



Tender Specifications annexed to Invitation to Tender

Ref. SJU/LC/0101-CFT

***Definition Phase related to civil
Remotely Piloted Air Systems
insertion into the European
Aviation System in the context
of the Single European Sky
initiative***

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1 INTRODUCTION

1.1 Acronyms

Term	Definition
ACAS	Airborne collision avoidance system
ASBU	Aviation System Block Upgrade
ASD	AeroSpace and Defence Industries Association in Europe
ATC	Air Traffic Control
ATI	Air Traffic Insertion
ATM	Air Traffic Management
BRLOS	Beyond Radio Line Of Sight
CAA	Civil Airspace Authority
CBA	Cost Benefit Analysis
CNS	Communications Navigations and Surveillance
D&A	Detect And Avoid
EASA	European Aviation Safety Agency
EDA	European Defence Agency
EFC	European Framework Cooperation
EREA	Association European Research Establishments
ERGS	European RPAS Steering Group
ESA	European Space Agency
E-VLOS	Extend Visual Line Of Sight
FOC	Full Operational Capability
ICAO	International Civil Aviation Organisation
IFR	Instrument Flight Rules
IOC	Initial Operational Capability
JARUS	Joint Authorities for Rulemaking on Unmanned Systems

MTOM	Maximum Take-Off Mass
OI	Operational Improvement
PBN	Performance based navigation
PMP	Programme Management Plan
RLOS	Radio Line Of Sight
RPAS	Remotely Piloted Aircraft System
S&A	Sense & Avoid
SES	Single European Sky
SESAR	Single European Sky Air Traffic Management Research
SJU	SESAR Joint Undertaking
SME	Small and Medium-Sized Enterprise
SWIM	System Wide Information Management
RPAS	Unmanned Aircraft System
UAV	Unmanned Aircraft Vehicle
ULTRA	Unmanned Aerial Systems in European Airspace Consortium
UVSI	Unmanned Vehicle Systems International Association
VFR	Visual Flight Rules
VLL	Very Low Level
VLOS	Visual Line Of Sight

1.2 Introduction to the SESAR Joint Undertaking and the SESAR Programme

The purpose of the SESAR Joint Undertaking created under Article 187 of the Treaty on the Functioning of the European Union, is to ensure the modernisation of the European air traffic management system through the coordination and concentration of all relevant research and development efforts.

Single European Sky Air Traffic Management Research ("SESAR") is a European initiative aiming at modernising and harmonising the European ATM system ensuring sustainable, safe and efficient air transport development through a performance driven approach.

Further information on the SESAR Programme activities is available at www.sesarju.eu

1.3 The Roadmap for the integration of civil RPAS into the European Aviation System

The European Air transport industry is a key element to the European economy and provides benefits to the society mainly for transport applications. Today, Remotely Piloted Air Systems ("RPAS") can contribute to add to the existing aviation activities different digital technologies and massive exploitation of information. In addition, it is expected to generate the emergence of a new service sector.

The potential of RPAS is today limited by the fact that their flight authorisations are still issued through National or specific procedures not necessarily aligned one to another and limited to segregated airspace. Aligned with ICAO principles, more efforts are required in Europe to develop a seamless regulatory framework and enhancing the coordination of various on-going R&D initiatives.

A broad, safe and swift integration of RPAS into non-segregated airspace requires an enhanced coordination between the numerous actors and the different activities involved (common regulatory framework, R&D and other measures).

Since not all key technologies are today mature and standardized, the insertion of RPAS in airspace will be gradual and subsequently alleviated as soon as technology, regulation and societal acceptance progress.

a. High level requirements

RPAS shall be able to operate in non-segregated airspace, mixed with a variety of manned aircraft under IFR or VFR flight rules adhering to the requirements of the specific airspace in which they are operating and maintaining the highest possible level of safety. RPAS shall not impact on the current air operations in terms of ATC procedures, capacity or additional mandatory equipment requirements. They shall comply with the trajectory management concept envisaged in SESAR and with associated air traffic control rules/procedures.

b. Challenges

Achieving the full integration of RPAS in the European airspace in the context of the Single European Sky initiative requires at least:

- Research & development,
- Safety regulation,
- The societal impact.

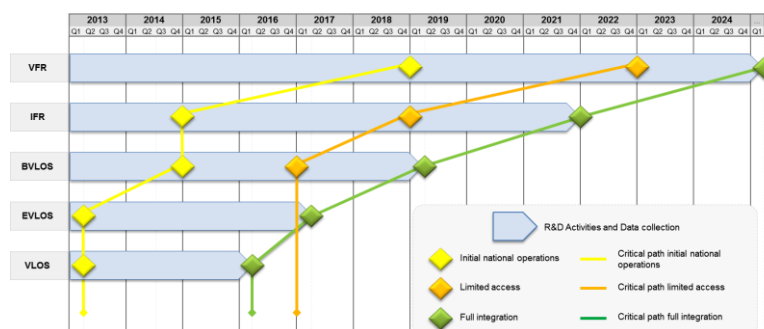
c. Milestones

The flight profiles of RPAS can comprise a wide range of scenarios, which can be categorised in the following 5 types of operations (*in bold*):

- Very low level (VLL) operations below the typical IFR and VFR altitudes for manned aviation comprising **Visual Line of Sight** (VLOS), **Extended Visual Line of Sight** (E-VLOS) and **Beyond VLOS** (B-VLOS) unmanned system operations; and
- RPAS operations in VFR or IFR, above 500ft and above minimum flight altitudes including IFR or VFR operations:
 - in **Radio Line-Of-Sight** (RLOS) from the RPAS in non-segregated airspace where manned aviation is present; and
 - in **Beyond Radio Line-Of-Sight** (BRLOS) operations, when the RPAS can no longer be in direct radio contact with the RPS and therefore a wider range of communication services.

A phased and gradual introduction of RPAS operations has to be adopted based on the 5 types of operations identified above and the following three subsequent levels of integration:

- **initial operations** still be subject to limitations in terms of accessible airspace classes, over densely populated areas, etc;
- further **integration**, partially alleviating any restrictions/limitations; and
- **evolution** would lead to full integration of RPAS.



1.3.1 Plan the development of the appropriate safety regulation

The development of appropriate regulations in the domains of airworthiness, flight crew licensing and air operations are essential pre-requisite safety requirements for insertion into non-segregated airspace. A stepwise approach spanning over 15 years has to be considered in synchronization with the ICAO ASBU concept and in a close coordination with R&D plans and the development of the necessary technologies.

A complicating factor for Europe comes from the fact that an RPAS with a Maximum Take-Off Mass (MTOM) above 150 kg falls under the European Aviation Safety Agency (EASA) competency, while RPAS with a MTOM below 150 kg are ruled by National Civil Aviation Authorities (CAAs). In order to regulate this aviation segment and ensure regulation coherence there is a need to reconsider the distinction above and below 150 Kg of MTOM.

1.3.2 Identify the necessary technology developments

Relying on the previous studies and projects related to RPAS, and the contributions from both industry and relevant research organisations¹, the RPAS R&D Roadmap has been structured around the identification of integration requirements, and operational and technological system gaps to enable RPAS integration in the European Aviation System in the context of the Single European Sky initiative. R&D activities have been grouped to address operational and technological gaps in supporting specific types of operations, considering the European ATM Master Plan but also the achievement of quick wins.

The SESAR Programme deals with most ATM CNS and avionics topics; nevertheless, specific input from a RPAS perspective is missing. Therefore, key dependencies and synergies are identified with SESAR and the R&D activities themselves, as well as between the R&D and the regulatory activities.

¹ such as ASD, EDA, EREA, ESA, JARUS, ULTRA, UVSI, EUROCONTROL and the SJU

1.3.3 Analysis of the societal impact

A first analysis describes the impact the development of RPAS applications could have on society, covering the following main topics:

- Liability and insurance;
- Privacy, data protection, security; and
- Benefits, acceptable risks/safety, end-user forum, demonstrations, etc.

The study of the societal impact provides insight into some of the actions that might be required to address RPAS impact, allowing society to benefit from this innovative technology, while minimizing potential threats.

Further information on the Roadmap for the integration of civil RPAS into the European Aviation System is available at <http://ec.europa.eu/enterprise/sectors/aerospace/uas/>

1.4 Overview of this call

1.4.1 Enabling the sustained insertion of civil RPAS into the European Aviation System

The development of RPAS started in the 1920s, mainly for armed forces operations. Nonetheless RPAS have a great potential for civil applications and, if their full potential is realised, they are expected to bring important benefits to European citizens and the economy as a whole.

Supported by a dynamic industry, more than 400 RPAS developments across 20 European countries have been identified involving companies of all sizes, from global aerospace and defence industries to start-ups and SMEs.

RPAS are themselves multi-part systems and involve a great variety of equipment and payloads. Beyond the RPAS manufacturers and system integrators the RPAS industry also includes a broad supply chain providing a large range of enabling technologies likely to create spin-offs, with significant impact in many sectors.

To reap the full benefits of this new technology for growth and jobs, the existing barriers should be removed, in a coordinated manner, to be able to support the internal market for civil RPAS services. One of the targets to achieve to enable the development of a true internal market for aerial services in Europe is the urgent need to agree European objectives for unrestricted RPAS operations in the Single European Sky.

Further information on the conclusions of the consultation process has been presented in a Staff Working Document by the EC "Towards a European strategy for the development of civil applications of RPAS", which is available at:

<http://ec.europa.eu/enterprise/sectors/aerospace/uas/>

1.4.2 The necessity of the RPAS Definition Phase Study

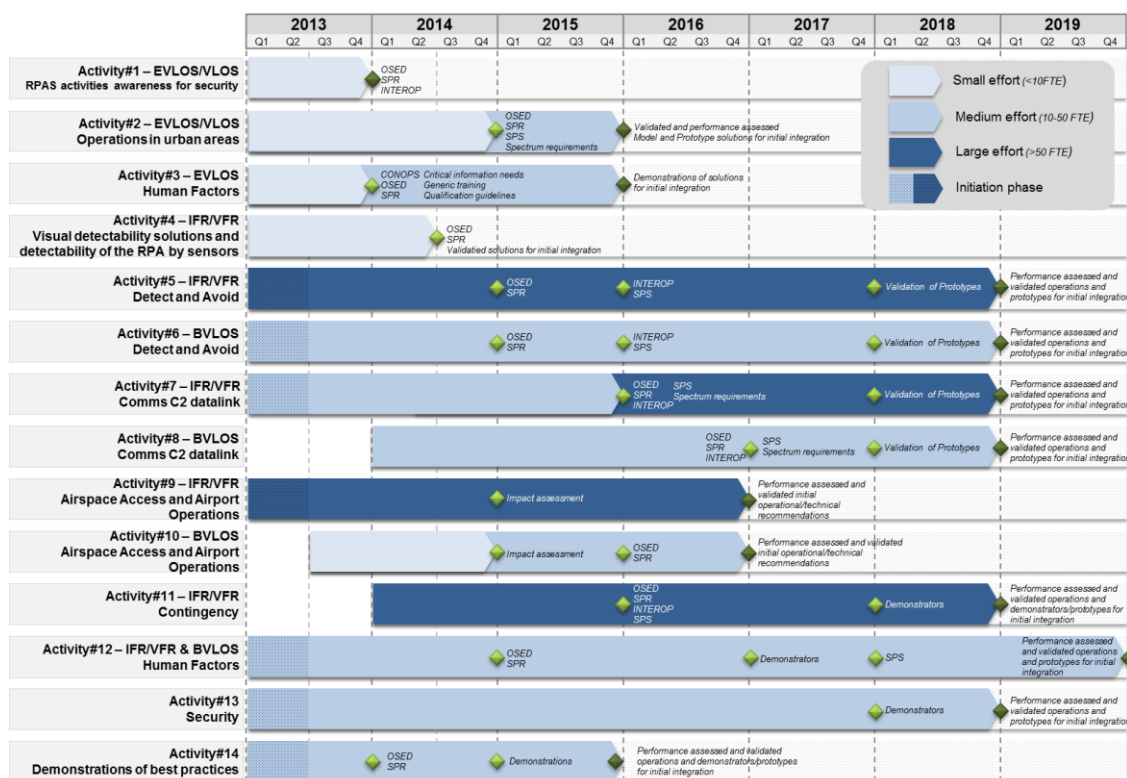
a. Objectives

The decision to launch an RPAS Definition Phase relies on the implementation of the R&D activities described in chapter 4² of the European RPAS roadmap - Annex 2³, and the validation of its contents and overall costs. The key objectives of the Definition Phase are to:

- Refine the definition of the essential R&D activities that will enable the integration in the European Aviation System in the context of the Single European Sky initiative, as of 2016 and beyond;
- Identify globally interoperable and harmonised ATM requirements and enablers to meet the performance requirements;
- Produce a Research & Development and validation programme outline, including planning, costs and priorities, as required by the different identified ATM requirements and enablers;
- Establish a high level implementation timeline, including costs and priorities; and
- Provide material supporting the alignment of the legislative, financial and regulatory frameworks required for successful deployment, including possible incentive mechanisms.

b. SESAR RPAS R&D Programme: the key deliverable of the Definition Phase

The SESAR RPAS R&D Programme will be a target-oriented living plan with a 2020 time horizon geared towards deployment. It will provide an integrated view of the R&D activities described in the European RPAS roadmap - Annex 2 “:



R&D Activities Gantt chart

² “R&D Activities to be conducted”

³ “A Strategic R&D Plan for the integration of civil RPAS”

c. *A framework to construct commitment*

The SESAR RPAS Definition Phase may represent a unique joint effort of the RPAS industry to define its future and develop new global air traffic solutions for the benefit of RPAS operators and service providers.

A strong commitment from all stakeholders has to be sought through their active involvement in the Definition Phase activities.

The success of the approach is thus dependent upon the collective work performed by a balanced and representative set of actors from all concerned stakeholders. Their needs, expectations and requirements will be the drivers in establishing the essential R&D activities, taking into account the inevitable trade-offs that must be applied between the major performance axes e.g. capacity and cost-effectiveness.

2 TERMS OF REFERENCE

2.1 Subject of the Study

The RPAS R&D Roadmap⁴, the identification of the integration requirements, the operational and technological system gaps are the elements to be considered to enable RPAS integration in European Aviation System.

For this purpose, the SJU is launching an open call for tender aimed at concluding a direct service contract with one successful tenderer for the provision of the services described below.

2.2 Objective and scope

The objective of this study is to execute the Definition Phase of the RPAS insertion into the European Aviation System in the context of the Single European Sky initiative, of which an essential result shall be **a detailed RPAS R&D Programme** (hereafter called "Deliverable D.6") complemented by the necessary validation activities to be performed in the context of the SESAR 2020 Programme.

The SJU shall coordinate this study with the technical support offered by EUROCONTROL taking into account where appropriate the relevant activities performed and/or technical inputs generated by them in the RPAS domain.

The results of the RPAS Definition Phase shall detail the essential R&D activities taking into consideration:

- The experience of the RPAS European industry, research organisations and any relevant actor in the field, with particular regard to SMEs;
- The European RPAS Roadmap handed over by RPAS stakeholders to the European Commission on 20 June 2013, paving the way for the safe insertion of RPAS into the European Aviation System starting in 2016;
- The already delivered outlined actions, policy paper and existing results available from other EU initiatives; and
- All known previous studies and projects on RPAS establishing good and solid R&D baseline.

The RPAS Definition Phase has to take into consideration the results of significant on-going or past projects and studies on RPAS air traffic insertion. The main references for

⁴ RPAS Roadmap – Annex 2

the RPAS Definition Phase should be the outcomes produced by the European Commission under the framework of RPAS, UAS Panel and the European RPAS Steering Group:

- Commission Staff Working Document "Towards a European strategy for the development of civil applications of Remotely-Piloted Aircraft Systems (RPAS)"; and
- "Roadmap for the integration of civil RPAS into the European Aviation System".

Furthermore, it should be noted that the development of these essential R&D activities has to be undertaken in full coordination with the requirements for manned aviation, as described in the European ATM Master Plan, which is already linked to the ICAO Global Plan and the Aviation System Block Upgrades, but also bearing in mind possible early opportunities or quick wins.

The RPAS Definition Phase shall also result in the following tree of activities:

- Regulatory and Business Framework;
- Performance Requirements and Assessment;
- Operational Changes in ATM;
- Enabling Systems;
- Validation Needs;
- SESAR RPAS R&D Programme requirements and outline; and
- Input to the EU ATM Master Plan.

It should be emphasised that the SJU does not intend to define a separate RPAS SESAR Programme for R&D. The Definition Phase outcome will be integrated into the SESAR Programme 2020. In this respect, it should cover those issues specific to unmanned operations proposing, where appropriate, changes and amendments to ensure that the overall SESAR concept completely addresses both manned and unmanned systems.

2.3 Integration principles

The requirements for RPAS integration are linked to the European ATM Master Plan⁵ and the ICAO Global Plan/ASBU timeline.

The overall approach towards integration is that RPAS will have to fit into the ATM system, and not the reverse, with required adaptations to enable the safe integration of unmanned systems. RPAS will have to prove to be as safe as current manned vehicle operations and, their behaviour in operations, to be equivalent to manned aviation, in particular for air traffic control.

The following high-level operational requirements are to be considered. Thus, RPAS insertion into the European Aviation System shall:

- Comply with existing and consider future regulations and procedures developments;
- Comply with the SESAR concept of operations and in particular trajectory management;

⁵ The ATM Master plan is the basis for the new generation of European ATM systems for 2030 that will help to achieve "more sustainable and performing aviation" in Europe. The plan contains roadmaps for the essential operational and technological changes required from all stakeholders (airspace users, ANSPs, airport operators, the military and the network manager) to achieve the performance objectives set by Single European Sky. It provides the basis for the timely, coordinated and efficient deployment of new technologies and procedures, whilst ensuring alignment with ICAO's Aviation System Block Upgrades (ASBU) for global interoperability and synchronisation.

- Comply with air traffic control rules/procedures;
- Comply with the capability requirements applicable to the airspace within which they are intended to operate;
- Not impact negatively the operations of the current system and its performance in particular for the current users of the airspace; and
- Not compromise existing aviation safety levels nor increase risk levels. The way RPAS operations will be conducted, as regard to ATM operations shall be equivalent to manned aircraft, as far as possible.

2.4 Description of Deliverables

The selected contractor shall provide the SJU with the deliverables listed below.

All deliverables shall be in English, in electronic format (in principle Microsoft Office format or compatible formats) and one hard copy.

2.4.1 Management of the RPAS Definition Phase (Deliverable D.0)

The selected contractor shall have the responsibility for the performance of the different tasks and deliverables in accordance with these Specifications, the call for tender documents as well as with the requirements that shall be included in the future contract, including control of the rest of members of the consortium and/or sub-contractors. The selected contractor shall set up adequate and non-excessive Project Management to face the complexity of the RPAS Definition Phase, including in particular a Configuration Management Plan and a Risk Management Plan.

The proposals shall contain indications of the different meetings to be organized by the selected contractor in order to ensure the necessary monitoring and progress of the work. At least each Deliverable listed in section 2.4 shall have a kick-off meeting and a progress meeting. Ad hoc meetings will be organised as required (e.g. occurrence of a major risk). The "Meeting Minutes" establishment will be under the responsibility of the selected Contractor.

Deliverable D.0 shall provide such a framework and shall be composed of two separate documents:

- D.0 (A) - Project management plan, Risk Management Plan; and
- D.0 (B) - Context, Baseline and Assumptions document.

2.4.2 Regulatory and Business Framework (Deliverable D.1)

The goal of the Regulatory and Business Framework is to describe the overall RPAS framework and supporting role of the ATM. Based on the understanding of the current state of that framework and on expectations for future operations in the European Aviation System, Deliverable D.1 shall define the selected Contractor vision for a future framework and identify the developments and transitions required to satisfy the future needs.

The scene will be set up by establishing the market, the industry approach and the institutional framework for the RPAS insertion in non-segregated airspace, and by developing an in-depth understanding of the RPAS value chain with a detailed definition of the role of the ATM System within this overall chain.

Deliverable D.1 shall address, at least, the following issues:

- European RPAS value chain;
- Transition scenarios and associated risks;

- Incentive mechanisms;
- Analysis of the market and market conditions improvements;
- Regulations and other legislative measures;
- Safety regulatory framework;
- Environmental regulatory framework; and
- Security requirements.

2.4.3 Performance Requirements and Assessment (Deliverable D.2)

The objective of Deliverable D.2 shall be to translate high level strategic and business objectives into a performance based organisation and objective driven methodology, metrics and tools. It will enable to define the basis of the EU ATM Master Plan addendum for the R&D to be implemented in order to achieve the main initial targets: to allow routine and safe RPAS operations in the current Aviation System and in the new ATM environment developed by SESAR.

Key areas for attention will be to provide a systemic view of safety, economic efficiency, capacity, human performance, security, environmental impact sustainability and timely service to the users, whilst developing the tools to enable the identification of trade-offs amongst these.

Deliverable D.2 shall report, at least, the following items:

- Factors affecting traffic demand;
- Requirements;
- Strategic performance, performance assessment;
- Reference Operating environments;
- Business case; and
- Models linking changes to benefits.

2.4.4 Operational Changes in ATM (Deliverable D.3)

The purpose of Deliverable D.3 shall be to define the target operational concept for 2020, and to identify practical operational and transition scenarios for each successive step, taking into consideration the ATM network⁶, the RPAS roadmap, as well as the existing past or on-going civil and military projects and the requirements of the SES regulation.

The contractor should analyse the factors and intrinsic processes involved, the state of knowledge on RPAS and make recommendations for inclusion in the ATM Master Plan and in the current SESAR Programme, as well as in the SESAR 2020 Programme under development.

Moreover, it should not attempt to develop new concepts from scratch, but review and refine existing material through the consideration of the identified requirements, realistic operational scenarios, and evaluation and transition paths. Particular attention shall be paid to take full account of the possible deployment of the best practices, without negative impact on the current ATM system and in particular existing users of the airspace.

⁶ and the business and operational criteria that the aviation system would like to optimise individually and would accept as collective trade-offs.

Civil-military coordination is a key part of the Single European Sky initiative. Therefore, RPAS supporting developments (e.g. system commonalities, harmonised procedures) should be properly addressed in that context. The Tenderer shall describe how they intend to address the civil-military cooperation and military issues related to unmanned systems.

Human beings play a key role in achieving system safety and capacity enhancements by making real-time safety-critical operational decisions. The evolution of that role in the future should be considered.

Deliverable D.3 shall report, at least, the following concerns:

- Operational Scenario description;
- Operational Requirements;
- Transition scenarios; and
- Human factors and resources.

2.4.5 Enabling Systems (Deliverable D.4)

The aim of Deliverable D.4 shall be to identify the functional, architectural and technological requirements to support the concept of operations and performance requirements recognised in terms of performance requirements and operational changes.

Interoperability and standardisation has to be emphasized both within the European Aviation System and those in neighbouring areas, in particular with USA aviation system(s).

Deliverable D.4 shall particularly call upon the industry to assess the suitability of the technological to the needs, and the development, certification and operating costs and timescales, and the safety management and transition issues, including standardisation.

Deliverable D.4 shall report, at least, the following matters:

- Technical functions and systems enablers;
- Candidate technologies;
- Technical gaps to be filled; and
- Standardisation needs.

2.4.6 Validation Needs (Deliverable D.5)

The objectives of Deliverable D.5 shall be to identify and map the expertise, facilities and services required for the validation, to verify that the concepts, architectures and evolutions of the RPAS insertion into the aviation system, as identified in the aforementioned Deliverables, match the requirements and deliver the targeted performances in the considered operating scenario.

Deliverable D.5 shall report, at least, the following interests:

- Identification of validation objectives; and
- Identification of validation means.

2.4.7 RPAS R&D Programme requirements and outline (Deliverable D.6)

The purpose of Deliverable D.6 shall be to define the subsequent Research & Development phase which, when implemented, will allow achieving the main RPAS Roadmap targets for the safe insertion of RPAS into the European Aviation System in the context of the Single European Sky Initiative. In particular to fly in non-segregated

airspace by means of regulation, operational procedure and technologies/standards validated in a realistic operational environment.

With reference to SESAR Programme Management Plan (edit. 03), deliverable D.6 has to address in regard to RPAS insertion those actions that will need to be performed in the current SESAR Programme by the different stakeholders, as well as in the SESAR 2020 Programme under development.

The SESAR RPAS R&D programme outline has to compile:

- Required work (scope, resources requirements, duration and dependencies);
- Description of the tasks in relation to the structure of the European ATM Master Plan 2012;
- Proposition of work breakdown structure detailing what, how, who and when the proposed programme will provide answers to the identified gaps; and
- Information management requirements for supporting the execution of R&D activities.

Deliverable D.6 shall refer, at least, the two main following interests:

- Consolidated programme requirements and outline; and
- Investment estimates and the associated expected benefits (Cost Benefit Analysis).

The programme proposed should be integrated into the existing SESAR Programme, as well as into the SESAR 2020 Programme under development, to ensure that it covers those issues specific to unmanned operations proposing, where appropriate, changes and amendments to ensure that the overall SESAR concept completely addresses both manned and unmanned flight.

2.4.8 Input to the EU ATM Master Plan (Deliverable D.7)

The objective of Deliverable D.7 shall be to structure and organise the RPAS R&D needs as previously expressed, in order to anticipate the next update of the European ATM Master Plan⁷. Made available as an input to the levels 1 and 2 of the Master Plan, this task has to be performed in full alignment with the current edition.

The outcomes of Deliverable D.7 shall, as a minimum, include and establish links between the following considerations:

- Performance perspective: user requirements and performance targets through time as the reference against which the possible transition scenarios and trade-offs will be assessed;
- Operational & technical perspective: allowing the check of the operational consistency and affected elements, and addressing through a high-level architecture (related OIs/enablers) the technical impact of the changes and assess the transition issues and technical costs;
- Deployment perspective: deployment scenarios including timely intervention of the various categories of stakeholders, implementation dates (IOC/FOC) of the changes, the required chain of actions, their duration and the available resources; and
- Cost/benefit perspective: business view based on performance needs and derived from the validation targets to complement the deployment view by providing targeted benefits of deployment and associated costs.

⁷ European ATM Master Plan Edition 2 – Oct. 2012 - <https://www.atmmasterplan.eu/>

2.5 Project management, timeframe and meetings

2.5.1 Project management

The tenderer shall be responsible to gather and organise all the information and to produce and submit the RPAS Definition Phase results including the identified Deliverables and all the associated management, review and consultation activities.

2.5.2 Deliverable and milestones

The Consortium shall submit to the SJU the Draft and Final Deliverables described in Section 2.4 above in accordance with the planning outlined below.

Due Date	Deliverable ID & Description
T0 ⁸ + 03 weeks	First draft Deliverable D.0
T0 + 06 weeks	Final version of Deliverable D.0
T0 + 09 weeks	First draft Deliverable D.1
T0 + 12 weeks	Final version of Deliverable D.1
T0 + 15 weeks	First draft Deliverable D.2
T0 + 17 weeks	Final version of Deliverable D.2
T0 + 21 weeks	First draft Deliverable D.3
T0 + 24 weeks	Final version of Deliverable D.3
T0 + 27 weeks	First draft Deliverable D.4
T0 + 30 weeks	Final version of Deliverable D.4
T0 + 33 weeks	First draft Deliverable D.5
T0 + 36 weeks	Final version of Deliverable D.5
T0 + 39 weeks	First draft Deliverable D.6
T0 + 42 weeks	Final version of Deliverable D.6
T0 + 45 weeks	First draft Deliverable D.7
T0 + 48 weeks	Final version of Deliverable D.7

Upon the release of each Draft Deliverable, the SJU shall review the submitted documents in terms of structure, technical content and quality and may request additional information or a revised Deliverable, in accordance with the provisions of the draft contract attached to the present specifications.

Acceptance of the deliverables by the SJU will be performed after the respective Deliverable review within 30 days after reception. In case of need to update or reject the deliverables, the reasons will be provided in writing, with the relevant explanation and

⁸ T0 - date of the kick-off meeting

proposed resolution. The contractor will have fifteen calendar days in which to submit additional information or corrections as set forth in Article I.4 of the draft contract.

Acceptance of the final version of deliverables D.1, D.3, D.5 and D.7 will trigger payments, as long as the previous deliverables have been accepted, as set forth in Article I.4 of the draft contract.

2.5.3 Place of performance and meetings

The activities will be performed at the contractor's premises.

9 meetings (one kick-off meeting and one per deliverable) are expected to take place in Brussels at the SJU's premises. Tenderers should take travel costs into account at the time of preparing the tender.

2.6 References

- European ATM Master Plan 2012 - <http://www.sesarju.eu/news-press/documents/european-atm-master-plan-edition2>
- Roadmap for the integration of civil RPAS into the European Aviation System - <http://ec.europa.eu/enterprise/sectors/aerospace/uas/>
- "Towards a European strategy for the development of civil applications of Remotely-Piloted Aircraft Systems (RPAS)" - <http://ec.europa.eu/enterprise/sectors/aerospace/uas/>

2.7 Indicative timetable

Milestone	Deadline
Launch of this call for tenders	17 January 2014
Deadline for requesting additional information/clarification from the SJU	No later than 15 calendar days before the closing date for submission of tenders
Last date on which clarifications are issued by SJU	No later than 6 calendar days before the closing date for submission of tenders
Deadline for reception of tenders at SJU's premises	2 April 2014
Notification of award	End of April 2014 (indicative)
Service contract signature and starting date of the Study activities	Beginning of May 2014

2.8 Value

The maximum allocated budget for this Study is 3.000.000,00 EUR (VAT excluded).

2.9 Participation in this procedure

Due to the nature of the activities to be performed, tenderers should be set up as a consortium composed of at least two legal entities able collectively to address the specificities of the RPAS insertion into the European Aviation System.

2.9.1 Consortia

A consortium is defined as a legally established grouping or a grouping that has been constituted for the present procedure. Consortia shall comply with the rules of competition.

All members of a consortium (i.e., the coordinator/consortium leader and all other consortium members) are jointly and severally liable to the SJU for the performance of the Service contract as a whole.

In order to facilitate the coordination of the Definition Phase, the consortium members shall designate one of them as "Coordinator" and single point of contact towards the SJU.

Upon award, the SJU shall sign the Service contract with the Coordinator duly authorised by the other consortium members via a mandate which would be requested from each of the members of the consortium (see template attached hereto as Annexe II).

2.9.2 Subcontracting

Subcontracting is permitted in the tender but the Consortium will retain full liability towards the SJU for performance of the Service contract as a whole.

Tenderers must give an indication of the proportion of the Service contract that they intend to subcontract.

Tenderers are required to identify subcontractors, if any, whose share of the contract is above 10%.

During the service contract execution, the change of any subcontractor identified in the tender will be subject to prior written approval of the SJU.

2.10 Intellectual Property Rights

The tenderer selected for award of the contract will be subject to the IPR provisions of the draft contract which is annexed to Invitation to tender ref. SJU/LC/0101-CFT, i.e. Articles I.8 and II.10 2.

In addition, it should be noted that, if the activity results (please, refer to the draft contract article II.10.1 for the definition of the "results") are not to be fully created for the purpose of the contract it should be clearly pointed out in the tender. There should be information provided about the scope of pre-existing materials, their source and when and how rights to them have been acquired.

In the tender, all quotations or information originating from other sources and to which third parties may claim rights have to be clearly marked (source publication including date and place, creator, number, full title etc.) in a way allowing easy identification.

3 ASSESSMENT OF THE TENDERS AND AWARD OF THE CONTRACT

3.1 Introduction

The assessment will be strictly based on the content of the received tenders and in the light of the criteria set out hereunder.

The assessment procedure will be carried out in three consecutive stages:

- Stage 1 – assessment in the light of exclusion criteria (see section 3.2 below)
- Stage 2 – assessment in the light of selection criteria (see section 3.3 below)
- Stage 3 – assessment in the light of award criteria (see section 3.4 below)

The aim of these stages is to:

- Check on the basis of the exclusion criteria, whether the tenderer can take part in the procurement procedure;
- Check on the basis of the selection criteria, i.e. legal, economic and financial, technical and professional capacity of each tenderer, whether the tenderer could undertake the task; and
- Assess on the basis of the award criteria each tender which has passed the exclusion and selection stages

3.2 Assessment in the light of exclusion criteria

In order not to be excluded from participation in this procedure, the coordinator and each consortium member cannot be in any of the following exclusion grounds:

- a) being bankrupt or being wound up, is not having its affairs administered by the courts, has not entered into an arrangement with creditors, has not suspended business activities, is not the subject of proceedings concerning those matters, and is not in any analogous situation arising from a similar procedure provided for in national legislation or regulations;
- b) have been convicted of an offence concerning professional conduct by a judgment which has the force of *res judicata*;
- c) have been guilty of grave professional misconduct proven by any means which the contracting authorities can justify;
- d) have not fulfilled all its obligations relating to the payment of social security contributions and the payment of taxes in accordance with the legal provisions of the country in which it is established, with those of the country of the contracting authority and those of the country where the contract is to be carried out;
- e) have been the subject of a judgement which has the force of *res judicata* for fraud, corruption, involvement in a criminal organisation or any other illegal activity detrimental to the SJU/Union's financial interests;
- f) be subject of the administrative penalty for being guilty of misrepresentation in supplying the information required by the contracting authority as a condition of participation in the procurement procedure or failing to supply an information, or being declared to be in serious breach of his obligation under contract covered by the EU budget.

Evidence to be provided:

1. Accordingly, tenderers (the coordinator, each member of the consortium member, and each subcontractor already identified at this stage) must provide a

Declaration on honour (see Annexe I), duly signed and dated, stating that they are not in one of the situations referred to above⁹.

Nota Bene:

Only the coordinator and each consortium member to which the contract is to be awarded shall provide, within 15 calendar days¹⁰ following notification of award and preceding the signature of the contract, the following documentary proofs (**originals**) to confirm the declaration referred to above:

2. For situations described in (a), (b) and (e), production of a recent¹¹ **extract from the judicial record** is required or, failing that, a recent equivalent document issued by a judicial or administrative authority in the country of origin or provenance showing that those requirements are satisfied. Where the tenderer is a legal person and the national legislation of the country in which the tenderer is established does not allow the provision of such documents for legal persons, the documents should be provided for natural persons, such as the company directors or any person with powers of representation, decision making or control in relation to the tenderer.
3. For the situation described in point (d) above, recent¹² certificates or letters issued by the competent authorities of the State concerned are required. These documents must provide evidence covering all taxes and social security contributions for which the Tenderer is liable, including for example, VAT, income tax (natural persons only), company tax (legal persons only) and social security contributions.¹³
4. For any of the situations (a), (b), (d) or (e), where *any* document described in two paragraphs above is *not issued* in the country concerned, *it* may be replaced by a sworn or, failing that, a solemn statement made by the interested party before a judicial or administrative authority, a notary or a qualified professional body in his country of origin or provenance.

The SJU may waive the obligation of a tenderer to submit the documentary evidence referred to above if such evidence has already been submitted to the SJU for the purposes of another procurement procedure and provided that the documents are not more than one year old starting from their issuing date and that they are still valid. In such a case, the tenderer shall declare on his honour that the documentary evidence has already been provided in a previous procurement procedure and confirm that no changes in his situation have occurred.

Please refer to the following web page for additional information regarding the relevant requirements and model documents under national laws of the EU Member States:

http://ec.europa.eu/internal_market/publicprocurement/e-procurement/e-certis/index_en.htm.

⁹ Where parts of the services are intended to be subcontracted the tenderer has also to ensure that the subcontractors satisfy the exclusion criteria as indicated in section 18 of invitation to tender Ref. SJU/LC/0101-CFT. Where a consortium is submitting a tender, each member of consortium must provide the required Declaration on honour as indicated in section 16 of the mentioned invitation

¹⁰ Depending on the urgency of the procurement procedure, however, in any case not less than 14 calendar days and considering that the time given has to be reasonable (i.e. taking into consideration holiday periods, practices of national authorities of certain Member States of the EU etc.)

¹¹ Not older than one year

¹² Not older than one year

¹³ Tenderers are strongly advised to explore the sources in their respective national legal systems for acquiring the required supporting documentation and the related deadlines, already at the stage of the preparation and submission of their offers, in order to avoid any delays in providing the documents in case selected for award of the contract

3.3 Assessment in the light of selection criteria

The tenderer must have the overall capabilities (legal, economic, financial, technical and professional) to perform the Study. All the minimum requirements listed below must be met in order to enter the next phase of the assessment in the light of award criteria.

Please note that in the selection phase, assessment focuses strictly on the quality of the track record of the tenderer and not on the quality of the (technical) offer.

The SJU may waive the obligation for a candidate or tenderer to submit the documentary evidence requested under Sections 3.3.1, 3.3.2 and 3.3.3 below if such evidence has already been submitted for another procedure and provided the documents were issued not more than one year earlier and are still valid. In such cases, the candidate or tenderer must declare on his honour that the documentary evidence has already been provided in a previous procedure with the SJU, provide reference to that procedure, and confirm that there has been no change in the situation. The abovementioned information must be included in the tender specifications.

3.3.1 Legal capacity

Tenderers (i.e., the coordinator and each consortium member) are required to prove that they are authorised to perform the contract under the national law.

Evidence to be provided:

1. Tenderers (the coordinator and each consortium member) shall provide a duly filled in and signed Legal entities' form (see section 7 b) of the Invitation to tender Ref. SJU/LC/0101-CFT).
2. Evidenced of inclusion in a trade or professional register, or a sworn declaration or certificate, membership of a specific organisation, express authorisation or entry in the VAT register.

3.3.2 Economic and financial capacity

The tenderer (the coordinator and each consortium member) shall present the following documents in order to prove its sufficient economic and financial capacity to perform the study:

Evidence to be provided:

1. Evidence of professional risk indemnity insurance;
2. Balance sheets (or extracts from balance sheets) for at least the last two years for which accounts have been closed; and
3. Statement of overall turnover during the last three financial years

If, for some exceptional reason which the SJU considers justified, the tenderer (i.e., the coordinator and each consortium member) is [are] unable to provide the references requested here above, the economic and financial capacity may be proved by any other means which the SJU considers appropriate.

Nota Bene: Public bodies and higher education establishments are not subject to verification of their economic and financial capacity.

3.3.3 Technical and professional capacity

Tenderers (the coordinator and each consortium member and subcontractors) are required to prove sufficient technical and professional capacity to perform the Study. Tenderers not complying with the following minimum requirements will not be considered for the subsequent phase.

Minimum requirements

1. Tenderer must be set up as a consortium formed by at least two independent legal entities.
2. Collectively the members of the consortium must have participated and/or directly contributed in at least three assignments on a relevant subject i.e.: ATM and RPAS, at international level (meaning beyond national borders) in the past three years.
3. Designated project managers should have at least 10 (ten) years of experience as project manager in a relevant field i.e.: ATM and RPAS.
4. The tenderer must be able to conduct substantial written assignments in English.

Evidence to be provided:

In order to provide evidence on compliance with the above minimum requirements, tenderers (consortium as a whole) are requested to present the following information and make clear reference to the skills and expertise conducting similar type of activities in the RPAS and ATM domains:

- A brief presentation of the Tenderer containing a detailed description of the Consortium structure (coordinator, other member/s and/or already identified subcontractors) and main current activities;
- List of publications, research material or position papers on the subject of this procedure, i.e.: ATM and RPAS, conducted in the last 3 (three) years;
- References or evidence from at least three entities to which similar services were provided or for which studies with similar objectives were performed;
- Detailed CVs of managerial staff and persons who will be responsible for carrying out the project.

3.4 Assessment in the light of award criteria

Only the tenders meeting the requirements of the exclusion and selection criteria will be evaluated in terms of quality and price for the award of the Service contract.

The contract will be awarded on the basis of the economically most advantageous tender on the basis of the following evaluations:

3.4.1 Technical evaluation

The quality of each technical offer will be evaluated in accordance with the award criteria and the associated weighting detailed in the table below.

Tenders must reach a minimum score of 50% or more per criterion and 70 points or more globally as a result of the technical evaluation in order to be admitted to the financial evaluation. For lower scores, the tenders will be considered non-suitable and therefore excluded.

Nota Bene: Tenders presenting a mere repetition of the tender specifications or source documentation as part of the technical offer **will be scored below the minimum** required to be considered for the award of the contract.

N°	Award criteria	Maximum
1	Organisational aspects of the tenderer: <ul style="list-style-type: none"> - Adequacy of the proposed Consortium structure - Suitability of the composition and balance of the proposed team for the performance of the activities. - Suitability of the proposed resources assigned for each Deliverable in terms of: <ul style="list-style-type: none"> - skills of the proposed team members; - proposed material; in coherence with the tenderer's capacity.	30
2	Quality and relevance of the proposed activities in relation to the objectives of this call: <ul style="list-style-type: none"> - Understanding of RPAS and ATM domains, and consideration of interoperability and civil-military coordination dimensions as well as international standards; - Understanding of the overall objectives of the Definition Phase and of the operational technical requirements of each deliverable. 	35
3	Quality and relevance of the methodology: <ul style="list-style-type: none"> - Appropriateness of the whole proposed methodological approach (in particular data collection, tools for interpretation of information and formulation of conclusions and recommendations) for achieving the objectives of the Definition Phase, - Added value to the SESAR programme. 	35
Total score for technical compliance		100

3.4.2 Financial evaluation and recommendation for award

The price to be taken into account for the financial evaluation and for the award of the contract is the one proposed by the tenderer in the financial offer as indicated in the Invitation to tender ref. SJU/LC/0101-CFT.

The lowest priced acceptable tender (that is eligible and has obtained at least the minimum points required in the technical evaluation), will be used to compare the price of the remaining acceptable tenders.

The contract will be awarded to the tenderer offering the highest score by adding quality (score of technical evaluation compared to the offer with the highest technical score) and price (price quoted in the financial offer compared to the lowest priced offer) on a 70/30 basis as indicated by the following formula:

$$\text{Score Tender Y} = (\text{Technical score of Offer Y} / \text{Highest technical score} \times 70\%) + (\text{Lowest price} / \text{Price of Offer Y} \times 30\%) \times 100$$

4 ANNEXES

ANNEXE 1 - DECLARATION OF HONOUR WITH RESPECT TO THE EXCLUSION CRITERIA
AND ABSENCE OF CONFLICT OF INTEREST

ANNEXE 2 – MANDATE CONSORTIUM COORDINATOR

ANNEXE I

DECLARATION OF HONOUR WITH RESPECT TO THE EXCLUSION CRITERIA AND ABSENCE OF CONFLICT OF INTEREST

(Complete or delete the parts in grey italics in parentheses)

[Choose options for parts in grey between square brackets]

The undersigned (*insert name of the signatory of this form*):

☐ in *[his][her]* own name (*for a natural person*)

or

☐ representing the following legal person: (*only if the economic operator is a legal person*)

full official name:

official legal form:

full official address:

VAT registration number:

➤ declares that *[the above-mentioned legal person][he][she]* is not in one of the following situations:

- g) is bankrupt or being wound up, is having its affairs administered by the courts, has entered into an arrangement with creditors, has suspended business activities, is the subject of proceedings concerning those matters, or is in any analogous situation arising from a similar procedure provided for in national legislation or regulations;
- h) has been convicted of an offence concerning professional conduct by a judgment of a competent authority of a Member State which has the force of *res judicata*;
- i) has been guilty of grave professional misconduct proven by any means which the contracting authorities can justify including by decisions of the European Investment Bank and international organisations;
- j) is not in compliance with all its obligations relating to the payment of social security contributions and the payment of taxes in accordance with the legal provisions of the country in which it is established, with those of the country of the contracting authority and those of the country where the contract is to be performed;
- k) has been the subject of a judgement which has the force of *res judicata* for fraud, corruption, involvement in a criminal organisation, money laundering or any other illegal activity, where such activity is detrimental to the Union's financial interests;
- l) is subject to an administrative penalty for being guilty of misrepresenting the information required by the contracting authority as a condition of participation in a grant award procedure or another procurement procedure or failing to supply this information, or having been declared to be in serious breach of its obligations under contracts or grants covered by the Union's budget.

➤ (*Only for legal persons other than Member States and local authorities, otherwise delete*) declares that the natural persons with power of representation, decision-

making or control¹⁴ over the above-mentioned legal entity are not in the situations referred to in b) and e) above;

- declares that [the above-mentioned legal person][he][she]:
 - m) has no conflict of interest in connection with the contract; a conflict of interest could arise in particular as a result of economic interests, political or national affinity, family, emotional life or any other shared interest;
 - n) will inform the contracting authority, without delay, of any situation considered a conflict of interest or which could give rise to a conflict of interest;
 - o) has not granted and will not grant, has not sought and will not seek, has not attempted and will not attempt to obtain, and has not accepted and will not accept any advantage, financial or in kind, to or from any party whatsoever, where such advantage constitutes an illegal practice or involves corruption, either directly or indirectly, inasmuch as it is an incentive or reward relating to award of the contract;
 - p) provided accurate, sincere and complete information to the contracting authority within the context of this procurement procedure ;
- acknowledges that [the above-mentioned legal person][he][she] may be subject to administrative and financial penalties¹⁵ if any of the declarations or information provided prove to be false.

In case of award of contract, the following evidence shall be provided upon request and within the time limit set by the contracting authority:

For situations described in (a), (b) and (e), production of a recent extract from the judicial record is required or, failing that, a recent equivalent document issued by a judicial or administrative authority in the country of origin or provenance showing that those requirements are satisfied. Where the tenderer is a legal person and the national legislation of the country in which the tenderer is established does not allow the provision of such documents for legal persons, the documents should be provided for natural persons, such as the company directors or any person with powers of representation, decision making or control in relation to the tenderer.

For the situation described in point (d) above, recent certificates or letters issued by the competent authorities of the State concerned are required. These documents must provide evidence covering all taxes and social security contributions for which the tenderer is liable, including for example, VAT, income tax (natural persons only), company tax (legal persons only) and social security contributions.

For any of the situations (a), (b), (d) or (e), where any document described in two paragraphs above is not issued in the country concerned, it may be replaced by a sworn or, failing that, a solemn statement made by the interested party before a judicial or administrative authority, a notary or a qualified professional body in his country of origin or provenance.

If the tenderer is a legal person, information on the natural persons with power of representation, decision making or control over the legal person shall be provided only upon request by the contracting authority.

Full name

Date

Signature

¹⁴ This covers the company directors, members of the management or supervisory bodies, and cases where one natural person holds a majority of shares.

¹⁵ As provided for in Article 109 of the Financial Regulation (EU, Euratom) 966/2012 and Article 145 of the Rules of Application of the Financial Regulation

ANNEXE 2

MANDATE CONSORTIUM COORDINATOR

I, the undersigned, [forename and surname of the legal representative of the consortium member signing this mandate], representing,
[full official name of the consortium member] [ACRONYM]
[official legal status or form]¹⁶
[official registration No]¹⁷
[full official address]
[VAT number],

hereinafter referred to as "the consortium member",
for the purposes of the signature and the implementation of the contract resulting of call
for tender ref. SJU/LC/0095-CFT with the SESAR Joint Undertaking (hereinafter referred
to as "the contract")

hereby:

1. Mandate

[full official name of the coordinator] [ACRONYM]
[official legal status or form]
[official registration No]¹⁸
[full official address]
[VAT number],

represented by [forename, surname and function of the legal representative of the
coordinator]
(hereinafter referred to as "the coordinator")

to sign in my name and on my behalf the contract and its possible subsequent
amendments with the SESAR Joint Undertaking.

2. Mandate the coordinator to act on behalf of the consortium member in compliance
with the contract.

I hereby confirm that the consortium member accepts all terms and conditions of the
contract and, in particular, all provisions affecting the coordinator and the other
consortium members. I acknowledge that, by virtue of this mandate, the coordinator
alone is entitled to receive payments from the SESAR Joint Undertaking.

I hereby accept that the consortium member will do everything in its power to help the
coordinator fulfil its obligations under the contract, and in particular, to provide to the
coordinator, on its request, whatever documents or information may be required.

I hereby declare that the consortium member agrees that the provisions of the contract,
including this mandate, shall take precedence over any other agreement between the
consortium member and the coordinator which may have an effect on the
implementation of the contract.

This mandate shall be annexed to the contract as part of the tender, in case of award of
contract to the consortium, and shall form an integral part thereof.

SIGNATURE

[forename, surname, function of the legal representative of the mandating consortium
member]
[signature]

Done at [place], [date]

In duplicate in English

¹⁶ To be deleted or filled in according to the "Legal Entity" form

¹⁷ To be deleted or filled in according to the "Legal Entity" form