



Tender Specifications annexed to Invitation to Tender

Ref. SJU/LC/0109-CFT

VDL Mode 2 Measurement, analysis and simulation campaign

13 August 2014

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1 INTRODUCTION

1.1 Acronyms and terminology

ACARS	Aircraft Communications Addressing and Reporting System
ANSP	Air Navigation Service Provider
AOC	Airline Operations Centre
ATC	Air Traffic Control
ATM	Air Traffic Management
ATN	Aeronautical Telecommunications Network
ATS	Air Traffic Services
CPDLC	Controller Pilot Data Link Communications
(DLS)CRO	(Datalink Services) Central Reporting Office
CSC	Common Signalling Channel
DLISG	Data Link Implementation Steering Group
EASA	European Aviation Safety Agency
ICAO	International Civil Aviation Organisation
RF	Radio Frequency
SARPs	Standards And Recommended Practices
SES	Single European Sky
SESAR	Single European Sky ATM Research Programme
SJU	SESAR Joint Undertaking, European Union body under Council Regulation (EC) No 219/2007 as amended by Council Regulation (EC) No 1361/2008 of 31 December 2008, and further amended by Council Regulation (EU) No 721/2014 of 16 June 2014
VDR	VHF Data Radio
VDL/2	VHF Digital Link Mode 2
VHF	Very High Frequency
WA	Work Area

1.2 Introduction to the SJU

The purpose of the SJU 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.

The SJU is responsible for the implementation of the European ATM Master Plan and for carrying out specific activities aimed at the development of a new generation air traffic management system capable of ensuring the safety and fluidity of air transport worldwide over the next thirty years. Further information on the activities of the SJU is available at www.sesariu.eu.

2 TERMS OF REFERENCE

2.1 Subject

The baseline for SESAR includes a data communications capability based on VDL/2 which is expected to support the initial SESAR developed datalink services including Initial 4D.

In January 2009 the EC published the SES Data Link Services Implementing Rule (DLS IR) (EC Reg. 29/2009) which specifies European implementation dates of VDL/2 and the associated first tranche of services.

As the use of VDL/2 for CPDLC using ATN has become more widespread certain performance issues were observed that raised concerns on the usability of the system. Some of these issues were attributed to specific avionics installations for which solutions have been identified but other problems remain.

Under the mandate of the European Commission, late in 2013, EASA began an investigation into the observed performance issues of VDL/2. The report was published in April 2014 (http://ec.europa.eu/transport/modes/air/single_european_sky/doc/implementing_rules/2014-04-23-easa-datalink-report.pdf). The EASA report highlights a 10-point Action Plan addressing actions including simulations, measurement campaigns, flight trials and deployment planning.

Following the report of EASA, the European Commission requested the SJU to analyse and prepare the inclusion of the EASA recommended actions in the SESAR Work Programme.

2.2 Objective and scope

The activity defined within this call includes the collection and analysis of data from avionics and ground-systems to determine the levels of RF interference and VDL/2 channel occupancy as well as identifying issues affecting the end-to-end performance of the VDL/2 datalink. The modelling and analysis of the options for multi-frequency VDL/2 deployment, in particular the options for channel use, frequency assignment, network topology and network management shall be assessed. It will also include RF-level modelling of the VDL/2 channel in support of both ATN and AOC communications.

For this purpose, SESAR JU is launching an open call for tender aimed at concluding direct service contract with one successful tenderer to provide a VDL Mode 2 measurement, analysis, testing and simulation campaign.

2.3 Description of required services

The work to be performed under the future contract is described within four work areas (WA0-3) in the following sections.

2.3.1 Work Area 0: Project Management and Reporting

This work area shall consist of the project management of the activity and progress reporting to the SJU. Risk and issue management shall also be handled as part of this work area. This work area will also consolidate all of the detailed technical analysis and reports from the other Work Areas into a

final consolidated analysis report which provides recommendations addressing the action points of the EASA report referenced above.

Deliverables

A Project plan, quarterly reports to the SJU and final project report including synthesis of the analysis and recommendations.

2.3.2 Work Area 1: VDL performance analysis

This work area shall consist of the collection and analysis of data from avionics and ground-systems which shall be used for the detailed investigation of issues affecting the end-to-end performance of the VDL/2 datalink and associated ATN/OSI protocols in the real European environment as well as to determine the levels of RF interference and VDL/2 channel occupancy.

Data collection may make use of dedicated flight trials or suitably equipped targets of opportunity (e.g. ATN B1 equipped revenue aircraft or aircraft taking place in other trials). It may partly rely on previously collected data, assuming the relevance of the data to be used can be justified.

There is however a need to synchronize the data collected at airborne, ground system and network levels, so as to have a full understanding of the end-to-end system situation when certain errors or problems occur.

The analysis shall be used to focus on further understanding the problems already identified in the EASA report and under investigation by the Network Manager Datalink Services Central Reporting Office (<http://www.eurocontrol.int/link2000/wiki/index.php/Library>); support the coordinated investigations of abnormal events based on synchronized air and ground logs and characterize the contribution of each cause in the overall picture of VDL/2 ATN performance. As the activity progresses, the severity of each problem should be assessed so as to focus the effort on the most severe issues.

In particular the impact of the air-initiated handovers between ground stations shall be considered as part of the analysis.

The analysis will also determine the associated channel occupancy and RF interference levels for both ATS (ATN) and AOC messages. Datalink analysis and channel load shall include consideration of both ATS (ATN Baseline 1) and AOC datalink messages. As far as possible already identified problems (e.g. VDR deafness) where solutions have already been identified should be excluded from the analysis.

A comparison of CPDLC exchanged in areas with varying AOC load should be carried out as well as AOC datalink performance with ATN exchanges in the same environment.

Ongoing coordination will be required by the project team with the Eurocontrol Network Manager CRO and appropriate exchange of data and findings shall be established to ensure complementarity of the work and prevent duplication of effort. Investigations already carried out, or ongoing, by Eurocontrol will be made available to the future contractor in support of this study.

This task will result in a number of key outputs:

- Detailed analysis and Identification of contributing factors to the ATN performance problems with initial proposal of potential solutions.

- Analysis of measured RF-level channel load and interference levels.
- End-to-end performance figures including message timing and disconnection rates.

Deliverables

A draft and final report presenting the detailed VDL/2 performance analysis as described above.

2.3.3 Work Area 2: Multi-frequency options modelling and testing

This work area shall consist of the modelling and analysis of the options for multi-frequency VDL/2 deployment. In particular the options for channel use, frequency assignment, network topology and network management shall be assessed.

The distribution of VHF ground stations (VGSs) shall be investigated according to the intended service coverage (airport surface, TMA, en route). In a multi-link scenario this includes assignment of frequencies and the planning of transmission power. Performance of existing deployments which demonstrate different network approaches shall be taken into account.

This analysis shall be performed by taking into account the current AOC and ATN data traffic on one hand and the variations of aircraft traffic flows on the other hand. Simulations should be performed for the distribution of all VGSs and their associated properties (emitting power, frequencies, etc). The multi-frequency deployment roadmap produced by the EUROCONTROL Network Manager DLISG (Data Link Implementation Support Group) shall be taken into account (available on the Eurocontrol DLISG One sky team page <https://ost.eurocontrol.int/sites/DLISG/SitePages/Home.aspx>). Multi-frequency scenarios shall be assessed with different schemes for frequency segregation assessed (geographical, dedicated airport frequency, segregation etc) along with various options for utilisation of the commons signalling channel. Per ICAO SARPS the CSC is assumed to be used across the full VDL2 service area and can be used for data exchange if traffic volumes allow. The optimal usage of the available VDL 2 channels, either as airport channel(s) to be used strictly on ground at many airports or as en-route channels for delivering more CPDLC capacity, shall be considered. In scenarios where a specific frequency is assigned for airport use it will be important to characterise the AOC load associated with the airport environment.

There shall be a comparison between the air-initiated and the ground-requested air-initiated VGS handovers.

A technical trade-off analysis shall be conducted assessing the constraints and benefits arising from various existing models (e.g.: a distributed and/or subcontracted infrastructure (where intermediate communication providers provide part of the services) compared to a fully managed infrastructure. This included consideration of potential mechanisms for prioritisation of ATN messages over AOC messages managed by the ground station or network. The assessment should derive the constraints to be imposed on the distributed constituents and on the governance processes in order to guarantee the expected performance for the network.

If feasible, flight testing of an initial multi-frequency trial implementation may be proposed as part of this work area.

This task will result in a number of key outputs:

- Identification of implementation options for multi-frequency VDL/2 with identified benefits and challenges
- Baseline for large scale validation of multi-frequency VDL/2 in SESAR 2020

Deliverables

A draft and final report presenting the detailed VDL/2 multi-frequency modelling and testing and network design and service model analysis as described above.

2.3.4 Work Area 3: RF level modelling and testing

This work area shall consist of modelling, analysis and testing at the RF level of the VDL/2 channel performance.

Simulations and analyses shall be used to determine the optimum and limiting channel occupancy when concurrently managing both AOC and ATN protocols. This should include an analysis of protocol optimization, assessing the trade-off between the use of long frames versus short frames (as for ACARS) and the use of multi-frame transmissions. The most appropriate frame transmission scheme to be used by Datalink Service providers and by ground systems should be proposed. This should take account of previous work performed by Eurocontrol in 2005-2008 which will be provided by Eurocontrol to the future contractor.

Further analysis shall investigate through the means of a simulation, the question of broadcast transmissions versus unique addressing of VDL Mode 2 ground stations, though it should be noted with caution the potential impact this would have on both the ground network and avionics.

Multi-frequency interoperability testing of a representative set of avionics shall be conducted on a suitable test bench including with an appropriate interference background RF environment representative of the real measurements made in WA1. This testing will be used to highlight interoperability issues in avionics implementations, feedback required updates or precisions required in the reference standards (ICAO Manual on VHF Digital Link (VDL) Mode 2 (Doc 9776). International Civil Aviation Organisation, EUROCAE ED-92B / MOPS for an Airborne VDL Mode2 System operating in the frequency range 118-136,975 MHz) and validate the potential multi-frequency approach.

This task will result in a number of key outputs:

- Report on the RF level analysis of VDL/2 and the ATN protocols, estimation of the limiting channel load and recommendations as regards protocol optimisation
- Report on interoperability testing of avionics.

Deliverables

A draft and final report presenting the detailed VDL/2 RF level modelling and testing as described above.

2.4 Submission of deliverables and payments

The tenderer shall submit to the SJU the Draft and Final Deliverables described in Section 2.3 above in accordance with the planning outlined below.

Due Date	Deliverable & Description	WA
T ⁰ + 1 month	D1: Detailed Project Plan	WA0
T ⁰ + 3 months	D2: Quarterly Progress Report	WA0
T ⁰ + 4 months	D3: Draft Report: Detailed performance analysis and Identification of contributing factors to the ATN performance problems and Analysis of measured RF-level channel load and interference levels and end-to-end performance.	WA1
T ⁰ + 5 months	D4: Draft Report: Identification of implementation options for multi-frequency VDL/2 including network design and service model analysis, and Baseline for large scale validation of multi-frequency VDL/2 in SESAR 2020.	WA2
T ⁰ + 6 months	D5: 2 nd Quarterly Progress Report	WA0
T ⁰ + 6 months	D6: Draft Report on the RF level analysis of VDL/2 and the ATN protocols and on the interoperability testing of avionics.	WA3
T ⁰ + 9 months	D7: 3 rd Quarterly Progress Report	WA0
T ⁰ + 12 months	D8: Final Report: Detailed analysis and Identification of contributing factors to the ATN performance problems and Analysis of measured RF-level channel load and interference levels and end-to-end performance.	WA1
T ⁰ + 13 months	D9: Final Report: Identification of implementation options for multi-frequency VDL/2 including network design and service model analysis, and Baseline for large scale validation of multi-frequency VDL/2 in SESAR 2020.	WA2
T ⁰ + 14 months	D10: Final Report on the RF level analysis of VDL/2 and the ATN	WA3

	protocols and on the interoperability testing of avionics.	
T ⁰ + 16 months	D11: Final Project Report including synthesis of the analysis and recommendations.	WAO

Acceptance of the deliverables by the SJU will be performed after the respective Deliverable Review within 30 calendar days after reception. In case of need to update or reject the deliverables, a report indicating the reasons will be provided, with the relevant explanation and 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 **D2, D5, D7 and D11** 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 Place of performance

The activities will be performed at the contractor's premises or elsewhere. Due to the nature of the activities and depending on the approach to be proposed by in its tender, the future contractor shall be ready to perform activities in the territory of EU and/or ECAC Member States.

A total of 7 meetings (one kick off meeting, one progress meeting every 3 months, and a closure meeting) 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 Intellectual Property Rights

The tenderer selected for the 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/0109-CFT, i.e. Articles I.8 and II.10 2. Annexes III and IV; Prospective tenderers are therefore requested to carefully examine these clauses.

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.

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.

Due to the nature of the study, the selected contractor will be required to ensure confidentiality of the results and to acknowledge that dissemination during the performance of the contract shall be limited to the minimum necessary and strictly subject to authorisation of the SJU.

2.7 Variants

Variants on the terms of reference are not permitted.

2.8 Value

The maximum allocated budget for this contract is EUR 3 000 000¹ (VAT excluded).

2.9 Indicative timetable

Milestone	Indicative date
Launch of this call for tenders	End August 2014
Deadline for requesting additional information/clarification from the SJU	No later than 10 calendar days before the closing date for reception of tenders
Last date on which clarifications are issued by SJU	No later than 6 calendar days before the closing date for reception of tenders
Deadline for reception of tenders at SJU's premises	30 October 2014
Notification of award and signature of contract	December 2014
Starting date of the Study activities	January 2015

2.10 Participation

Due to the nature of the activities, prospective tenderers should be set up as a consortium as defined in section 3.3.3.1 below.

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, each of them with a precise aim:

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) and

Stage 3 – assessment in the light of award criteria (see section 3.4 below).

The aim of each of these stages is:

1. To check on the basis of the exclusion criteria, whether the tenderer can take part in the procurement procedure;

¹ Article 134 (1) f) and (3) of the 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, applies to this procedure

2. To check on the basis of the selection criteria whether the tender has the necessary legal, economic and financial, technical and professional capacity for the performance of the contract;
3. To assess on the basis of the award criteria each offer 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 the present procedure, the tenderer (the coordinator, each consortium member) shall provide evidence of not being in any of the following situations:

- a) is not 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) has not been convicted of an offence concerning professional conduct by a judgment which has the force of *res judicata*;
- c) has not 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;
- d) has 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) has not 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) is not a 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 and each consortium member] 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 above².

Nota Bene: The tenderer (i.e.: the coordinator, each consortium member) to which the contract is to be awarded shall provide, within 15 calendar days following notification of award and preceding the signature of the contract, the **original** Declaration on honour (if provided in copy at the offer submission stage) and the following documentary proofs (**originals**) to confirm the declaration referred to above:

² 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/0109-CFT. Where a consortium is submitting a tender, each member of consortium must provide the required Declaration on honour as indicated in section 18.bis of the mentioned invitation.

2. For situations described in (a), (b) and (e), production of a recent³ 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, recent⁴ 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.⁵

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.

3.3 Assessment in the light of selection criteria

Tenderers (the coordinator and each consortium member) must have the overall capabilities (legal, economic, financial, technical and professional) to perform the contract. All the 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 on the past experience and capacity of the tenderer, and not on the quality of the (technical) offer. The latter is to be assessed in the light of the award criteria.

The SJU may waive the obligation for a 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

³ Not older than one year.

⁴ Not older than one year.

⁵ 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.

procedure and provided the documents were issued not more than one year earlier and are still valid. In such cases, the 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.

3.3.1 Legal capacity

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

Evidence to be provided:

1. The tenderer (the coordinator and each consortium member) shall provide a dully filled-in Legal entities' form, including all its supporting documentation (see section 7 b) of the invitation to tender Ref. SJU/LC/0109CFT.
2. Evidence 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 be in a stable financial position and have sufficient economic and financial capacity to perform the contract.

Evidence to be provided:

Proof of economic and financial capacity shall be furnished by at least two of the following documents:

- a) Evidence of professional risk indemnity insurance;
- b) Balance sheets (or extracts from balance sheets) for at least the last two years for which accounts have been closed;
- c) Statement of overall turnover during the last three financial years;

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

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

3.3.3 Technical and professional capacity

The technical and professional capacity of the Tenderer, proving the suitability to provide services covered by the Contract will be evaluated on the basis of the minimum requirements and evidence thereof provided as described in the subsequent paragraphs:

Minimum requirements:

3.3.3.1 The Tenderer

The Tenderer shall be:

- 1 Be set up as a consortium and composed of at least two independent legal entities.
- 2 The consortium (as a whole) shall have proven experience and expertise in:
 - 2.1 Communications Systems engineering.
 - 2.2 Simulation and analysis of datalink systems
 - 2.3 ANSP use of datalink systems.
 - 2.4 Airspace User needs for ATC and AOC datalink
 - 2.5 Avionics and Ground ATC systems.

3.3.3.2 The team

The team proposed to implement the contract shall possess the following skills:

- 1 The main contact point with SJU, leading the study, must have at least 5 years of relevant experience;
- 2 Team members should have relevant work experience in the domains listed above;
- 3 All team members responsible for drafting deliverables and attending meetings should have excellent written and oral command of the English language.

Evidence to be provided:

1. For the tenderer:
 - Brief presentation of the tenderer (the consortium) containing a detailed description of the structure (coordinator, other member/s and/or already identified subcontractors, focusing in particular on the capacity, competence and the organizational structure set up to perform the activities) and main current activities (Max 5 pages),
 - Brief presentation of the main current and other relevant activities of the tenderer (Max 2 pages),
2. For the team members:
 - CVs (only) of the team members proposed in the tender to be directly responsible for carrying out the tasks

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 contract.

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

3.4.1 Technical evaluation

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

The tender 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.

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.

Technical Award Criteria	Maximum available
<p>1. <u>Organisational aspects of the tenderer:</u></p> <ul style="list-style-type: none">• Adequacy of the proposed tenderer's structure and alignment to the requirements set in sections 2 and section 3.3.3• Suitability of the composition and balance of the proposed team for the performance of the study (e.g.: balance junior/senior/experts; distribution of roles and tasks)• Suitability of the proposed resources assigned to each deliverable in terms of skills and proposed material;	30
<p>2. <u>Quality and relevance of methodology:</u></p> <ul style="list-style-type: none">• Understanding of the Data Link domain, in particular in relation to Regulation EC No 29/2009;• Understanding of the overall objectives of the study;• Appropriateness of the methodological approach for achieving the objectives, in particular:<ul style="list-style-type: none">✓ data collection,✓ testing and validation✓ tools for interpretation of information and✓ formulation of conclusions and recommendations;• Added value to the SESAR programme.	55
<p>3. <u>Quality assurance and contract management:</u></p> <p>Evidence of arrangements for ensuring:</p> <ul style="list-style-type: none">• Confidentiality of the results and tackle intellectual property aspects as required in section 2.6 and the draft contract• Continuity and highest quality of services• Rapid response and timely delivery• Appropriate availability of the expertise required	15
Total score Technical Award Criteria	100

For lower scores, the tenders will be considered non-suitable and therefore excluded.

3.4.2 Financial evaluation and ranking of the tenders

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/0109-CFT.

The ranking of the tenders is established by weighting quality (score of technical evaluation compared to the tender with highest score for quality) and price (price quoted in the financial offer compared to the lowest price offered) on a 70/30 basis as indicates the following formula:

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

4 ANNEXES

ANNEXE 1 – Declaration on honour with respect to the exclusion criteria and absence of conflict of interest

ANNEXE 2 – Mandate consortium coordinator

ANNEXE 1

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)

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:

- a) 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;
- b) 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*;
- c) 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;
- d) 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;
- e) 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;
- f) 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 control⁶ 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]:
- g) 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;
 - h) 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;
 - i) 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;
 - j) 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 penalties⁷ 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

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

⁷ 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]⁸

[official registration No]⁹

[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]¹⁰

[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 submit a tender and 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. In particular, I acknowledge that, by virtue of this mandate, the coordinator alone is entitled to receive payments from the SESAR Joint Undertaking and distribute the amounts corresponding to the consortium member's participation in the contract.

I hereby confirm that the consortium member will place the resources necessary for performance of the contract and 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.

⁸ To be deleted or filled in according to the "Legal Entity" form

⁹ To be deleted or filled in according to the "Legal Entity" form

¹⁰

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