Executive Summary
Annex I

Call for Tenders

- Framework contract for the maintenance in working order of the Schengen Information System (SIS II)

LISA/2017/RP/01

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

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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 2017). 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

The Schengen information system (SIS) is a European Union large scale IT system created as a compensatory measure following the abolition of controls at internal borders within the Schengen area. The main aim of SIS is to allow competent authorities in Member States[1] to exchange information that is used for performing controls on persons and objects at the external borders or on their territory and prior to the issuance of residence permits or visas.

The SIS was established pursuant to the provisions of Title IV of Schengen Convention of 19 June 1990, implementing the Schengen Agreement that entered into force in 1995 as an

[1] Members States in the scope of this Call for Tender are not only the Member States of the EU, and there are also other MS as document further explains

intergovernmental agreement. The provisions of this Convention were subsequently integrated into the EU framework by virtue of the Amsterdam Treaty.

The "second generation" Schengen Information System (SIS II)[2] replaced the former generation of SIS (called SIS 1+).in 2013 It provides additional functionalities, such as new categories of records and the use and/or storage of images and other data formats such as Biometrics

As to eu-LISA Agency's role on the system, the Regulation (EU) 1077/2011, which established eu-LISA, Article 3 and Article 1(4), defines the responsibilities towards managing the SISII. It recognises that the tasks entrusted to eu-LISA are of Management Authority for the Central System-SISII (CS-SISII).

I.1.3. Description of current functionalities and architecture

The SIS II, as a whole, consists of:

- a central SIS II system, also named CS-SIS[3] , containing the SIS II database and a uniform national interface (NI-SIS[4]). The CS-SIS system at the central site is referred to as (CU) while the back-up system is referred to as (BCU).
- a national system (N.SIS II) in each of the Member States consisting of the national data systems which communicate with the central SIS II and
- The SIS II AFIS (Automated Fingerprint Identification System) subsystem, which will be an integrated component of the existing SIS II system providing services dealing with finger prints. SIS II AFIS is currently under development and is planned to be released during 1st Quarter of 2018.
- a communication infrastructure between central SIS II and NI-SIS that provides an encrypted virtual network dedicated to SIS II data and the exchange of data between SIRENE Bureaux[5] .

The database in the central SIS II contains alerts on persons and objects entered by the Member States and accessible to all relevant users either on national level or via central query functions. The central SIS II (CU) is located in Strasbourg and a back-up (BCU) capable of ensuring all functionalities of the principal system in the event of failure of this system is located in Sankt Johann im Pongau, Salzburg, (Austria). The CU and BCU have a point to point connection via s-TESTA / TESTA-NG [6]. The interaction at application level between the central SIS II and each N.SIS II on the Member States side is made via a uniform interface that is defined in the Interface Control Document (ICD). At network level, the communication with MS takes place on the s-TESTA / TESTA-NG communication infrastructure, between the central network access point and the national access point, also called the National Interface (NI). The NI is in some Member States made redundant by using a Local National Interface (LNI) and a Back-up National Interface (BLNI).

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[2] Reg. (EC) No 1987/2006, 20.12.2006 [OJ L 381 of 28.12.2006]

[3] The CS-SIS is a concept in the legal basis referring to the central SIS II system

[4] The NI-SIS is a concept in the SIS II legal basis that can be defined as consisting of the access point to the network and the uniform definition of the interaction between the N.SIS II and the CS-SIS, described in [the] Interface Control Document (ICD)

[5] A SIRENE bureau exists in every Member State. It is responsible for the quality of the information entered and to facilitate the necessary information exchange with other Member states related to the alerts.

6 A transition of s-Testa to TestaNG is undergoing and network services is planned to be migrated from the former to the latter during 2017

The central SIS II is a very high-availability, clustered system. It is sized for 100 million alerts and several hundred millions of queries per year and directly or indirectly serves several hundred thousand users all over Europe.

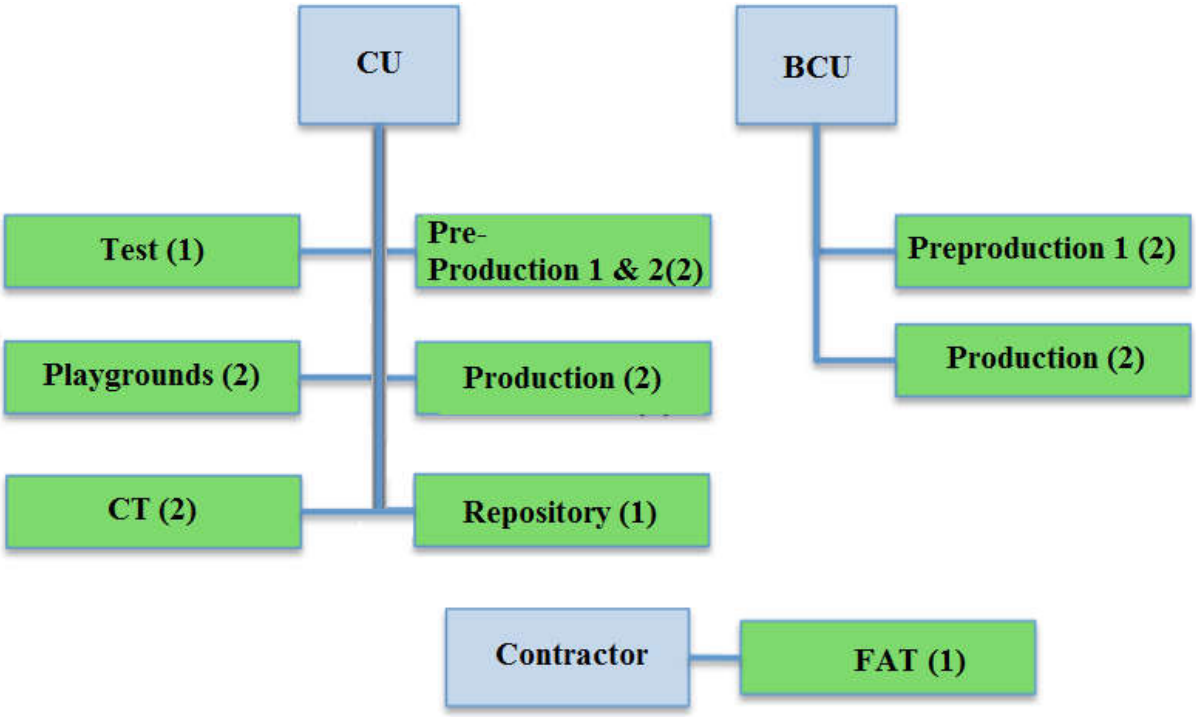
In case of failure of the CU the BCU will be able to take over all the necessary services required for continuity of operations. This implies that the data contained in CU and BCU must be kept synchronous at all times. The switch between the CU and the BCU will be transparent to the users regarding the network addressing.

SIS II AFIS will be an integral part of SIS II system and it is planned to be released during 1st Quarter of 2018. Hand-over activities related to the central SIS II and central SIS II AFIS from the incumbent contractor to the future contractor is expected to start in December 2017.

The central SIS II system currently has the following characteristics:

- Hundreds of thousands of end users across Europe who directly or indirectly use the data of the systems;
- An average of round 60.000 new / updated alerts per day
- An average of 1.000.000 queries per day
- The system handles both entering of data, queries to the data and reporting on the data.
- Stakeholders/users of the systems who are: geographically distributed worldwide (consular posts) and in the Schengen Zone (Border Posts, Central National Authorities…); More specifically, the users are:
  - 30 States of Europe applying partly or fully the Schengen acquis and currently connected or planning to connect to SIS II: Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden, Switzerland and United Kingdom.
  - Cyprus and Ireland, which could be connected during the new MWO contract period.
  - the European Police Office (Europol);
  - the national members of Eurojust and their assistants.

The following diagram illustrates the different central system environments. The environments marked with (1) next to their name are managed by contractor and the ones marked with (2) are managed by eu-LISA.



- Factory Acceptance Test environment (FAT), set-up by the Contractor and located at the Contractor premises, is used only by the Contractor for factory acceptance tests following Contractor development activities;
- Test environment, managed by the Contractor and located at the CU site, is used for testing after the factory tests and prior to pre-production tests;
- Pre-Production environments (2 in CU site and 1 in BCU site) are used for the tests of new release and corrections prior to transfer on the Production environment. New MS systems and changes could also be tested using these pre-production environments;
- Playground Environments, located at the CU site, is used by the Contractor for the tests of the user systems to validate changes or solving issues on their side and also to familiarize with the system;
- CT environments are used by MS for functional testing;
- Production environments, located at CU and BCU, are used for production only;
- Reference (Repository) environment, located at the CU site, is used for archiving purposes only.

I.1.4. Software and Hardware

The following provides a non-exhaustive list and short description of the main software products of SIS II System

- Java environment
  - J2EE Architecture
- Middleware
  - Oracle Weblogic
  - BMS SW
    - MSB (Morpho Service Bus)
    - MBIS (Morpho Biometric Identification System)
    - MBSS (Morpho Biometric Search Services)
- Database
  - Oracle 11.x

  - MySQL 5.1
- Development Tools
  - JDK
  - SQL Developer
  - Crystal Reports

The following provides a non-exhaustive list and short description of the main hardware products used by SIS II system:

- Storage
  - HP P2000 Disk Array
  - HP P9500 Disk Array
  - HP8200 SSD Disk Array
  - HP MSL 6480 Storage
  - HP MS 2040 Storage
- Server
  - Hardware :
    - HP C7000 Blade Enclosure with blade servers in it:
      - HP BL460c, BL860c, BL870c
      - HP Proliant DL385
  - Hardware/Software : VMware ESX, RedHat, HPUX, Windows
- SAN switches:
  - Brocade 6510
  - Brocade SN3000B
  - Brocade SN6000B
- Firewall: Stonegate 1060, 1042
- Load-Balancers: F5 BigIP
- Network Switches:
  - HP 5900AF , HP HI 5500, HP FF 5930, HP KVM IP Console Switch G2
- Terminal servers
  - HP MSR20-10 Router,
- Backup:
  - HP ESL 712e Ultrium Tape Library
  - HP RX2800 servers

Depending on strategic choice of the Agency, the future contractor may be requested to take over the maintenance of all or some of the abovementioned software and hardware products and some or all of those which will be introduced during contract implementation. The Framework Contract will detail the specific approach for the implementation of the specific aspects above.

I.1.5. Biometrics technology

In the context of expanding the existing Central SIS II by 1st quarter of 2018 to also include biometric capabilities through the subsystem called SIS II AFIS , eu-LISA will use a proprietary solution developed by the company *MORPHO Société par Actions Simplifiée (France)* for the storage, extraction, processing and matching of fingerprint information.

Due to the specificity of the fingerprint matching functionalities, 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 and, especially, the very reduced time to market

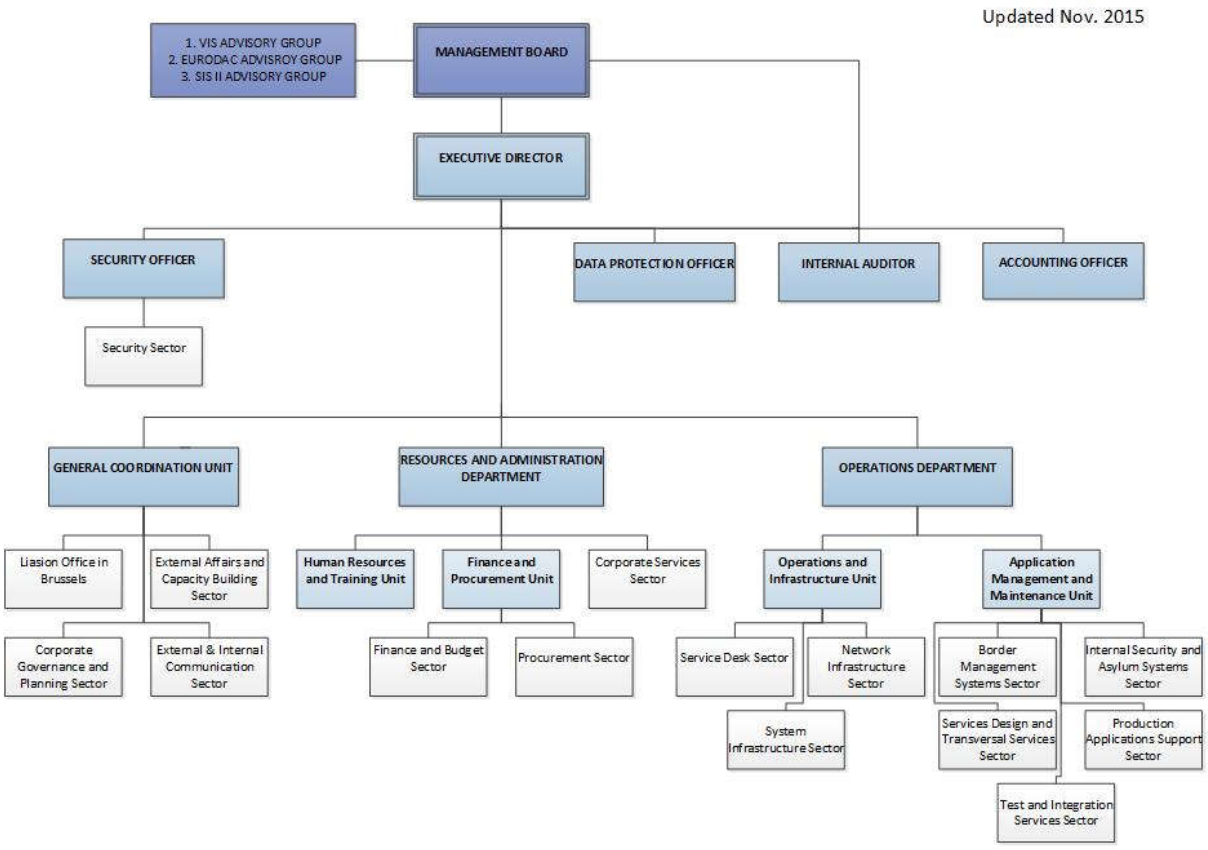
of future required implementations, eu-LISA requires that the future contractor shall have access, on a commercial basis to this biometric core technology.

At this stage, the change of the biometrics-related technical solution is not a viable option for eu-LISA because it would introduce delays on the required future implementation and 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 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 118

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 SIS II system 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 System 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 (Strasburg) 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. Description of the services

This Executive summary contains a brief description of the services covered by the call for tenders. A more detailed description will be available in the TTS.

The services covered are the following:

Initiation (take-over):

Constitution/setting up of the teams and the work environment of the Contractor and acquisition of the knowledge (familiarisation) relating to the objectives of this CFT.

Corrective and adaptive maintenance:

Corrective and adaptive maintenance of the central SIS II system,

o Corrective maintenance

The corrective maintenance consists of reacting to the anomalies noticed during the operation of the system, by implementing their correction or temporary bypass measures (to be followed by a final correction). The technical follow-up of an anomaly is ensured by an anomaly report;

o Adaptive maintenance

The adaptive maintenance relates to 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.

Evolutionary maintenance:

The 'Evolutionary maintenance' aims to ensure the evolution of the SIS II central system, in order to respond to:

o New functional, capacity and/or operational requests;

o Changes in the functional specifications of the system. This concept covers evolutions of the system that will be needed, in order to fulfil either future regulations or User needs and to keep the system performing and up to the latest standards.

Training:

Training relating to the functioning, a modification or an evolution of the central SIS II system, training activities must guarantee the transfer of all necessary knowledge from the Contractor to the Agency and/or MS personnel.

Technical Assistance:

The technical assistance is to be provided to the personnel of the Agency involved in the management and operation of the central SIS II system, and if needed the MS personnel. This assistance may also be requested for tasks such as preparation of technical reports and implementation of procedures in technical domains.

Testing Assistance:

User testing assistance consists in offering services to current and future MS to connect their N.SIS II to the Central Domain, test a new release of the central SIS II or benefit from a central environment for their own tests.

Reversibility (hand-over):

The reversibility consists in a transfer of the systems components and know-how to the Agency and to a third party designated by the Agency, before the end of the Contract.

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.

SIRENE Infrastructure is out of scope of the present CFT.

The maintenance of the Communication Infrastructure (S-Testa / TESTA-NG) 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 model 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.

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 SIS II system 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 services 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;
- Risk Management
- Change Management
- Auditability / Traceability Management
- Business Continuity Process (BCP) / Security Management
- Configuration and Release Management
- Participation in relevant meetings with the Agency and MS, when requested by the Agency

The services offered will have to follow the ITIL framework practices for IT Service Management and PRINCE2 Project and Program Management methodology.

ANNEX 1 – 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:

- Project Manager
- System Architect
- Enterprise Architect
- System Administrator
- Helpdesk/Service desk staff
- Quality Manager
- Database Administrator
- Telecommunication Expert
- Security Manager
- Test Manager
- Senior Business Analyst
- Senior Business and IT Consultant
- Senior System Developer
- System Developer
- Test Engineer
- Quality Controller
- Biometrics Specialist
- Program 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.

Tasks identified in the list below (not exhaustive list)

1. Project Manager

Nature of the tasks	• Maintain overall responsibility for the execution of the specific contract; • Report and present to the eu-LISA project manager. • Create, maintain and report, following the eu-LISA PM Methodology, the necessary logs of the project: risk log, action log, issue log, lessons learned log. The templates used for this reporting will be provided by eu-LISA's PMO team • Ensure the staffing of the different specific contracts with resources that fulfil the requirements laid down by eu-LISA. • Deliver the related Status or monthly 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 eu-LISA; • Facilitate the specific contract status meetings; • Escalate, when appropriate the issues of a specific contract to the Program Manager. • Ensure that all deliverables from a specific contract are published on the Contractor Knowledge base. • Ensure that the security policies and ITSM or project processes, aligned with eu-LISA processes, are followed by its team.
Education	University degree (master or equivalent) in a relevant subject;
Work Experience	Minimum 10 years of professional experience in ICT; minimum of 5 years of experience relevant to the requested role; proven experience with quality procedures.

2. System Architect

Nature of the tasks	• 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.
Education	University degree (master or equivalent) in a relevant subject;
Work Experience	Minimum 10 years of professional experience in ICT; minimum of 5 years of experience relevant to the requested role; certified system architect or equivalent, awareness of biometrics systems and text search engines

3. Enterprise Architect

Nature of the tasks	• 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.
Education	University degree (master or equivalent) in a relevant subject;
Work Experience	Minimum 10 years of professional experience in ICT; minimum of 5 years of experience relevant to the requested role; certified enterprise architect or equivalent,

4. System Administrator

Nature of the tasks	• 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.
Education	University degree (bachelor or equivalent) in a relevant subject;
Work Experience	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);

5. Helpdesk/Service desk staff

Nature of the tasks	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).
Education	
Work Experience	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.

6. Quality Manager

Nature of the tasks	• 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.

Education	University degree (master or equivalent) in a relevant subject;
Work Experience	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);

7. Database Administrator

Nature of the tasks	• 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 fulfil specifications and requirements; • Report and communicate with providers of products as regards errors, incidents and problems.
Education	University degree (bachelor or equivalent) in a relevant subject;
Work Experience	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;

8. Telecommunication Expert

Nature of the tasks	• 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.
Education	University degree (master or equivalent) in a relevant subject;
Work Experience	Minimum 5 years of professional experience in IT, minimum 2 years relevant to the tasks of this role

9. Security Manager

Nature of the tasks	• 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.

Education	University degree (master or equivalent) in a relevant subject;
Work Experience	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;

10. Test Manager

Nature of the tasks	• 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.
Education	University degree (master or equivalent) in a relevant subject;
Work Experience	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;

11. Senior Business Analyst

Nature of the tasks	• 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.
Education	University degree (master or equivalent) in a relevant subject;
Work Experience	Minimum 10 years of professional experience in ICT, including 5 years in business analysis, experience in ICT business analysis;

12. Senior Business and IT Consultant

Nature of the tasks	• 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 Specifications. • 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.
Education	University degree (master or equivalent) in a relevant subject;
Work Experience	Minimum 10 years of professional experience in ICT, including 5 years in IT consultancy,

13. Senior System Developer

Nature of the tasks	• 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.
Education	University degree (bachelor or equivalent) in a relevant subject;
Work Experience	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);

14. System Developer

Nature of the tasks	• 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.
Education	Training as a developer by a competent institute;
Work Experience	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);

15. Test Engineer

Nature of the tasks	• 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)
Education	University degree (bachelor or equivalent) in a relevant subject;
Work Experience	Minimum 3 years of relevant IT experience and minimum 2 years of testing experience

16. Quality Controller

Nature of the tasks	• 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 assessment and internal audits of all services provided by this Framework contract.
Education	University degree (master or equivalent) in a relevant subject;
Work Experience	Minimum 6 years of professional experience in ICT, including 4 years as quality consultant

17. Biometrics Specialist

Nature of the tasks	• 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
Education	University degree (master or equivalent) in a relevant subject;
Work Experience	Minimum 10 years of professional experience in IT, including 5 years using AFIS technology, experience in image processing

18. Program Manager

Nature of the tasks	• Maintain overall responsibility for the execution of the framework contract; • Report and present to the Steering Committee and eu-LISA application manager. • Act as escalation actor for each specific contract; • Provide an answer to eu-LISA Request for Offers, using the commonly agreed template; • Create, maintain and report the necessary documentation relevant to the program. • Staff the different framework contracts will resources that fulfil the requirements laid down by eu-LISA; • Take all the necessary actions to ensure the business continuity of SIS II and the improvement of the delivered services;

	• Deliver the program level Monthly Status Reports; • Ensure that the security policies and ITSM processes, aligned with eu-LISA processes, are followed by its team.
Education	University degree (master or equivalent) in a relevant subject;
Work Experience	Minimum 10 years of professional experience in ICT; minimum of 5 years of experience relevant to the requested role.