4.2.1 above). This budget line consists of the following elements:

- IT system maintenance (incl. hosting of the IT services, unified communications and annual fees for the financial system of the EU), EUR 0.9 million;
- Software/licenses EUR 0.06 million;
- Hardware EUR 0.08 million;
- ICT Support, EUR 0.3 million;
- Website and others, EUR 0.14 million.

In addition to the above an amendment of the administrative expenditure requires the approval of the Administrative Board and concerns the following expenditure categories:

- An increase of 53 691 EUR within Chapter 2.3 of both Commitment and Payments Appropriations to cover for required public relations and planned events;
- An increase of 300 000 EUR within Chapter 2.7 of the Commitment and Payment Appropriations to cover the revised costs of the IT projects as part of the transformation exercise towards standardisation and IT architecture alignment;
- An increase of 200 000 EUR within Chapter 2.8 of both Commitment and Payments Appropriations to cover the acquisition, implementation and maintenance of a document management system;

4.2.2.3 Operating Expenditure from NON-MEMBERS Activities (Title 3.1)

This budget line foresees for 2017 only payments against commitments carried forward from previous years, taking into account the effects of the amending Budget 2016. In total, payment appropriations of EUR 23.3 million were initially planned to cover pre-financing and interim payments of the running calls. After a thorough review of the related expenditure the payment appropriation actually needed for the year amounts to 16 million. The following table provides an overview per topic:

Budget item	Commitments carried forward from previous years (initial amounts)	BUDGET 2017	
		Commitment Appropriations (EUR)	Payment Appropriations (EUR)
Exploratory Research 1 (Core ATM 1st call)	20.600.000		3.183.477
Exploratory Research 2 (Core ATM 2nd call)	10.000.000		2.000.000
Exploratory Research 3 (RPAS)	9.000.000		1.482.333
Exploratory Research (next calls)	-		-
Very Large Demonstration Activities VLD	18.500.000		9.250.000
Strategic studies on SES		800.000	400.000
SESAR Development Support Services (SDSS)	15.000.000		2.623.125
Airspace Users	4.500.000		500.000
Professional Staff Associates	500.000		50.000
Airports Expertise	400.000		195.000
Programme Support	1.200.000		554.823
Strategy advice	1.000.000		750.000
Project Audits	1.000.000		500.000
Experts	600.000		315.102
Ad hoc Studies	438.000		
Total	82.738.000	800.000-	21.803.860

4.2.2.4 Operating Expenditure from MEMBERS Activities (Titles 3.2-3.3)

Following the signature of the Membership Agreements, the evaluation of the Wave 1 IR/VLD-call and the establishment of the first Grants in 2016, the Draft Budget 2017 foresees new commitment appropriations to increase the existing commitments towards the SJU Members for a total of EUR 99.2 million (revised at EUR 99.4 million to integrate the transfer of secondment costs from Title 1 to Title 3), to be fully used for the second instalment of Wave1 approved in the Multiannual Work Programme for SESAR 2020. As described in detail in section 3.3.1 of the Single Programming Document 2017-2019, this process will be implemented in full during the course of 2017 and shall be formalised by grant amendments.

In terms of payment appropriations, on the other hand, an amount of EUR 46,1 million is expected to be needed for remaining Pre-Financings of Wave 1 projects. No Interim or Balancing payments to Members are yet foreseen in 2017.

The allocation of these additional 2017 appropriations for Wave 1 projects shall be done in simple proportion of the activities performed under each project. The following two Chapters provide the estimated split between the proportionate amounts for EUROCONTROL on one side and the OTHER MEMBERS as a whole on the other side, in line with the need to account for and monitor the matching of each 'Member group' (EU, EUROCONTROL, OTHER MEMBERS) separately in the SJU Budget.

4.2.2.4.1 Operating Expenditure from EUROCONTROL Activities (Title 3.2)

Out of the 2017 total EUR 99,4 million additional commitment appropriations for SJU Members, EUR 4,9 million are estimated to be allocated to EUROCONTROL, in proportion to the total Co-Financing amounts requested by EUROCONTROL in Wave1 Grants.

The respective amount for additional payment appropriations for EUROCONTROL out of the total EUR 51,2 million is estimated at EUR 1,1 million.

4.2.2.4.2 Operating Expenditure from OTHER MEMBERS Activities (Title 3.3)

Out of the 2017 total EUR 99.4 million additional commitment appropriations for SJU Members, EUR 94,5 million are estimated to be allocated to the OTHER MEMBERS, in proportion to the total Co-Financing amounts requested by each Member in Wave1 Grants.

The respective amount for additional payment appropriations for the members has been calculated at 50,1 million and will be soon implemented via an amendment to the active grants.

4.2.3 Overall SESAR2020 Financial Contributions (Revenues and Expenditures)

The tables below contain the Budget for Section 2 (SESAR 2020) for information purposes only and only related to the financial parts.

SESAR JOINT UNDERTAKING

Budget 2017 (Section 2 - SESAR2020)

STATEMENT OF REVENUE

all figures in Euro

<u>Title / Chapter</u>	Programme estimates								
		Implemented 2014	Amendment 2 Budget 2015	Amendment 2 Budget 2016	Amendment Budget 2017	Implemented 2014	Amendment 2 Budget 2015	Amendment 2 Budget 2016	Amendment Budget 2017
1. European Union Contribution	586.300.000	20.600.000	51.470.000	62.138.000	103.240.000		10.300.000	56.519.225	70.647.252
1.1 H2020 Contribution to Administrative Expenditure	26.660.000				3.241.507				3.320.600
1.2 H2020 Contribution to Operational Expenditure	558.340.000	20.600.000	51.470.000	61.638.000	99.198.493		10.300.000	56.519.225	66.676.652
1.3 Com/EP Contributions (Assigned Revenue)	1.300.000			500.000	800.000				650.000
2. Contribution from Eurocontrol	25.000.000				6.682.000				6.682.000
2.1 contribution in cash	25.000.000				6.682.000				6.682.000
3. Contributions from Other Members	18.466.056								
3.1 contribution in cash	18.466.056								
4. Other Revenue									
4.1 Revenue From Interests Yielded									
4.2 Revenue From Taxes Recovered									
4.3 Programme revenues from non Members									
4.4 Exceptional Revenues - Decommittments									
4.5 Interest to be returned to the EU									
Budget Outturn previous year									
TOTAL REVENUE	629.766.056	20.600.000	51.470.000	62.138.000	109.922.000		10.300.000	56.519.225	77.329.252

To allow for comparison to the initial approved budget and to provide more clarity regarding to the amendments made the tables below present the proposed amendment to the 2017 budget for SESAR 2020:

STATEMENT OF EXPENDITURE

all figures in Euro

Title / Chapter	Programme estimates								
		Implemented 2014	Amendment 2 Budget 2015	Amendment 2 Budget 2016	Amendment Budget 2017	Implemented 2014	Amendment 2 Budget 2.015	Amendment 2 Budget 2016	Amendment Budget 2017
1. Staff Expenditure	46.041.843				5.995.000				5.995.000
1.1. Staff Expenditure As Per Staff Establish. Plan	33.493.101				4.440.000				4.440.000
1.2. Contract Agents, Interim Staff	5.412.148				690.000				690.000
1.3. Secondments From Members	1.360.000								
1.4. Seconded National Experts	1.716.594				200.000				200.000
1.5. Mission Costs	2.600.000				470.000				470.000
1.6. Other Staff Expenditure	1.460.000				195.000				195.000
2. Administrative Expenditure	24.084.213				3.758.507				3.758.507
2.1. Rental Of Buildings And Associated Costs	7.363.213				874.816				874.816
2.2. Movable Property And Associated Costs	800.000				100.000				100.000
2.3. PR And Events	2.324.000				406.691				406.691
2.4. Postage	80.000				10.000				10.000
2.5. Governance Expenditure	160.000				50.000				50.000
2.6. Current Administrative Expenditure	1.754.000				225.000				225.000
2.7. ICT and Unified Communications	10.546.000				1.762.000				1.762.000
2.8. Administrative Support Services	1.057.000				330.000				330.000
3. Operating Expenditure	559.640.000	20.600.000	51.470.000	62.138.000	100.168.493		10.300.000	56.519.225	67.575.745
3.1. Non-Members Activities	161.640.000	20.600.000		62.138.000	800.000		10.300.000	16.519.225	16.403.860
3.2. Eurocontrol Activities	7.743.219		1.178.373		4.914.813			739.523	1.088.012
3.3. Other Members Activities	390.256.781		50.291.627		94.453.680			39.260.477	50.083.873
TOTAL EXPENDITURE	629.766.056	20.600.000	51.470.000	62.138.000	109.922.000		10.300.000	56.519.225	77.329.252
BALANCE OF BUDGET OUTTURN									0

Appendix I (in-kind for SESAR 2020)

The table below contains the amounts of estimated in-kind contributions to be committed by the SJU Members during 2017 in relation to the SESAR2020 Programme.

With regard to EUROCONTROL, the amount of EUR 71.3 million refers to the specific resources dedicated to the Programme, out of which EUR 4 million for the Programme Management Unit (PMU) staff.

Appendix I - In-Kind Contribution & Expenditure (SESAR2020)

IN-KIND CONTRIBUTION

all figures in Euro	Programme estimates (Sept. 2016)	Revenue Entitlements			
		Implemented 2014	Implemented 2015	Amendment 2 Budget 2016	Amendment 1 Budget 2017
Title / Chapter					
1. European Union Contribution					
1.1 H2020 Contribution to Administrative Expenditure					
1.2 H2020 Contribution to Operational Expenditure					
1.3 Com/EP Contribution to VLD (Assigned Revenue)					
2. Contribution from Eurocontrol	475.000.000				71.232.598
2.1 contribution in cash					
2.2 contribution in kind	475.000.000				71.232.598
3. Contributions from Other Members	307.372.403				45.412.193
3.1 contribution in cash					
3.2 contribution in kind	307.372.403				45.412.193
4. Other Revenue					
4.1 Revenue From Interests Yielded					
4.2 Revenue From Taxes Recovered					
4.3 Programme revenues from non Members					
4.4 Exceptional Revenues - Decommittments					
4.5 Interest to be returned to the EU					
Budget Outturn previous year					
TOTAL REVENUE	782.372.403				116.644.791

IN-KIND EXPENDITURE

all figures in Euro	Programme estimates (Sept. 2016)	Commitment Appropriations			
		Implemented 2014	Implemented 2015	Amendment 2 Budget 2016	Amendment 1 Budget 2017
Title / Chapter					
1. Staff Expenditure					
1.1. Staff Expenditure As Per Staff Establish. Plan					
1.2. Contract Agents, Interim Staff					
1.3. Secondments From Members					
1.4. Seconded National Experts					
1.5. Mission Costs					
1.6. Other Staff Expenditure					
2. Administrative Expenditure					
2.1. Rental Of Buildings And Associated Costs					
2.2. Movable Property And Associated Costs					
2.3. Pr And Events					
2.4. Postage And Telecommunications					
2.5. Administrative Board Expenditure					
2.6. Current Administrative Expenditure					
2.7. It Expenditure And Technical Facilities					
2.8. Administrative Support Services					
3. Operating Expenditure	782.372.403				116.644.791
3.1. Non-Members Activities					
3.2. Eurocontrol Activities	475.000.000				71.232.598
3.3. Other Members Activities	307.372.403				45.412.193
TOTAL EXPENDITURE	782.372.403				116.644.791
BALANCE OF BUDGET OUTTURN					

Appendix II (financial & In-kind for SESAR 2020)

The table below contains the total amounts of financial and in-kind contributions and related costs to be committed during 2017 in relation to the SESAR2020 Programme. It also shows the impact of the proposed budget amendment.

Appendix II - Total (SESAR2020)

REVENUE (Cash and In-Kind)

all figures in Euro

<u>Title / Chapter</u>	Programme estimates	Implemented 2014	Amendment 2 Budget 2015	Amendment 2 Budget 2016	Amendment Budget 2017
1. European Union Contribution	586.300.000	20.600.000	51.470.000	62.138.000	103.240.000
1.1 H2020 Contribution to Administrative Expenditure	26.660.000				3.241.507
1.2 H2020 Contribution to Operational Expenditure	558.340.000	20.600.000	51.470.000	61.638.000	99.198.493
1.3 Com/EP Contributions (Assigned Revenue)	1.300.000			500.000	800.000
2. Contribution from Eurocontrol	500.000.000			71.232.598	80.070.642
2.1 contribution in cash	25.000.000				6.682.000
2.2 contribution in kind	475.000.000			71.232.598	73.388.642
3. Contributions from Other Members	325.838.459			45.412.193	57.585.592
3.1 contribution in cash	18.466.056				
3.2 contribution in kind	307.372.403			45.412.193	57.585.592
4. Other Revenue					
4.1 Revenue From Interests Yielded					
4.2 Revenue From Taxes Recovered					
4.3 Programme revenues from non Members					
4.4 Exceptional Revenues					
4.5 Interest to be returned to the EU					
Budget Outturn previous year					
TOTAL REVENUE	1.412.138.459	20.600.000	51.470.000	178.782.791	240.896.234

EXPENDITURE (Cash and In-Kind)

all figures in Euro

<u>Title / Chapter</u>	Programme estimates	Implemented 2014	Amendment 2 Budget 2015	Amendment 2 Budget 2016	Amendment Budget 2017
1. Staff Expenditure	46.041.843				5.995.000
1.1 Staff Expenditure As Per Staff Establish. Plan	33.493.101				4.440.000
1.2 Contract Agents, Interim Staff	5.412.148				690.000
1.3 Secondments From Members	1.360.000				
1.4 Seconded National Experts	1.716.594				200.000
1.5 Mission Costs	2.600.000				470.000
1.6 Other Staff Expenditure	1.460.000				195.000
2. Administrative Expenditure	24.084.213				3.758.507
2.1. Rental Of Buildings And Associated Costs	7.363.213				874.816
2.2. Movable Property And Associated Costs	800.000				100.000
2.3. Pr And Events	2.324.000				406.691
2.4. Postage And Telecommunications	80.000				10.000
2.5. Administrative Board Expenditure	160.000				50.000
2.6. Current Administrative Expenditure	1.754.000				225.000
2.7. It Expenditure And Technical Facilities	10.546.000				1.762.000
2.8. Administrative Support Services	1.057.000				330.000
3. Operating Expenditure	1.342.012.403	20.600.000	51.470.000	178.782.791	231.142.727
3.1. Non-Members Activities	161.640.000	20.600.000		62.138.000	800.000
3.2. Eurocontrol Activities	482.743.219		1.178.373	71.232.598	78.303.455
3.3. Other Members Activities	697.629.184		50.291.627	45.412.193	152.039.272
TOTAL EXPENDITURE	1.412.138.459	20.600.000	51.470.000	178.782.791	240.896.234

BALANCE OF BUDGET OUTTURN

Appendix III (SESAR1 & SESAR 2020)

The tables below contain a consolidated version of the Budgets for Section 1 (SESAR1) and Section 2 (SESAR2020) for information purposes only and only related to the financial parts of the two budget sections including the proposed amendment.

SESAR JOINT UNDERTAKING

Budget Annex XII - 4 (SESAR 1 & SESAR 2020)

STATEMENT OF REVENUE

all figures in Euro

Title / Chapter	SESAR All estimates	Revenue Entitlements				Revenue			
		Implemented 2014	Amendment 2 Budget 2015	Amendment 2 Budget 2016	Amendment Budget 2017	Implemented 2014	Amendment 2 Budget 2015	Amendment 2 Budget 2016	Amendment Budget 2017
1. European Union Contribution	1.286.300.000	20.600.000	51.470.000	62.138.000	103.240.000	94.753.384	92.882.275	131.519.225	132.557.397
1.1 7th Research and Dev. Framework Programme	350.000.000					41.008.643	46.826.075	52.500.000	41.808.596
1.2 Tran-European Network Programme	350.000.000					53.744.741	35.756.200	22.500.000	20.101.549
1.1 H2020 Contribution to Administrative Expenditure	26.660.000				3.241.507				3.320.600
1.2 H2020 Contribution to Operational Expenditure	558.340.000	20.600.000	51.470.000	61.638.000	99.198.493		10.300.000	56.519.225	66.676.652
1.3 Com/EP Contribution to VLD (Assigned Revenue)	1.300.000			500.000	800.000				650.000
2. Contribution from Eurocontrol	190.000.000	3.236.920	20.558.736	22.033.264	6.682.000	14.279.914	14.859.510	15.134.605	16.992.920
2.1 contribution in cash	190.000.000	3.236.920	20.558.736	22.033.264	6.682.000	14.279.914	14.859.510	15.134.605	16.992.920
3. Contributions from Other Members	46.290.145	4.246.362	4.246.362	2.345.919		4.246.362	4.246.362		(4.944.920)
3.1 contribution in cash	46.290.145	4.246.362	4.246.362	2.345.919		4.246.362	4.246.362		(4.944.920)
4. Other Revenue		21.649	47.839	3.347.346		(37.077)	50.031	100.000	
4.1 Revenue From Interests Yielded		21.649	47.839	100.000		66.713	50.031	100.000	
4.2 Revenue From Taxes Recovered									
4.3 Programme revenues from non Members									
4.4 Exceptional Revenues - Decommittments				3.247.346		19.980			
4.5 Interest to be returned to the EU						(123.770)			
Budget Outturn previous year		20.074.906	14.533.412	9.209.232	1.954.260	5.523.016	21.436.603	10.398.808	1.954.260
TOTAL REVENUE	1.522.590.145	48.179.837	90.856.349	99.073.761	111.876.260	118.765.599	133.474.781	157.152.638	146.559.657

STATEMENT OF EXPENDITURE

all figures in Euro

Title / Chapter	SESAR All estimates	Commitment Appropriations				Payment Appropriations			
		Implemented 2.014	Amendment 2 Budget 2015	Amendment 2 Budget 2016	Amendment Budget 2017	Implemented 2014	Amendment 2 Budget 2.015	Amendment 2 Budget 2016	Amendment Budget 2017
1. Staff Expenditure	108.865.932	6.181.609	5.954.705	6.191.500	6.160.000	5.146.061	4.927.129	6.191.500	6.160.000
1.1. Staff Expenditure As Per Staff Establish. Plan	33.493.101	4.100.000	4.320.000	4.436.500	4.440.000	3.412.698	3.763.597	4.436.500	4.440.000
1.2. Contract Agents, Interim Staff	5.412.148	550.000	620.000	690.000	690.000	436.433	420.426	690.000	690.000
1.3. Secondments From Members	1.360.000	690.000	165.000	170.000	165.000	858.930	297.730	170.000	165.000
1.4. Seconded National Experts	1.716.594	180.000	180.000	200.000	200.000	69.181	108.156	200.000	200.000
1.5. Mission Costs	2.600.000	500.000	500.000	500.000	470.000	273.112	255.896	500.000	470.000
1.6. Other Staff Expenditure	1.460.000	161.609	169.705	195.000	195.000	95.707	81.324	195.000	195.000
2. Administrative Expenditure	59.084.213	3.187.216	3.231.138	4.058.500	4.180.351	2.474.909	2.446.655	4.058.500	4.180.351
2.1. Rental Of Buildings And Associated Costs	7.363.213	931.716	950.000	978.500	874.816	804.682	651.909	978.500	874.816
2.2. Movable Property And Associated Costs	800.000	54.000	128.000	100.000	100.000	14.158	21.545	100.000	100.000
2.3. PR And Events	2.324.000	394.500	330.000	385.000	406.691	403.940	166.597	385.000	406.691
2.4. Postage	80.000	141.000	175.500	141.000	51.500	93.724	105.595	141.000	51.500
2.5. Governance Expenditure	160.000	20.000	10.000	20.000	50.000	4.205	1.216	20.000	50.000
2.6. Current Administrative Expenditure	1.754.000	311.000	291.000	265.000	225.000	117.341	234.939	265.000	225.000
2.7. ICT and Unified Communications	10.546.000	1.290.000	1.270.000	2.075.000	1.866.470	1.012.513	1.202.457	2.075.000	1.866.470
2.8. Administrative Support Services	1.057.000	45.000	76.638	94.000	605.874	24.346	62.397	94.000	605.874
3. Operating Expenditure	1.354.640.000	24.277.600	72.461.274	88.823.761	101.535.909	89.708.026	115.702.189	146.902.638	136.219.306
3.1. Non-Members Activities	393.518.000	24.277.600	20.991.274	88.823.761	2.029.808	24.119.075	48.737.801	54.545.297	39.500.339
3.2. Eurocontrol Activities	14.743.219		1.178.373		4.914.813			739.523	1.088.012
3.3. Other Members Activities	946.378.781		50.291.627		94.591.288	65.588.951	66.964.388	91.617.818	95.630.955
TOTAL EXPENDITURE	1.522.590.145	33.646.425	81.647.117	99.073.761	111.876.260	97.328.996	123.075.973	157.152.638	146.559.657
BALANCE OF BUDGET OUTTURN		14.533.412	9.209.232			21.436.603	10.398.808		0