

**Executive Technical Summary
Annex II to Invitation to submit Candidatures**

Call for Tenders

LISA/2015/RP/02- Framework contract for the maintenance in working order of the Visa Information System (VIS) and Biometric Matching System (BMS)

LISA/2015/RP/02

**(Restricted Procedure –
Article 104 (1) (b) Financial Regulation,
Article 127 (2) paragraph 2 Rules of Application)**

Table of Contents

I.	Context of the Call for Tenders	3
I.1.	Background	3
I.1.1.	eu-LISA.....	3
I.1.2.	Legal basis.....	3
I.1.3.	Description of current functionalities and architecture.....	4
I.1.4.	Software and Hardware.....	6
I.1.5.	Biometric Matching System (BMS) core technology.....	7
I.2.	eu-LISA Organisation.....	8
II.	Call for tenders presentation	9
II.1.	Scope of the Call for tenders.....	9
II.2.	Detailed description of the services.....	9
II.2.1.	Corrective Maintenance	10
II.2.2.	Adaptive Maintenance.....	10
II.2.3.	Perfective maintenance & Preventive maintenance	10
II.2.4.	Evolutionary Maintenance.....	10
II.2.5.	Technical support to MS	11
II.3.	Out of scope of the present Call for tenders	11
II.4.	Other Generalities.....	11
II.4.1.	Service Desk.....	11
II.4.2.	Communication	11
II.4.3.	Monthly Status Reports.....	11
II.4.4.	Regular meetings.....	12
II.4.5.	Quality indicators.....	12
II.4.6.	Technical and user Documentation.....	12
II.4.7.	Transversal services	12

I. CONTEXT OF THE CALL FOR TENDERS

I.1. Background

I.1.1. eu-LISA

The European Agency for the Operational Management of Large-Scale IT Systems in the Area of Freedom, Security and Justice (eu-LISA) is a relatively newly established agency (Regulation (EU) No 1077/2011 of the European Parliament and of the Council of 25 October 2011 (OJ L 286, 1.11.2011, p.1) which entered into force on 21 November 2011. The regulation provided that the agency took up its main responsibilities from 1 December 2012), responsible for the provision and management of large-scale IT systems in the fields of asylum, border management and law enforcement.

The agency's sites are distributed as follows: the headquarters are based in Tallinn, Estonia, whilst its operational centre is in Strasbourg, France. There is also a business continuity site for the systems under management based in Sankt Johann im Pongau, Austria.

The agency is mandated to provide effective operational management of the Schengen information system (SIS II— the largest information system for public security and law enforcement cooperation in Europe), the visa information system (VIS— a system that allows Schengen States to exchange visa data relating to applications for short-stay visas to visit, or to transit through, the Schengen area) and Eurodac system (a large-scale fingerprint database that assists primarily in the processing of asylum applications) on behalf of its stakeholders, the EU Member States, associated States and the European Institutions.

It is likely that a number of other systems will be entrusted to the management of the agency in the years to come (subject to the adoption of the relevant legal bases). In addition, the agency is also responsible for the communication networks that support the above systems. In terms of networks, eu-LISA is the provider for the communication infrastructure for SIS II, Eurodac and VIS (the s-TESTA network — to be migrated to a new network, TESTA-NG, in 2016). The agency is also responsible for VISION and DubliNET, the communication tools for the VIS and Eurodac systems respectively.

More information on eu-LISA can be found at the following link: <http://www.eulisa.europa.eu/>

I.1.2. Legal basis

Regulation (EC) No 767/2008 of the European Parliament and of the Council of 9 July 2008 concerning the Visa Information System (VIS) and the exchange of data between Member States on short-stay visas (VIS Regulation).

The VIS Regulation defines the purpose and functionalities of, as well as the responsibilities for, the Visa Information System (VIS). It provides the conditions and procedures for the exchange of visa data between the European Union (EU) countries and associated countries applying the common visa policy. Thus, the examination of applications for short stay visas and decisions on extending, revoking and annulling visas, as well as the checks on visas and the verifications and identifications of visa applicants and holders are facilitated.

The purpose of the Visa Information System (VIS) is to improve the implementation of the common visa policy, consular cooperation and consultations between the central visa authorities by:

- facilitating the visa application procedure;
- preventing visa shopping;

- facilitating the fight against fraud;
- facilitating checks at external border crossing points and in the national territories;
- assisting in the identification of persons that do not meet the requirements for entering, staying or residing in the national territories;
- facilitating the application of the Dublin II Regulation for determining the EU country that is responsible for the examination of a non EU-country national's asylum application and for examining said application;
- contributing to the prevention of threats to EU countries' internal security.

In specific cases, the national authorities and Europol may request access to data entered into the VIS for the purpose of preventing, detecting and investigating terrorist and criminal offences. The procedures for consultations under such circumstances are laid down in Council Decision 2008/633/JHA. These consultations are carried out via central access points in the participating countries and by Europol, who verify the requests and ensure conformity with the above decision.

Only the following categories of data are recorded in the VIS:

- alphanumeric data on the applicant and on the visas requested, issued, refused, annulled, revoked or extended;
- photographs;
- fingerprint data;
- links to previous visa applications and to the application files of persons travelling together.

Access to the VIS:

- for entering, amending or deleting data, is reserved exclusively to duly authorised staff of the visa authorities;
- for consulting data, is reserved exclusively to duly authorised staff of the visa authorities and authorities competent for checks at the external border crossing points, immigration checks and asylum, and is limited to the extent the data is required for the performance of their tasks.

The authorities with access to VIS must ensure that its use is limited to that which is necessary, appropriate and proportionate for carrying out their tasks. Furthermore, they must ensure that in using VIS, the visa applicants and holders are not discriminated against and that their human dignity and integrity are respected.

1.1.3. Description of current functionalities and architecture

The system 'Visa Information System' (VIS) consists of:

- A centralised system (CS-VIS) for the exchange of Visa data between Member States (MS) and associated States. This CS-VIS is spread over two geographical locations and referred to individually as the principal Central Unit (CU) and the Backup Central Unit (BCU). Any reference to principal Central System (CS-VIS) refers to the combination of CU and BCU. The CU is currently located in Strasbourg, France while the BCU is located in Sankt Johann im Pongau, Austria. CU and BCU have a point to point connexion via the communication infrastructure s-TESTA.

- The connection between the CS-VIS and each MS National Interface (NI). At application level, the connection takes place between the Central National Interface that contains all the logic, and each National System at MS side. At network level, the communication with MS takes place on the s-TESTA infrastructure, between the central network access point and the national access point, also called the National Interface (NI). The NI is redundant using a Local National Interface (LNI) and a Back-up National Interface (BLNI). Although each NI will be situated on User's premises, the operational responsibility remains within the Operation Centre.
- In case of failure by either the CU or the BCU, the other system is able to take over all the necessary services required to continue. This implies that the data contained in CU and BCU are kept synchronous at all times and the NIs are responsible for directing traffic to the appropriate system. The switch between CU and BCU is transparent to the Member States regarding the network addressing.
- The system 'Biometric Matching System' (BMS) is an integrated component of the VIS system providing services dealing with digital finger prints.
- The VIS Mail System is a component developed by OBS/HP (Orange and Hewlett Packard) in order to replace the current consultation mechanism, called VISION, when VIS will be fully operational and rolled out. Although VIS Mail is considered as part of VIS, this mechanism is neither physically nor logically connected to VIS. VIS Mail is hosted in Bratislava with a backup in Strasbourg.

The VIS solution has been designed, developed and tested by the HPS consortium (Hewlett Packard and Steria), except for the Biometric Matching System (BMS) that was released by the Bridge consortium (Accenture and Morpho with Bull). As of August 2012, the Bridge³ consortium (Accenture, Morpho and HP) continued to evolve and maintain the VIS and BMS systems. The existing Maintenance in Working Order Contract is due to expire on 28 August 2016; hand-over from the incumbent contractor to the future contractor is expected between May and August 2016 (i.e. the last 4 months of the existing contract). The future contractor is expected to take over the maintenance of the systems by 29 August 2016.

'Systems' indicates all components of all the VIS and BMS environments at both CU and BCU sites, and the VIS Mail exploited under the conditions described in Article 15, paragraph 4 and 5 of the "DECISION 2007/533/JAI DU CONSEIL" of 12th June 2007.

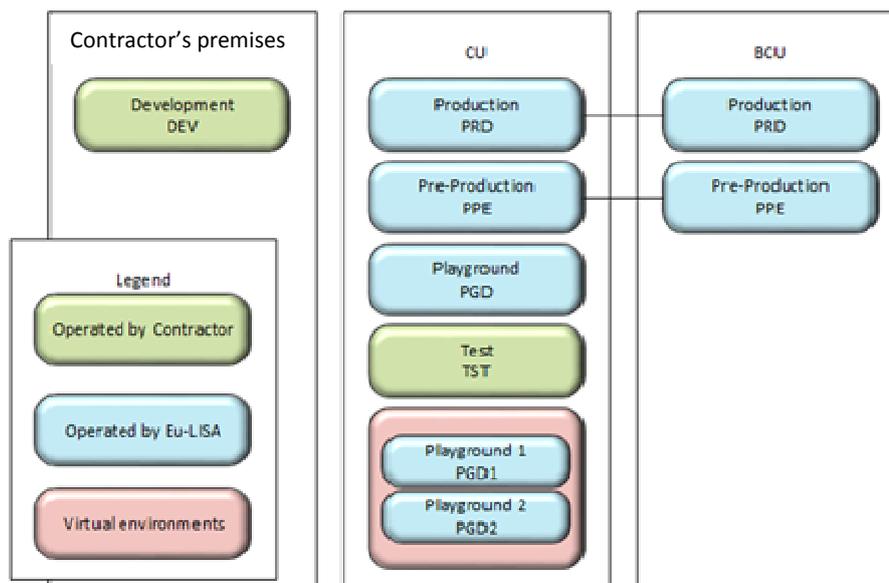
The systems currently have the following characteristics:

- More than 10,000 end users directly or indirectly use the data of the systems;
- 16,750,000 (August 2015) records and associated facial images are stored and processed by the VIS (maximum of 40,000,000 records to be increased to 60,000,000 by the end of current contract);
- About 13,000,000 associated Fingerprint templates are stored in VIS (maximum of 40,000,000 records to be increased to 60,000,000 by the end of current contract) and processed by the BMS (maximum of 24,000,000 templates to be increased to 60,000,000 by the end of current contract);
- The VIS can process up to 300,000 transactions per hour (to be increased to 450,000,000 by the end of current contract);
- The regional rollout of the system started in 2011 and is expected to be fully completed by 2016;
- The VIS is currently been deployed in 16 out of 23 regions of the world which account for approximately 50% of the visa activity worldwide;
- About 1,000,000 visa applications were registered in VIS for July 2015;
- Around 17,000,000 visa requests were globally processed worldwide in 2013.

The systems are expected to evolve by 2022 as follows:

- Up to 100,000,000 records processed and stored in the systems with binary information (Fingerprints + Facial Images);
 - A maximum of 650,000 transactions per hour;
 - Between 15,000,000 and 20,000,000 VISA applications processed per year.
- The stakeholders/users of the systems are geographically distributed worldwide (consular posts) and in the Schengen Zone (Border Posts, Central National Authorities...);
 - The system has high-availability requirements (24h/7days/365 days a year) and a SLA over 99,99% for a rolling period of 28 days for the VIS Central System and 99.7% for VIS National Interfaces, excluding network availability.
 - The system handles both entering of data, queries to the data and reporting on the data.

The following diagram illustrates the different environments some environments are spread over various physical machines, and a single machine can host more than one environment.



1.1.4. Software and Hardware

The following provides a non-exhaustive list and short description of the main software products used by the VIS/BMS systems:

- Java environment
 - J2EE Architecture
 - Spring
 - Hibernate
- Middleware
 - BEA Weblogic
 - MQSeries
 - IBM Websphere
 - Joram
 - JBOSS

- Database
 - Oracle 11.x
- Development Tools
 - CVS, SVN
 - Eclipse
 - Maven, Hudson
 - SQL Developer
 - Crystal Reports
- Search Matching Tools
 - Morpho Biometric Matching
 - WCC Elise Smart Search and Match

The future contractor shall take over the maintenance of the abovementioned software and hardware products and all those which will be introduced during contract implementation.

The following provides a non-exhaustive list and short description of the main hardware products used by the VIS/BMS systems:

- Disk Array
 - HP 3PAR on BMS
 - HP XP24k on VIS
- Server
 - Hardware :
 - HP C7000 Blade Enclosure with blade servers in it:
 - BL460c on BMS,
 - BL460c, BL860c, BL890c & BL870c on VIS
 - HP Proliant DL380
 - HP RX2620
 - Hardware/Software : VMware ESX, RedHat, HP-UX, Windows
- SAN switches: Brocade
- Firewall: Stonegate
- Load-Balance: F5 BigIP
- Network Switches:
 - HP switches : VIS & BMS
 - Cisco Switches : VIS
- Terminal servers
 - Cisco routers : VIS
 - Avocent: VIS & BMS
- Backup:
 - HP ESL (VIS) & MSL (BMS)
 - HP Storeonce (BMS)

1.1.5. Biometric Matching System (BMS) core technology

In the context of the Biometric Matching System, eu-LISA uses a proprietary solution developed by the company *MORPHO Société par Actions Simplifiée (France)* for the extraction, processing and matching of the Fingerprint information stored in Visa Information System.

Due to the specificity of the fingerprint matching functionalities and the strict requirements posed on the above-mentioned activities in terms of precision, capacity and compliance with the Service

Level Agreement (SLA) set by the relevant EU legislation, eu-LISA requires that the future contractor shall have access, on a commercial basis, to the BMS core technology.

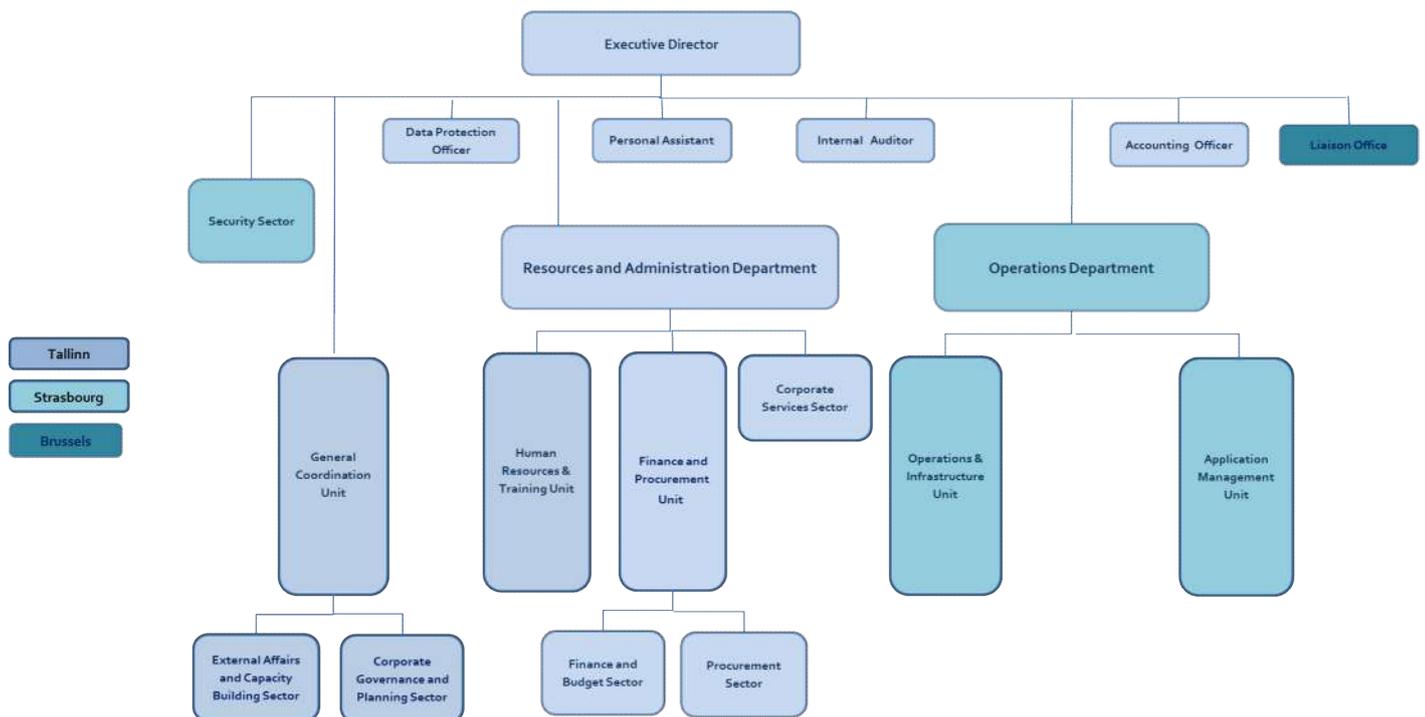
The reason for this approach lies in the fact that, in the contractual architecture handed over by the European Commission, the technical solution implemented at BMS level has been designed, developed and further enhanced to fit to and to be an integral part of VIS.

At this stage, the change of the BMS technology is not a viable option for eu-LISA because it would entail disproportionate technical and economic disadvantages, compared to the returns to scale offered by continuity in the time horizon of the envisaged contract. A technology switch would entail an unacceptable level of operational risk in terms of compliance with the strict services levels to the Member States.

I.2. eu-LISA Organisation

To ensure the effective operational management of the systems it is entrusted with, the agency's staff is geographically dispersed: Tallinn, Strasbourg and Sankt Johann. The total number of staff employed at the agency is currently 129.

The diagram below presents the organisation chart of the agency:



Governance

The Agency's administrative and management structure comprises an Executive Director, Management Board and Advisory Groups for each of the systems under the Agency's management. All governance bodies consist of representatives from EU countries and Associated Countries, the European Commission and a number of European Agencies working in the justice and home affairs field.

Consequently, eu-LISA can engage in dialogue with all relevant institutional stakeholders in every area connected to EU border management, asylum and migration. This governance structure is designed to improve confidence and trust between the Agency and national authorities, which results in enhanced cooperation.

Management Board

The Management Board includes representatives of EU countries and the European Commission. Associated Countries (Iceland, Liechtenstein, Norway and Switzerland), as well European agencies such as Europol and Eurojust, are also represented. Its role is to ensure that the Agency delivers the objectives and tasks — as set out in eu-LISA's establishing regulation — in the most cost-effective way, in line with its strategic goals and objectives.

Advisory Groups

Each IT system operated by the Agency is supported by an Advisory Group. These groups are made up of experts from the EU countries, Associated Countries (Iceland, Liechtenstein, Norway and Switzerland), a representative of the European Commission, Europol (for SIS II and VIS) and Eurojust (for SIS II). They provide the Management Board with specific technical expertise on the systems that they support.

II. CALL FOR TENDERS PRESENTATION

II.1. Scope of the Call for tenders

The Call for tenders covers the operations, corrective, adaptive and evolutionary maintenance of the Central VIS and BMS systems as well as associated services, and technical support to MS.

In the current CFT, all the operations and technical modifications (correction, adaptation, evolution) and associated services allowing the Systems to provide the expected service as defined in their specifications is called the MWO (Maintenance in Working Order).

The MWO will be provided by the Contractor on all environments defined in section I.1.3, and possible future new environments, located at the Operational Centre (Strasbourg) and at the back up (Sankt Johann in Pongau, Salzburg) Operational Centre.

Therefore the major aim of the MWO is to maintain, correct, adapt and improve (evolutions) the Systems.

II.2. Detailed description of the services

From a general perspective the objective of the MWO is to guarantee that:

- the VIS and BMS operations must be constantly maintained in good working order, according to their specifications;
- the VIS and BMS functions are in line with the high availability criteria defined in their specifications;
- the VIS and BMS do evolve in line with the legal context and the business needs.

The Contractor must be able to demonstrate at any time that his services and deliverables enable the operational Systems to provide a quality of service at least equal to the demands made in their specifications;

The Contractor alone is accountable for any dysfunction or degradation in the quality or performance of service and, in any such case, will be responsible for any complementary

maintenance (including the software or equipment updates not planned otherwise) needed for any dysfunction or degradation; exception made of modifications solely decided by eu-LISA.

II.2.1. Corrective Maintenance

The corrective maintenance consists of reacting to the anomalies noticed during the operation of the Systems, by implementing their correction or temporary bypassing measures with an ultimate objective to clearly circumscribe the issue as well as design, test and deliver the final correction.

II.2.2. Adaptive Maintenance

The adaptive maintenance consists of updating the configuration of the hardware equipment and the software products of the Systems in order to keep them in line with the normal lifecycle and technical support guaranteed by their suppliers.

More precisely, the adaptive maintenance aims to:

- Adapt the Systems For the duration of the contract, all the hardware and software of the Systems object of the present call for tender, which are under the responsibility of the Contractor, must be subject to a maintenance in conformity with the conditions of the technical specifications;
- Maintain the quality of the services delivered by these Systems, by anticipation of the end of the support of the hardware, firmware, operating systems, software products (COTS, including Open Source software) and applications exploited by the Systems, as well as the problems arising from the obsolescence of certain components of the Systems.

II.2.3. Perfective maintenance & Preventive maintenance

The perfective maintenance and preventive maintenance services are usually implemented through continuous service improvements factoring for most of the visible specific added value brought in by working with a particular MWO contractor. It ranges from continuous technical analysis of the systems to analysis of processes, projects and organisation, bringing expertise, advices and concrete proposals for optimisations and improvements.

II.2.4. Evolutionary Maintenance

The 'Evolutionary maintenance' aims to ensure the evolution of an information system in response to the new functional and operational requests (implemented by Change Requests).

This concept covers evolutions of the Systems that will be needed to fulfil either the future regulations or MS needs and to keep the Systems performing and up to the latest standards.

As of today, some evolutions are already identified and defined whereas others are not yet identified. These evolutions will be designed, developed and tested by the Contractor prior to delivery to eu-LISA; the contractor will fully support and collaborate with eu-LISA for their testing and deployment, as an integral part of the Contract. The already identified evolutions are described in the Tender Technical Specifications (TTS), which will be provided only to candidates admitted to Phase 2 of the present Restricted Procedure. For the evolutions that will be performed during the

contract but for which, at the moment of publication of the Call for tenders eu-LISA does not possess enough information, the TTS will describe the strategy for the handling of these requests.

Evolution will be performed according to a Request for an offer issued by eu-LISA, which will:

- define the object of the requested modifications (expected service),
- specify the execution and acceptance conditions.

After an analysis phase, for each request for an offer, the future Contractor will be requested to provide a technical offer including the solution proposed, a detailed planning (schedule) of realisation and a financial offer.

II.2.5. Technical support to MS

The technical support to MS consists in offering services to MS to connect their National Systems to the Central System, test a new release of the VIS or benefit from the Pre-Production or Playground environment for their own national tests.

II.3. Out of scope of the present Call for tenders

The National Systems and network services and infrastructure beyond the network access points located in Strasburg and Sankt Johann (in Pongau, Salzburg), are out of scope of the present CFT.

VIS Mail is used in parallel with the current consultation system VISION and is based on a central mail relay which is using the Network infrastructures and interfaces. The national mail systems connected to VIS Mail remain the responsibility of the MS.

The maintenance of the Communication Infrastructure is out of scope of the CFT.

II.4. Other Generalities

II.4.1. Service Desk

The Contractor has to provide a single point of contact for all incident and problem management and for the support of the Agency. Incident and problem management processes will be put in place by the Contractor and must be aligned with the processes implemented at eu-LISA. The Service desk needs to be set up in a way that it can fulfil the requirement of a 24/7 availability and providing the adequate level of response.

II.4.2. Communication

The spoken and written language of all communication will be UK English. All deliverables, reports, drafts etc. must be delivered in English unless otherwise agreed. All meetings will be conducted in English.

II.4.3. Monthly Status Reports

At the beginning of each month, a monthly status report must be sent to the Agency with details of the work carried out in the previous month. The report must also contain a description of the work to be performed in the next month, clearly mentioning the milestones. The monthly report shall also cover team structure, KPI values, hardware and software, value of tangible and intangible assets

delivered in the reporting period, problems and issues, risks, budget consumption, planning, action list. A detailed list of the items to be covered in the monthly report status will be defined in the TTS.

II.4.4. Regular meetings

Follow-up, regular and ad-hoc meetings will be setup and organised, in order to report, follow-up or facilitate the implementation of maintenance, project, program and contractual work.

A Steering Committee with the representatives of the Agency and the future contractor will be held quarterly, upon receipt of a Quarterly Status Report from the Contractor.

II.4.5. Quality indicators

The Contractor must respect the quality indicators defined by the Agency. These quality indicators will be defined in detail in the TTS and the contractor will have to demonstrate, in its offer, how it plans to monitor, report and improve on these.

II.4.6. Technical and user Documentation

The Contractor is responsible for the consistency, maintenance and update of the operational, technical and user documentation of VIS and BMS systems and all its environments within the scope of the call for tender. These documents must be kept updated, respecting the established organisation of information and the rules and conventions in place, in order to guarantee the homogeneity of the documentation.

II.4.7. Transversal services

For all the items that will be defined in the TTS, the contractor must foresee at least the following transversal services (non-exhaustive list):

- Program Management;
- Project Management;
- Quality Management;
- Incident Management
- Service Desk
- Problem Management
- Change Management
- Request Fulfilment Management
- Test Management
- Service Asset and Configuration Management
- Release and Deployment Management
- Service Level Management
- IT service Continuity Management
- Availability Management
- Capacity Management
- Access Management
- Continuous Service Improvement
- Risk Management;
- Security Management
- Application Management & Strategy
- Business Continuity
- Contract Management
- Financial Management

- Audibility /Traceability Management
- Take-over
- Hand-over
- Hardware and Software Supplier Contract Management.

The future contractor will be required to fit its own processes to the Agency's operational model, as will be further detailed in phase 2 of the Restricted Procedure.

The future contractor will be required to comply with the rules on data protection and security applicable to the Agency, as will be further detailed in phase 2 of the Restricted Procedure.

Annexes:

Annex 1 – List of profiles

Annex 1 to the Executive Summary – List of Profiles

Candidates must not submit CVs as part of their Request to Participate.

For the implementation of the specific contracts under this Framework Contract, some or all of the following roles may be required:

1. Program Manager
2. Project Manager
3. System architect
4. Enterprise architect
5. System Administrator
6. Helpdesk/Service desk staff
7. Quality Manager
8. Database Administrator
9. Telecommunication expert
10. Security Manager
11. Test Manager
12. Senior Business Analyst
13. Senior Business and IT Consultant
14. Senior System developer
15. System developer
16. Test Engineer
17. Quality Controller
18. Biometrics Specialist
19. Biometrics Architect
20. Legal compliance Manager

The minimum requirements set for each profile must be met by the future contractor during the entire duration of the framework contract.

With respect to the below required education qualifications, one year of experience in the relevant domain is considered as equivalent to one year of higher education. However, these years cannot be taken then into account in the experience.

1. Program Manager

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Maintain overall responsibility for the execution of the framework contract; • Report and present to the Steering Committee; • Create and ensure maintenance the Project Quality Plan for the framework contract; • Act as escalation actor for each specific contract; • Provide an answer to eu-LISA Request for Offers, using the commonly agreed template.
<i>Education</i>	University degree (master or equivalent) in a relevant subject;
<i>Work Experience</i>	Minimum 10 years of professional experience in ICT; minimum of 5 years of experience relevant to the requested role; Excellent and established performance managing larger or similar programs.

2. Project Manager

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Report and present to Program Board and participate to the Steering Committee; • Create and ensure maintenance the Project Quality Plan ; • Act as escalation actor for each specific contract; • Provide an answer to eu-LISA Request for Offers, using the commonly agreed template; • Be the Single Point of Contact (SPOC) between all stakeholders of the project for topics related to the framework and each specific contract; • Maintain the Project Quality for the framework contract and ensure alignment with the evolutions of the contract; • Create, maintain and report, following the eu-LISA PM Methodology, the necessary logs of the project: risk log, action log, issue log, lesson learned log. The templates used for this reporting will be provided by eu-LISA's PMO team • Staff the different framework contracts with resources that fulfil the requirements laid down by eu-LISA; • Take all the necessary actions to ensure the business continuity of VIS and BMS and the improvement of the delivered services; • Deliver the Monthly Status Reports; • Follow-up and manage the daily activities of the project; • Ensure that all the deliverables will undergo an internal review process prior to submitting to the quality management team of eu-LISA; • Facilitate the specific contract status meetings; • Escalate, when appropriate the issues of a specific contract to the Contractor Project Director. • Ensure that all deliverables from a specific contract are published on the Contractor Knowledge base. • Ensure that the security policies and ITSM processes, aligned with eu-LISA processes, are followed by its team.
<i>Education</i>	University degree (master or equivalent) in a relevant subject;
<i>Work Experience</i>	Minimum 10 years of professional experience in ICT; minimum of 5 years of experience relevant to the requested role; proven experience with quality procedures.

3. System architect

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Ensure that the architecture is maintained and enhanced in relation to changes and developments; • Verify that changes to the system are feasible within the architectural framework; • Perform studies and propose design solutions in relation to changes and new requirements. This task includes also managing system integration and any modelling needed.
<i>Education</i>	University degree (master or equivalent) in a relevant subject;
<i>Work Experience</i>	Minimum 10 years of professional experience in ICT; minimum of 5 years of experience relevant to the requested role; certified system architect or equivalent,

4. Enterprise architect

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • High-level qualified person able to develop enterprise architecture in line with defined strategy • Define, assess and coordinate architecture projects, design architecture building blocks; • Design and coordinate architecture implementation; • Align and integrate multiple architectures, layers and perspectives; • Advice on architecture frameworks and methods; • Define and measure architecture indicators (maturity, implementation, etc.); • Ensure interoperability; identify potential reuse; perform cost-benefit analyses; design Service Oriented Architecture; • Design and assess Identity and Access Management and Master Data Management solutions; • Coordinate the technical implementation; • Perform Business Analysis and contribute to the Functional, Technical, Security and Testing Specifications.
<i>Education</i>	University degree (master or equivalent) in a relevant subject;
<i>Work Experience</i>	Minimum 10 years of professional experience in ICT; minimum of 5 years of experience relevant to the requested role; certified enterprise architect or equivalent,

5. System Administrator

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Maintain and adapt the configuration of server software and system components; • Monitoring of servers, incident resolution, diagnosis of software and hardware problems, co-ordination with the central IT department; • Advise the project team and the customer in areas such as capacity management, contingency planning, environment planning, configuration management and other relevant tasks related to the role; • Maintenance of relevant documents/manuals describing the system and its infrastructure.
<i>Education</i>	University degree (bachelor or equivalent) in a relevant subject;
<i>Work Experience</i>	Minimum of 5 years of professional experience in the ICT business, including 2 years as System administrator, good knowledge and experience in working with the related products/environments used (Oracle, Java, HP/Unix);

6. Helpdesk/Service desk staff

<i>Nature of the tasks</i>	This profile indicates the general need for operational staff and management for the Helpdesk, the related incident management, and other relevant tasks included in this function (i.e. as can be found in the ITIL definitions of a Service Desk or in similar standards).
<i>Education</i>	
<i>Work Experience</i>	Minimum of 4 years of professional experience in the ICT business, including 2 years with work in a relevant Helpdesk/Service desk in environments similar to the system of this call for tender.

7. Quality Manager

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Ensure that all processes related to Quality management are set up and maintained; • Maintain all documentation related to quality management; • Support the project team and the customer on all issues related to quality management; • Carrying out quality audits and IT processes quality assessments.
<i>Education</i>	University degree (master or equivalent) in a relevant subject;
<i>Work Experience</i>	Minimum 7 years in the ICT business including 2 years in Quality management, experience in Quality management, quality models, quality assurance (ISO standards or equivalent).

8. Database Administrator

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Maintain the databases and application server products in terms of capacity management, trouble shooting, new releases, documentation, access control, back-up/recovery and other tasks related to the role as DBA; • Make studies/analyses on proposed changes, assess impact and propose database adaptations/application server adaptations to fulfill specifications and requirements; • Report and communicate with providers of products as regards errors, incidents and problems.
<i>Education</i>	University degree (bachelor or equivalent) in a relevant subject;
<i>Work Experience</i>	Minimum 6 years of professional experience in IT, including 3 years in database administration; experience in database administration, and in particular Oracle products (including Oracle DB, Oracle Text, Oracle RAC, Oracle Data Guard, Oracle VPD, ASM, Oracle Recovery manager, Oracle Weblogic server) of recent versions;

9. Telecommunication expert

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Provide expertise in the specific telecommunication aspects related to the subject of the call for tender; • Technical evaluations; • Trouble shooting; provide incident reports and follow-up any problems occurring in operations or test.
<i>Education</i>	University degree (master or equivalent) in a relevant subject;
<i>Work Experience</i>	Minimum 5 years of professional experience in IT, minimum 2 years relevant to the tasks of this role

10. Security Manager

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Ensure that all processes related to security are set up and maintained; • Support the project team and the customer in areas such as risk analysis, contingency planning, IT security audit, security logs analysis, security development, protection profiles; • Management of the security, using standards like ISO 15408 and ISO 2700x or equivalent.
<i>Education</i>	University degree (master or equivalent) in a relevant subject;
<i>Work Experience</i>	Minimum 7 years of professional in IT, including 5 years in dealing with ICT security issues, experience in carrying out complete security studies of ICT Projects/systems, using standards like ISO 15408 and ISO 2700x or equivalent;

11. Test Manager

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Plan and control that any changes to the system are validated in accordance with specifications and requirements; • Support user needs for testing; • Manage all related test environments and plan the usage of these; • Document test plans, tests and tests results.
<i>Education</i>	University degree (master or equivalent) in a relevant subject;
<i>Work Experience</i>	Minimum 6 years of professional experience in IT; minimum 4 years relevant to the requested subject; proven ability to work with standard test methods and test tools;

12. Senior Business Analyst

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Ensure that the system is maintained and evolved in accordance with existing business requirements; • Analysis of new business requirements; • Presenting solutions in written or oral reports; • Data analysis, data modelling; • Cost/benefit analyses.
<i>Education</i>	University degree (master or equivalent) in a relevant subject;
<i>Work Experience</i>	Minimum 10 years of professional experience in ICT, including 5 years in business analysis, experience in ICT business analysis;

13. Senior Business and IT Consultant

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Define overall IT strategy, migration strategies and related strategic plans, provide strategic advice on products and service portfolio and overall support eu-LISA in the design of the future evolutions of the Systems • Provide overall IT strategies, policies and technical advice. • Provide strategic advice on overall architecture solutions, taking into account the current market trends, client needs or business policy goals and shaping them into project deliverables. This task is done in close collaboration with the Enterprise and IT architects and with the business stakeholders. • Provide the expertise and leadership necessary to help the Agency to achieve demonstrable improvements in the development and management of strategies related to the systems and services described in these Tender
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	<p>Specifications.</p> <ul style="list-style-type: none"> • Provide IT strategy support to eu-LISA through Enterprise Architecture and portfolio management and policy and guidance analysis. • Provide the Agency with extensive strategic advice, guidance and leadership for the successful selection, design, integration and deployment of new systems and services. • Develop Business Cases (incl. Return on Investment and Cost/Benefit Analyses) to support strategic recommendations. • Coordinate with all stakeholders involved in developments and deployments to plan, document and manage strategic phases of projects.
<i>Education</i>	University degree (master or equivalent) in a relevant subject;
<i>Work Experience</i>	Minimum 10 years of professional experience in ICT, including 5 years in IT consultancy.

14. Senior System developer

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Maintain and develop components included in the system architecture, in the relevant programming languages; • Perform detailed analysis of new user requirements; • Support testing activities, also in relation to User needs for testing; • Produce and maintain the relevant technical documentation; • Assist with evaluating and testing of products, or new versions of existing products to ensure that they conform to requirements and methodology; • Assist and advice in issues related to system integration • Support the Helpdesk/Service desk with expertise on the business and user requirements.
<i>Education</i>	University degree (bachelor or equivalent) in a relevant subject;
<i>Work Experience</i>	Minimum 10 years of experience in IT, including 5 of experience as System developer; minimum one-year active work experience with CASE tools or equivalent tools for modelling and development; 4 years in the required programming language (Java); at least 2 year of experience with multi-user SQL-based databases; good knowledge and experience in using development frameworks related to products/programming languages used (Java, Unix);

15. System developer

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Maintain and develop components included in the system architecture, in the relevant programming languages; • Preparation and execution of test programs; • Preparation of diagrams and other technical documentation; • Optimising procedures; • Preparation of scripts for temporary needs, such as data base scripts; • Work in the Helpdesk/Service desk.
<i>Education</i>	Training as a developer by a competent institute;
<i>Work Experience</i>	Minimum 4 years of experience in IT, minimum 2 years of experience of system development in the required programming language (Java); at least 1 year of experience with multi-user SQL-based databases, good knowledge and experience in using development frameworks related to products/programming languages used (Java, Unix);

16. Tester

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Person who is able to produce the test design specifications – test cases, the applicable Test Plans and to execute the test plans. • Produce and maintain the required test design specifications – test cases. These can be paper-based (legacy or test cases which cannot be automated) or be integrated in a given tool. The latter determines the format and language applicable to the test cases: XML, Excel format, etc. • Produce the Test Plans. • Execute the required test cases and analyse the result(s). • Report on the test result(s)
<i>Education</i>	University degree (bachelor or equivalent) in a relevant subject;
<i>Work Experience</i>	Minimum 3 years of relevant IT experience and minimum 2 years of testing experience

17. Quality Controller

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Person responsible to control the correct implementation and execution of the quality processes and procedures and support the Quality Manager in all Quality related aspects of the Framework Contract • Assistance and support on the SLA and quality procedures or documents associated with the systems and services in these Tender Specifications. • Assist quality manager during the regular internal
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	assessment and internal audits of all services provided by this Framework contract.
<i>Education</i>	University degree (master or equivalent) in a relevant subject;
<i>Work Experience</i>	Minimum 6 years of professional experience in ICT, including 4 years as quality consultant

18. Biometrics Specialist

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Analysis of requirements regarding fingerprints quality • Interpretation and verification of test results • Adding, searching, error-checking, and editing information in the Automated Fingerprint Identification System (AFIS) • Knowledge of Cogent, Morpho or equivalent fingerprints technologies and ability to provide relevant training to staff • Identifying discrepancies on fingerprint information • Knowledge of Relational Database technologies (eg Oracle, SQL etc) • Knowledge of Unix shell scripting
<i>Education</i>	University degree (master or equivalent) in a relevant subject;
<i>Work Experience</i>	Minimum 10 years of professional experience in IT, including 5 years using AFIS technology, experience in imaging processing

19. Biometrics Architect

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • High-level qualified person able to develop enterprise biometric systems architecture in line with defined strategy • Define, assess and coordinate biometric projects, design architecture building blocks; • Design and coordinate biometric architecture implementation; • Align and integrate multiple architectures, layers and perspectives; • Advice on biometrics technologies, frameworks and methods; • Define and measure biometric architecture indicators (maturity, implementation, etc.); • Ensure interoperability; identify potential reuse; perform cost-benefit analyses; design Service Oriented Architecture;
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	<ul style="list-style-type: none"> • Coordinate the biometric technical implementation; • Perform Business Analysis and contribute to the Functional, Technical, Security and Testing Specifications.
<i>Education</i>	University degree (master or equivalent) in a relevant subject;
<i>Work Experience</i>	<p>Minimum 10 years of professional experience in IT, including 5 years using AFIS technologies, experience in image processing and large scale biometric systems</p> <p>Knowledge of Cogent, Morpho and other equivalent fingerprints technologies and ability to provide relevant training to staff;</p> <p>Good Knowledge of other biometrics technologies available on the market</p>

20. Legal compliance Manager

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Legal review of draft contractual documents; • Advice and legal assistance on financial aspects of contracts, including payments and VAT; • Contract management, including dispute resolution; • Advice on issues concerning intellectual property rights; • Advice and legal assistance in any area associated with public procurement; • Advice on data protection issues under the relevant EU legislation.
<i>Education</i>	University degree (master or equivalent) in law;
<i>Work Experience</i>	<ul style="list-style-type: none"> • Minimum 10 years of professional experience in the legal sector; • Knowledge and proven skills regarding public procurement and contract management relating to IT, and particularly to large-scale IT systems; • Good knowledge of data protection law; • Good knowledge of intellectual property rights law.