

Annex I – Description of profiles¹⁷

Lot 1: Standard external consultancy services in the field of information systems

1. Database Developer

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Data modelling. • Database design. • Database implementation. • Development, maintenance and integration of database components. • Implementation of user requirements. • Prototyping. • Elaboration of tests. • Writing of technical documentation. • Assistance with deployment and configuration of the system. • Troubleshooting and optimization. • Participation in meetings with the project teams.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Good knowledge of data modelling and database design techniques and tools (e.g. SQL Developer Data Modeler, Hackolade, NoSQL Workbench). • Good knowledge of development tools (e.g. Oracle SQL Developer). • Good knowledge of relational database systems (e.g. Oracle). • Good knowledge of NoSQL database systems (e.g. Dynamo DB, MongoDB, Cassandra). • Good knowledge of SQL. • Good knowledge of PL/SQL.

¹⁷ Applicable in all profiles:

Education: EQF 6 : Level 6 of the European Qualifications Framework (which typically corresponds to a bachelor's level or 3 years of higher education)

Education: EQF 7: Level 7 of the European Qualifications Framework (which typically corresponds to a master's level or 5 years of higher education)

Specific expertise and technologies: “good knowledge” refers to at least 1 year of relevant higher education, or at least 12 months of relevant professional experience.

- Good knowledge of PL/SQL unit testing.
- Good knowledge of MQL.
- Good knowledge of CQL.
- Good experience of database release management.
- Good knowledge of Agile methodology.

*Certification
and/or Standards*

- Not applicable

Skills

- Capability to write clear and structured technical documents.
- Ability to give technical presentations.
- Ability to apply high quality standards.
- Ability to cope with fast changing technologies used in database developments.
- Ability to participate in multi-lingual meetings, ease of communication.
- Capability of integration in an international/multi-cultural environment.

On-call services foreseen for this profile:

☐ Yes ☒ No

2. *Front-end Developer*

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Development of front-end website architecture. • Design of user interactions on web pages. • Development of features to enhance the user experience. • Building reusable code for future use. • Understanding and implementation of security and data protection. • Cross-platform optimisation. • Design responsive applications. • Design and develop APIs. • Participating in the design and creation of scalable software. • Maintenance of code integrity and organisation. • Writing clean, functional code on the front-end. • Compile and analyse data, processes, and codes to troubleshoot problems and identify areas for improvement. • Testing and fixing bugs or other coding issues. • Meet both technical and consumer needs. • Write technical documentation.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Proficiency in HTML5, Javascript, ES6, CSS3 and SASS. • Proficiency in Angular (latest versions, build and automation tools), Bootstrap and Typescript. • Good knowledge in client-side development of complex applications involving: multi module, Web Components. • Experience in Web security, authentication and authorization protocols (OAuth, Open ID Connect). • Experience with the following tools: Git, JIRA, Confluence, Bamboo, Nexus, Crucible, Jenkins and Sonar. • Experience with responsive and adaptive design. • Understanding of key design principles. • Understanding of SEO principles. • Experience in Redux architecture is a plus.

*Certification
and/or Standards*

- Not applicable

Skills

- Autonomous.
- Strong organisational and time-management skills.
- Capability of integration in an international/multi-cultural environment.
- Excellent verbal communication.
- Attention to details.
- Good problem-solving skills.

On-call services foreseen for this profile:

☐ Yes ☒ No

3. *Back-end Developer*

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Development of back-end website applications. • Integration of user-facing elements developed by a front-end developers with server side logic. • Implement core business logic. • Creation of servers and databases for functionality. • Design and implementation of data storage solutions. • Understanding and implementation of security and data protection. • Optimization of the application for maximum speed and scalability. • Design and develop APIs. • Participating in the design and creation of scalable software. • Taking lead on projects, as needed. • Maintenance of code integrity and organisation. • Writing clean, functional code on the back-end. • Compile and analyse data, processes, and codes to troubleshoot problems and identify areas for improvement. • Testing and fixing bugs or other coding issues • Meet both technical and consumer needs. • Write technical documentation.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Proficiency with back-end languages and frameworks such as Java, PHP, Spring boot and Hibernate. • Strong understanding of the web development cycle and programming techniques and tools. • Familiarity with database technology such as Oracle, MongoDB. • Knowledge of code versioning tools such as Git or SVN.
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Not Applicable
<i>Skills</i>	<ul style="list-style-type: none"> • Autonomous. • Strong organisational and time-management skills. • Capability of integration in an international/multi-

cultural environment.

- Excellent verbal communication.
- Attention to details.
- Good problem-solving skills.

On-call services foreseen for this profile:

☐ Yes ☒ No

4. *Full-stack Developer*

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Development of front-end website architecture. • Design of user interactions on web pages. • Development of back-end website applications. • Implement core business logic. • Creation of servers and databases for functionality. • Understanding and implementation of security and data protection. • Cross-platform optimisation. • Design responsive applications. • Design and develop APIs. • Participating in the design and creation of scalable software. • Taking lead on projects, as needed. • Maintenance of code integrity and organisation. • Writing clean, functional code on the front- and back-end. • Compile and analyse data, processes, and codes to troubleshoot problems and identify areas for improvement. • Testing and fixing bugs or other coding issues. • Meet both technical and consumer needs. • Write technical documentation.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Proficiency with fundamental front-end languages such as JavaScript, HTML and CSS. • Good knowledge with JavaScript frameworks and libraries such as Angular and Bootstrap. • Proficiency with back-end languages and frameworks such as Java, PHP, Spring boot and Hibernate. • Familiarity with database technology such as Oracle, MongoDB. • Knowledge of code versioning tools such as Git or SVN.
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Not applicable

Skills

- Autonomous.
 - Strong organisational and time-management skills
 - Capability of integration in an international/multi-cultural environment.
 - Excellent verbal communication.
 - Attention to details.
 - Good problem-solving skills.
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On-call services foreseen for this profile:

☐ Yes ☒ No

5. Service desk agent

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • User guidance and support regarding the use of information systems / ICT tools • Follow-up of incidents related to information systems and organisation of the reporting. • Follow-up of user requests. • Follow-up of bug reports. • Document knowledge, known issues and transfer this knowledge to colleagues. • Categorize and prioritize incoming tickets correctly and escalate where needed.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6 any degree
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Proven knowledge in end user assistance and support of information systems. • Good knowledge of ITIL • Knowledge of wiki, collaborative sites and social networks. • Knowledge of the office automation tools used in the contracting authority (MS-Office).
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Not applicable
<i>Skills</i>	<ul style="list-style-type: none"> • Good IT skills. • Excellent communication / writing skills. • Capability of integration in an international/multi-cultural environment, rapid self-starting capability and experience in working in team. • Ability to participate in multi-lingual meetings.

On-call services foreseen for this profile:

☒ Yes ☐ No

6. User Documentation and Training person

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Writing user manuals for information systems. • Writing information systems on-line help. • Writing web documentation. • Prepare and give training courses on information systems. • Translate business analysts input to information consumable by the end-user.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6 any degree
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Knowledge in end user assistance of information systems. • Knowledge of wiki, collaborative sites and social networks. • Good knowledge of presentation tools (e.g. PowerPoint). • Good knowledge of MS-Office. • Knowledge of web languages or tools (e.g. html, flash) would be an advantage.
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Not applicable
<i>Skills</i>	<ul style="list-style-type: none"> • Excellent writing and communication skills • General IT skills • Capability of integration in an international/multi-cultural environment, rapid self-starting capability and experience in working in team. • Ability to participate in multi-lingual meetings

On-call services foreseen for this profile:

☐ Yes ☒ No

7. IS tester

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Definition of test plans and test cases. • Construction of test scenarios and scripts. • Execution of tests. • Test coordination. • Reporting of test results.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6 any degree
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Knowledge of testing technologies, tools and techniques. • Hands-on experience in the manual Testing. • Knowledge of a Test Management Tool. • Knowledge of a Defect Tracking tool. • Experience in the test data preparation, preferably with SQL databases.
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Not applicable
<i>Skills</i>	<ul style="list-style-type: none"> • Excellent interpersonal and communication skills. • Good redaction skills, experience in preparation of written reports. • Capability of integration in an international/multi-cultural environment, rapid self-starting capability and experience in working in team • Ability to cope with fast changing technologies used in application developments

On-call services foreseen for this profile:

☐ Yes ☒ No

8. Configuration / Deployment Manager

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Software configuration management. • Build and continuous integration. • Establishment maintenance procedures related to deployment of information systems. • Management of development infrastructure (e.g. application servers). • Manage automated CI/CD pipelines. • Release management and controls. • Analysis of information systems performances.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Excellent knowledge of software deployment management. • Good knowledge of software release management • Knowledge of building and deployment tools (e.g. Ant, Maven). • Knowledge of CI/CD automation tools (e.g. bamboo, Jenkins). • Knowledge of application servers (e.g. Weblogic Application Server, Tomcat). • Knowledge of RDBMS. • Knowledge of Linux.
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Not applicable
<i>Skills</i>	<ul style="list-style-type: none"> • Ability to participate in multi-lingual meetings, ease of communication. • Capability of integration in an international/multi-cultural environment, rapid self-starting capability and experience in working in team. • Able to cope with the fast changing technologies.

On-call services foreseen for this profile:

☒ Yes ☐ No

9. Infrastructure System Engineer

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Practical validation and implementation of the solutions recommended or designed by the Software or Infrastructure Architects • Design, development, tests, documentation, release control, maintenance and technical support of infrastructure software components and services matching the specifications • Proof of concept, prototyping of infrastructure solutions • Technical responsibility for infrastructure development projects • Assistance and support to Software Architects and Information System developers • Provision of technical studies, technical expertise, technical evaluations in relation with Information Systems infrastructure • Production of technical documentation • Assistance with configuration of the system for production deployment and in training administrators and users • Participation in meetings within the Commission
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6 • IT or relevant technical degree
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Good knowledge of web applications, apps back-end applications, infrastructure script, or other development area, as required to perform the specified tasks • Knowledge of Java (JEE), PHP, .Net or other technologies and/or frameworks required to perform the tasks. Depending on the positions, expertise in a specific software stack or application foundation (e.g. ColdFusion, Drupal, SharePoint) can be required • Knowledge of relational database management • Experience in component-based and service-oriented applications development or configuration • Understanding modelling languages or tools (e.g. UML)
<i>Certification</i>	<ul style="list-style-type: none"> • Not applicable

and/or Standards

Skills

- Ability to cope with fast changing technologies used in application developments
- Technical redaction skills in English and/or French or the required language for that location of delivery
- Ability to participate in multi-lingual meetings, good communicator
- Ability to integrate in an international and/or multi-cultural environment

On-call services foreseen for this profile:

☒ Yes ☐ No

10. Web Operations Manager

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Creation and management of wiki, collaborative sites and content management systems in general • Guidance and support users in the usage of wikis, collaborative sites and CMS • Creation and management of M365 services (Teams, OneDrive Business, PowerApps, PowerBI, etc.) • Guidance and support users in the usage of relevant tools. • Technical analysis of the business requirements in view of providing an adequate solution within the platforms available • Implementation of solutions on existing technical platforms, including customisations required. • Ensure coherence of the logical and physical structure of the collaboration spaces (confluence, sharepoint, CMS, M365/Teams, or within other custom Information systems) • Frequent review of existing platform usage, correcting misalignments, while coordination with the space users. • Writing administration and usage procedure manuals • Participate and follow in corporate meetings and advances on the strategy and usage of these tools within the corporate environment. • Participate in technical working groups, progress meetings and meetings with the users
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6 • IT relevant or any other degree
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Good knowledge of Confluence wikis and its content administration. • Good knowledge of Sharepoint sites and its content administration. • Good knowledge of Microsoft Teams and its content administration. • Proven conceptual understanding of content structuring, storage, access and presentation elements • Experience with end-user guidance. • Knowledge of business process analysis. • Awareness of software development and service methodologies (e.g., Agile, ITIL)

*Certification
and/or Standards*

- Not applicable

Skills

- Able to cope with the fast changing technologies used in collaborative platforms and self-service (no-code) software management.
- Ability to participate in multi-lingual meetings, ease of communication.
- Ability to give technical and solution-driven presentations.
- Good redaction skills.
- Capability of integration in an international/multi-cultural environment, rapid self-starting capability and experience in working in team.

On-call services foreseen for this profile:

☐ Yes ☒ No

11. Linux consultant

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Design, engineering, testing, documentation, release control, maintenance, and technical support of Linux workstation environments • Design, engineering, testing, documentation, release control, maintenance, and technical support of lifecycle, security, and systems management solutions for Linux workstations • Proof of concept, prototyping of infrastructure solutions in the specific area of Linux workstations • Technical responsibility for infrastructure engineering projects • Provision of expert advice and assistance, technology watch, evaluation studies, architectural considerations, applicable standards, solution patterns, and best practices in the specific area of Linux workstations • Drafting of technical, operational, and user documentation • Assistance with training support staff and users • Participation in coordination, project, and operational meetings
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Excellent knowledge of the Linux workstation distribution(s) used in the European Commission, including – but not limited to – system architecture, installation, configuration, maintenance, and support • Good knowledge of Linux package management • Good knowledge of Linux shell scripting • Knowledge of Python • Good knowledge of lifecycle, security, and systems management solutions for Linux workstations • Knowledge of networking technologies
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Not applicable
<i>Skills</i>	<ul style="list-style-type: none"> • Ability to keep up-to-date with the evolution of technologies • Analysis and troubleshooting skills • Technical drafting skills in English

- Autonomous and self-driven
 - Ability to work effectively in a team and across teams
 - Coordination and communication abilities
 - Capability of integration in an international/multi-cultural environment
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On-call services foreseen for this profile:

☒ Yes ☐ No

12. MacOS consultant

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Design, engineering, testing, documentation, release control, maintenance, and technical support of MacOS workstation environments • Design, engineering, testing, documentation, release control, maintenance, and technical support of lifecycle, security, and systems management solutions for MacOS workstations • Proof of concept, prototyping of infrastructure solutions in the specific area of MacOS workstations • Technical responsibility for infrastructure engineering projects • Provision of expert advice and assistance, technology watch, evaluation studies, architectural considerations, applicable standards, solution patterns, and best practices in the specific area of MacOS workstations • Drafting of technical, operational, and user documentation • Assistance with training support staff and users • Participation in coordination, project, and operational meetings
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Excellent knowledge of the MacOS operating system and the underlying Apple hardware, including – but not limited to – system architecture, installation, configuration, maintenance, and support • Good knowledge of lifecycle, security, and systems management solutions for MacOS workstations • Knowledge of networking technologies
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Not applicable
<i>Skills</i>	<ul style="list-style-type: none"> • Ability to keep up-to-date with the evolution of technologies • Analysis and troubleshooting skills • Technical drafting skills in English • Autonomous and self-driven • Ability to work effectively in a team and across teams • Coordination and communication abilities

- Capability of integration in an international/multi-cultural environment
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On-call services foreseen for this profile:

☒ Yes ☐ No

Lot 2: specialised external consultancy services in the field of information systems

1. Database architect

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Data analysis and modelling. • Database design and implementation. • Reverse engineering of existing databases. • Development, maintenance and integration of database components. • Integration with other databases. • Elaboration of test programs. • Develop best practices for standard naming conventions and coding practices to ensure consistency of data models and databases. • Writing of technical documentation. • Assistance with deployment and configuration of the system. • Troubleshooting and optimization. • Provision of technical evaluations and audit reports of databases. • Risk analysis. • Participation in meetings with the project teams.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Experience of data modelling and database design techniques and tools (e.g. SQL Developer Data Modeler, Hackolade, NoSQL Workbench). • Experience of development tools (e.g. Oracle SQL Developer). • Experience of relational database systems (e.g. Oracle). • Experience of NoSQL database systems (e.g. Dynamo DB, MongoDB, Cassandra). • Experience of SQL. • Experience of PL/SQL. • Experience of MQL. • Experience of CQL. • Experience of database development best practices. • Experience of master data management.

- Experience of PL/SQL unit testing.
- Experience of database security.
- Experience of database architecture.
- Experience of database release management.
- Experience of Agile methodology.

*Certification
and/or Standards*

- Not applicable

Skills

- Capability to write clear and structured technical and non-technical documents.
- Capability to speak to business and technical audiences.
- Ability to give high level and technical presentations
- Ability to apply high quality standards.
- Ability to cope with fast changing technologies used in database architecture.
- Ability to participate in multi-lingual meetings, good communication skills.
- Capability of integration in an international/multi-cultural environment.

On-call services foreseen for this profile:

☐ Yes ☒ No

2. *Mobile Developer*

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Architecture, design and implementation of web/mobile applications. • Analysis and documentation of requirements following the standards and methodologies established by the contracting authority. • Participate in the analysis and design of database schemas/tables/etc. • Data analysis and data modelling. • Prototyping. • Development/maintenance of applications that reflect the specifications. • Design and development of architecture components and building blocks. • Integration with other applications/systems. • Production of technical documentation. • Formulation and/or elaboration of test cases/programs. • Participate in the deployment and configuration of the system (s). • Participation in meetings with the contracting authority, project teams and user groups.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Excellent knowledge of Angular development framework (version 8 or newer); • Excellent knowledge of HTML5 and CSS; • Good knowledge of development platforms (e.g. Ionic or a similar one) to develop mobile applications; • Excellent knowledge of web (progressive) and/or mobile (native/hybrid) application design and development; • Good knowledge of J2EE including Service Oriented Architecture (SOA) and web services; • Good knowledge of Application Servers (e.g. Oracle WebLogic Server); • Good knowledge of Relational Database Management Systems (Oracle, Microsoft SQL, etc.); • Good knowledge of continuous delivery and Application Lifecycle Management tools (Bamboo, JIRA, Git, etc.);

- Good knowledge of Spring and Spring boot;
 - Not applicable
- Certification and/or Standards*
- Skills*
- Ability to cope with fast changing technologies used in mobile application architecture, design and implementation;
 - Very good communication skills;
 - Ability to give efficient presentations to technical and non-technical audience;
 - Capability of working in a multi-lingual/multi-cultural environment;
 - Very good knowledge of English (both written and oral).
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On-call services foreseen for this profile:

☐ Yes ☒ No

3. *System integration and workflow specialist*

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Design, plan, implement integration strategies and patterns in a JEE/HTTP secured ecosystem. • Apply best practices of distributed architecture to solve complex integration problems between information systems. • Design, implement and document APIs to be exposed in a secured manner on a public facing API Gateway. • Design, implement and document business events to be easily produced on a corporate event-streaming platform and consumed by any system from EC. • Design, plan, implement and deploy workflows: business process definition and task definition (service or user tasks) relying on APIs and business events. • Work in a container based infrastructure.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Excellent knowledge of HTTP and API design • Excellent knowledge of JEE and REST or SOAP APIs. • Excellent knowledge of at least one BPMN workflow engine. • Excellent knowledge of asynchronous communication and publish/subscribe techniques and technologies: Apache Kafka, JMS. • Excellent knowledge of integration testing best practices. • Good knowledge of Docker, Kubernetes and cloud native architectures. • Good knowledge in GRPC and Protobuf format. • Good knowledge of distributed or microservice architectures and complex event processing. • Good knowledge in Web security, OAuth2.0 and OpenID Connect.
<i>Certification and/or Standards</i>	<p>Optional certification:</p> <ul style="list-style-type: none"> • JEE, Business Process Management, workflow patterns, microservice architectures and patterns, Domain Driven Design, Enterprise Integration Patterns, Complex event processing, API design and security.

Skills

- Excellent problem solving skills.
 - Excellent interpersonal and communication skills.
 - Participation in open source projects.
 - Good writing skills: documentation is part of the tasks.
 - Capability of integration in an international/multi-cultural environment
 - Experience in a large enterprise-level multi-team project
 - Ability to produce IT architecture document about complex integration patterns
 - Aptitude in reporting
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On-call services foreseen for this profile:

☐ Yes ☒ No

4. *Application/Cloud Architect*

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Analysis of the integration of different information systems. • Data analysis and data modelling. • Coordination of the implementation of the technical architecture. • Technical interface between the project leaders and the developers. • Production of software architecture documents. • Participation in technical working groups, progress meetings and meetings with the users. • Assistance during relevant parts of testing, analysis, technical documentation, deployment, evaluation and reporting. • Creating designs and blueprints of Cloud Architecture. • Review of the architecture of existing systems to migrate of existing system in the cloud. • Design and development of architecture components and building blocks using cloud components.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Good knowledge of architecture best practices and patterns. • Good knowledge of microservices and architecture in the cloud. • Good knowledge of applications design. • Good knowledge of modelling tools. • Good knowledge of Enterprise Architecture. • Good knowledge of Relational DBMS. • Good knowledge of business process analysis. • Knowledge of interoperability technology (web services, message oriented middleware, service oriented bus, event architecture).
<i>Certification and/or Standards</i>	<p>Optional certifications:</p> <ul style="list-style-type: none"> • Certified DevSecOps Professional (CDP) certification. • AWS Certified Solutions Architect. • Microsoft Certified: Azure Solutions Architect Expert. • Google Professional Cloud Architect. • Certified Kubernetes Application Developer (CKAD).

Skills

- Ability to cope with fast changing technologies used in application architecture and design.
- Excellent interpersonal and communication skills
- Ability to participate in multi-lingual meetings, ease of communication.
- Good redaction skills.
- Ability to give technical presentations.
- Ability to apply high quality standards.
- Ability to participate in multi-lingual meetings.
- Capability of integration in an international/multi-cultural.

On-call services foreseen for this profile:

☐ Yes ☒ No

5. Project Manager

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Manage the implementation of information systems to meet identified business needs, acquiring and using the necessary resources and skills, within agreed parameters of cost, timescales, and quality. • Give proposals for project strategies, planning, definition of tasks and deliverables, review of project deliverables, quality control, risk analysis and management, status reports, problem reporting and management systems, follow up and organization. • Guide the team in charge of project activities and review their deliverables. • Participate in functional working groups and progress meetings. • Estimate costs, timescales and resource requirements for the successful completion of each project to agreed terms of reference. • Prepare and maintain project and quality plans and tracks activities against the plan, provide regular and accurate reports. • Monitor costs, timescales and resources used. Take action where these deviate from agreed tolerances. Ensure that delivered systems are implemented within these criteria. • Manage the change control procedure gaining agreement for revisions to the project from project sponsors. Provide effective leadership for the project team ensuring that team members are motivated and constantly developing their skills and experience.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6 any degree
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Good knowledge of project management standards and methodologies (Project Scheduling, Strategic Planning, Financial Modelling, Budgeting, Forecasting, Performance Tracking). • Good knowledge of Agile methodology, Scrum Management, Lean agile • Meeting Facilitation • Good technical knowledge on the projects aspects. • Practical knowledge of reporting methods. • Good knowledge of project management tools e.g. MS Project, Microsoft Excel.

*Certification
and/or Standards*

Optional certifications:

- Project Management Professional (PMP)
- PRINCE2 Foundation/PRINCE2 Practitioner
- Certified in PM2

Skills

- Project management.
- Ability to give presentations.
- Ability to apply high quality standards to all tasks.
- Ability to participate in multi-lingual meetings, good communication skills.
- Capability of working in an international/multi-cultural environment, rapid self-starting capability and experience in working in a team, understanding the needs, objectives and constraints of those in other disciplines and functions.
- Leadership capability.
- Negotiation capability.
- Ability to adapt to unplanned changes or decisions.
- Risk assessment.

On-call services foreseen for this profile:

☐ Yes ☒ No

6. Interface Designer

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Translation of business requirements into an UI solution • User Experience (UX) analysis • Consultancy on UI at any step of the design of a digital solution (from brainstorming to research, sketches, prototypes, user tests and final implementation) • Visual prototyping of UI solutions such as designing (low- and high-fidelity) wireframes, mock-ups and story boards which lead to an intuitive user experience • Design and development of UI solutions for different web products and platforms, including showing styling, use of typography, images, text, the definition of Information Architecture, interaction workflows and navigation • Creation and maintenance of style guides, brand book and visual component libraries, including sketched concepts and page templates • Creation of graphical elements including illustrations, visuals, infographics, data visualisations, etc. • Definition of user-centred evaluations of UI solutions, identifying key usability problems and providing recommendations on how to solve them (including the participation in usability studies with users) • Contribution to test scenarios and test result analysis regarding the UI components • Front-end development of responsive UI solutions following good coding practices, including creation/correction of CSS and transforming mock-ups into semantic HTML and development of innovative solutions for different platforms as well as integration with DBs or other server-side logic • Documentation of code, ensuring easy maintenance & evolution • Optimisation of application for maximum performance and scalability
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6
<i>Specific expertise and technologies</i>	<p>Technologies</p> <ul style="list-style-type: none"> • Knowledge of web technologies, frameworks and standards such as HTML, XHTML, CSS and jQuery

development, W3C, accessibility, SEO, JavaScript, Angular, React, Vue.

Tools

- Knowledge of wireframing and interactive prototyping design tools such as Balsamiq, InVision, UxPin, Framer.js or similar
- Knowledge of design and graphical tools such as Adobe Photoshop, Illustrator, or similar
- Knowledge in customisation of collaborative tools such as Atlassian's Confluence or similar
- Knowledge of (web/visual) design, graphical and prototyping tools and software

Specific expertise

- Knowledge of UX design best practices, including user interface ergonomics, knowledge of responsive design, data protection and security principles
- Knowledge of user-centred design principles and methodologies, including development of usability test plans for all stages of a project life-cycle based on defined target audiences, personas and user stories
- Knowledge of user testing through all stages of a project, including different techniques (e.g. eye tracking, dynamic/static verification) and methods of testing (e.g. remote usability testing, A/B testing, hallway testing, post release testing)
- Knowledge in cross-browser compatibility and testing
- Knowledge of web ergonomics, usability and accessibility Knowledge of fundamental visual and typographic design disciplines and principles
- Knowledge of prototyping, wireframing, interaction flows, information architecture and user testing
- Experience in agile development environments
- Understanding of security practices and protocols

*Certification
and/or Standards*

- Not applicable

Skills

- Capability to work in an international/multicultural environment, including participation in multi-lingual meetings
- Confidence and creativity to go beyond the obvious and to defend design ideas

- Ability to cope with fast-changing technologies used in visual design
 - Strong communication skills in English and/or French
-

On-call services foreseen for this profile:

☐ Yes ☒ No

7. Business Analyst

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Analysis of Business requirements. • Documentation of Business requirements. • Business model analysis. • Business process analysis. • Business processes modelling • Functional requirements and business cases analysis. • Risk analysis. • Assistance in Business cases, Vision documents, Project Charters and Security Plans.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6 any degree
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Good knowledge of information systems matters. • Good knowledge of large organisation administrative business processes. • Good knowledge of analysis/modelling tools and techniques (use case diagram, state diagram, entity relationship model, interaction diagrams etc.). • Good knowledge of BPMN or UML or other with equivalent value. • Good knowledge of Wiki and collaborative sites. • Knowledge of software development methodologies (e.g. RUP, Agile).
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Not applicable
<i>Skills</i>	<ul style="list-style-type: none"> • Rapid self-starting capability. • Excellent interpersonal and communication skills. • Strong capacity in preparing and writing business analysis. • Capability to speak to business and technical audiences. • Strong capacity to give high-level presentations. • Excellent critical thinker, by using logic and reasoning to identify strengths and weaknesses of alternative solutions. • Ability to apply high quality standards. • Ability to participate in multi-lingual meetings, excellent communicator.

- Capability of working in an international/
multicultural environment.
-

On-call services foreseen for this profile:

☐ Yes ☒ No

8. Support manager

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Organisation , implementation and maintenance of (IS) support • Coordination of support teams • IS Service management • Coordination with the project teams • Coordination of wiki sites, collaborative sites or social networks • Follow-up of service quality • Management and follow-up of user requests • Guidance regarding the use of information systems • Management of incidents related to information systems; organisation of the reporting • Conception and organisation of user documentation for information systems • Conception and management of IS and ICT trainings • Participation in user, service and project meetings • Elaboration and implementation of relevant support processes
<i>Education</i>	<ul style="list-style-type: none"> • EQF6 any degree
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Knowledge in end user assistance or support of information systems • Good knowledge of ITIL • Knowledge of wiki, collaborative sites and social networks • Good reporting skills
<i>Certification and/or Standards</i>	<p>Optional certification:</p> <ul style="list-style-type: none"> • ITIL foundation certification
<i>Skills</i>	<ul style="list-style-type: none"> • Good IT skills • Excellent communication / writing skills. • Ability to give presentations. • Ability to apply high quality standards • Ability to participate in multi-lingual meetings, good communication skills. • Capability of working in an international/multi-cultural environment, rapid self-starting capability and experience in working in team; leadership capability.

- Able to cope with the needs of multi-language site deployment.
-

On-call services foreseen for this profile:

☒ Yes ☐ No

9. Customer Relationship Management specialist

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Customer relationship management aiming at the adoption of digital solutions • Creation of stakeholder maps or similar • Creation of adoption dashboards and reports • Overseeing the adoption journey of several types of stakeholders • Resolving stakeholder complaints quickly and efficiently • Contributing to the success of digital projects and initiatives by keeping stakeholders updated to ensure their adoption of digital solutions • Identifying the services needed to ensure stakeholder satisfaction • Autonomously turn communication objectives into strategies, tasks and activities and oversee / contribute to their implementation • Managing communications and defining strategies to increase results in line with defined adoption targets (from awareness to action) • Creating and enforcing plans that help meet the needs of stakeholders • Reporting to relevant structures
<i>Education</i>	<ul style="list-style-type: none"> • EQF6 ideally within communication, classics or similar
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Knowledge of customer relationship management practices and tools • Knowledge in using tools to build stakeholder maps • Knowledge in using tools to build adoption dashboards and reports • Knowledge in analysing customer segments, e.g., experiencing a specific product problem • Experience in the use of Atlassian collaborative tools (e.g., Confluence and Jira) and Microsoft Office Tools (e.g., PowerPoint) • Experience in (or familiarity with) the IT domain is a plus.
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Not applicable

Skills

- Ability to work autonomously, managing his/her own workload independently, providing status updates, liaising with others and escalating issues as appropriate.
- Strong interpersonal skills and ability to understand what each stakeholder wants and needs
- Aptitude to foster positive relationships
- Problem-solving attitude
- Excellent communication skills
- Ability to prepare clear and well-structured documents, and presentations
- Teamwork and leadership skills, including ability to work in a friendly, organised, and well-structured manner also under pressure

On-call services foreseen for this profile:

☒ Yes ☐ No

10. Test automation specialist

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Design, prepare and monitor automated tests. • Contribute to the development of a plan to integrate automated testing within the testing process. • Evaluate tools and technology for automation best fit to the project within the DevSecOps approach. • Create an approach and methodology for building a test automation architecture. • Design and develop (new or modified) test automation solutions that meet the business needs. • Enable the transition of testing from a manual to an automated approach. • Create automated test reporting and metrics collection.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6.
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Knowledge of test automation technologies, tools and techniques. • Hands-on experience in the creation of test automation solutions. • Knowledge of Test Management and Defect Tracking tools. • Experience in the test data management.
<i>Certification and/or Standards</i>	<p>Optional certification:</p> <ul style="list-style-type: none"> • ISTQB Advanced Level Test Automation Engineer or equivalent
<i>Skills</i>	<ul style="list-style-type: none"> • Excellent interpersonal and communication skills. • Good redaction skills, experience in preparation of written reports. • Capability of integration in an international/multi-cultural environment, rapid self-starting capability and experience in working in team. • Ability to cope with fast changing technologies used in application developments.

On-call services foreseen for this profile:

☐ Yes ☒ No

11. Quality assurance manager

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Elaboration and maintenance of IS quality control procedures. • Provision of quality plans and service level agreements. • IS Quality control and evaluation. • Provision of quality studies, quality assessments or other quality matters associated with information system projects. • Definition, elaboration, management and reporting of quality tests. • Advice on quality improvements. • Assistance in the implementation of project management methodology. • Coordination of test campaigns.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6 any degree
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Knowledge of testing technologies, tools and techniques. • Good knowledge of information system quality assurance and quality control practices. • Experience with quality procedures. • Good knowledge of information systems lifecycle. • Knowledge of software development methodologies (e.g. Agile) • Knowledge of Test Management and Defect Tracking tools. • Experience in the test data management with relational databases.
<i>Certification and/or Standards</i>	<p>Optional certifications:</p> <ul style="list-style-type: none"> • ISTQB Advanced Level Test Manager or equivalent
<i>Skills</i>	<ul style="list-style-type: none"> • Excellent interpersonal and communication skills. • Good redaction skills, experience in preparation of written reports. • Capable to communicate effectively with different actors involved (testers, developers, management etc.) • Strong capacity to give high-level presentations. • Ability to apply high quality standards.

- Capability of integration in an international/multi-cultural environment, rapid self-starting capability and experience in working in team.
 - Ability to cope with fast changing technologies used in application developments.
-

On-call services foreseen for this profile:

☐ Yes ☒ No

12. Database / Application administrator

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Database installation, configuration and administration • Database monitoring and tuning. • Application installation, configuration and management. • Monitoring of application usage and performance • Access management. • Writing of database or application procedures manuals, including disaster recovery plans. • Database / application incident management. • Coordination of database and application support.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Good knowledge of DBMS administration. • Good knowledge of ORACLE DBMS. • Good knowledge of sql and particularly pl-sql. • Experience with ITIL. • Experience in user support. • Knowledge of operating systems (e.g. Windows, Linux).
<i>Certification and/or Standards</i>	<p>Optional certification:</p> <ul style="list-style-type: none"> • Oracle Database PL/SQL Developer Certified Professional or equivalent.
<i>Skills</i>	<ul style="list-style-type: none"> • Ability to participate in multi-lingual meetings, ease of communication. • Capability of integration in an international/multi-cultural environment, rapid self-starting capability and experience in working in team. • Able to cope with the fast changing technologies.

On-call services foreseen for this profile:

☒ Yes ☐ No

13. System Administrator

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Administration of DG-specific infrastructures, systems and services, such as file and print-services, RDS service, DG-specific systems and software and hosted applications. • 2nd level support. • Installation and configuration of system components and server software, including patch management. • Operating and monitoring of infrastructure, systems, servers. • Configuration management tasks & procedures. • Incident management, Change enablement, Request fulfilment, Problem management: definition, analysis and resolution. • Preliminary diagnosis of software and hardware problems, also in co-ordination with the central IT departments. • Advise in areas such as capacity management, contingency planning, IT service continuity management, automation of repetitive tasks, security. • Coordinate with hosting services. • Coordinate with database management teams. • Scripting & configurations in context of systems & infrastructure. • Handling of backups and restore operations of systems & infrastructure. • Participate in defining and documenting configuration of systems & infrastructure. • Participate in defining and documenting operational procedures. • Participate in architectural design/reviews. • Draft technical content for knowledge base for use of upstream support teams. • Evaluation and implementation of security standards. • Security administration and monitoring, in adherence to the security rules imposed by the Commission's central security service (complemented by local rules where needed); under supervision of the LISO (Local Information Security Officer). • Participation in coordination and project meetings.
<i>Education</i>	<ul style="list-style-type: none"> • IT relevant EQF 6

*Specific expertise
and technologies*

- Excellent knowledge of (at least) one of the operating systems in the versions used in the Commission (Windows/Unix/Linux).

*Certification
and/or Standards*

- ITIL® Certification

Skills

- Ability to participate in multi-lingual meetings, ease of communication.
- Capability of integration in an international/multi-cultural environment, rapid self-starting capability and experience in working in team.
- Able to cope with the fast-changing technologies.
- Able to cope with the needs of multi-language deployments.

On-call services foreseen for this profile:

☒ Yes ☐ No

14. Software packaging engineer

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Creation of binaries suitable for distribution and installation in endpoints. • Involves the creation of packages, envelops, or wraps in different formats. • Must consider pre and post installation requirements, steps to install, trace, log, and capture exit codes. • Both for regular applications, App-V, MSI, MSIX or other standard installers. • Design, development, and implementation of specific software installation solutions (including in hybrid cloud context) • Management of IS Services related with applications packages (i.e., software distribution, automated software updates services, etc.)
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6 any degree
<i>Specific expertise and technologies¹⁸</i>	<ul style="list-style-type: none"> • Excellent knowledge of executable binaries formats: EXE, MSI, MSIX, APPX. • Excellent knowledge of Microsoft App-V virtualization technology. • Excellent knowledge of Windows operating systems • Excellent knowledge of software distribution systems like LANDesk and Microsoft SCCM. • Good knowledge of Microsoft Active Directory, GPO policies and Windows registry • Good knowledge of Windows scripting languages like VBS and PowerShell.
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Not applicable
<i>Skills</i>	<ul style="list-style-type: none"> • Strong analytical and problem-solving skills, to help develop creative and practical solutions • Experience in managing ICT related Projects • The ability to work in a proactive and independent manner, with a focus on priorities, communication and decision-making capacities

¹⁸ “good knowledge” refers to at least 1 year of relevant higher education, or at least 12 months of relevant professional experience.

- Good organization, coordination and planning skills – with a high degree of drive and desire to empower ICT change and evolution
 - Good communication skills, adaptable to audiences ranging from senior management to technology specialists
 - Good documentation preparation skills
-

On-call services foreseen for this profile:

☐ Yes ☒ No

15. SOA Operations specialist

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Install, configure, monitor and troubleshoot middleware systems hosting. • Manage complex SOA and heterogeneous systems. • Define configuration management and deployment strategies for SOA infrastructure. • Ensure availability and stability of production environments • Design and implement DevSecOps capabilities (e.g. observability, continuous monitoring, tractability) . • Work with the development teams in resolving software and related problems associated with the middleware platform. • Work closely with Architecture, Application Development, Database, Server and Networking Team. • Manage day to day deployment and maintenance activities • Analyze and tune IS performances.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6.
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Good knowledge of Middleware systems (e.g. Weblogic Application Server, Oracle Service Bus). • Good knowledge of messaging services and platforms (e.g. Java Message Service, Apache Kafka). • Good knowledge of JEE. • Good knowledge of Linux. • Knowledge of RDBMS.
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Not applicable
<i>Skills</i>	<ul style="list-style-type: none"> • Ability to participate in multi-lingual meetings, ease of communication. • Capability of integration in an international/multi-cultural environment, rapid self-starting capability and experience in working in team. • Able to cope with the fast changing technologies

On-call services foreseen for this profile:

☒ Yes ☐ No

16. CLOUD Operations specialist

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Configures, and administers cloud infrastructure and applications. • Define configuration management and deployment strategies for Cloud resources. • Ensure availability and stability of cloud production environments. • Develop, and design software automation and scripts to orchestrate cloud and virtualization technologies with defined scope, schedule and expectations with a focus on Operations. • Provides subject matter expert technical support to customers using Cloud Platform products, solutions and APIs with a focus on Operations. • Design and implement DevSecOps capabilities (e.g. observability, continuous monitoring, tractability). • Work with the development teams in resolving software and other related problems associated with the cloud deployment infrastructure and the code deployed onto platforms such as Database and/or Middleware. • Manage day-to-day deployment and maintenance activities. • Analyze and tune information systems performances. • Security administration and monitoring, in adherence to the security rules imposed by the Commission's central security service (complemented by local rules where needed); under supervision of the LISO (Local Information Security Officer).
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Good knowledge of virtualization technologies. • Good knowledge in scripting languages for cloud infrastructure automation. • Experience in administering systems in a virtualized Cloud environment • Strong understanding wof security, risk and compliance frameworks, disaster recovery, high availability architectures, hardware, operating systems and networking connectivity. • Good Knowledge of Cloud infrastructure setups from vendors such as, but not limited to, Azure and

Amazon.

- Knowledge of Middleware systems.
- Knowledge of messaging services and platforms.
- Knowledge of JEE.
- Knowledge of Linux.
- Knowledge of RDBMS.

*Certification
and/or Standards*

- Not applicable

Skills

- Ability to participate in multi-lingual meetings, ease of communication.
- Capability of integration in an international/multi-cultural environment, rapid self-starting capability and experience in working in team.
- Able to cope with the fast changing technologies

On-call services foreseen for this profile:

☒ Yes ☐ No

17. Data Warehouse and Reporting Developer

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Development and maintenance on Enterprise Data Warehouses (EDW). • Gathering business requirements. • Designing ETL processes. • Data modelling. • Design and development of reporting applications. • Physical DB design. • DB performance analysis. • Design of Data Quality and Health Monitoring processes. • Elaboration of test programs. • Writing of technical documentation. • Assistance with deployment and configuration of the system. • Participation in meetings with other project teams.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Excellent knowledge of data warehouse design & architecture. • Excellent knowledge of relational database systems applied to data warehouse. • Excellent knowledge of SQL • Excellent knowledge of business intelligence reporting tools • Good knowledge of ETL tools. • Good knowledge of modelling tools. • Good knowledge of online analytical data processing (OLAP) and data mining tools.
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Not applicable
<i>Skills</i>	<ul style="list-style-type: none"> • Ability to participate in multilingual meetings • Ability to understand, speak and write French and English • Ability to work in a team • Ability to work with a high degree of rigour and method and, more specifically, to follow naming conventions and coding standards

- Ability to work in multi-cultural environment, on a large project
-

On-call services foreseen for this profile:

☐ Yes ☒ No

18. Data Scientist

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Collect business requirement and develop advanced data mining solutions or identify, assess and deploy relevant existing data mining, machine learning and business intelligence solution • Specification and design of presentation interfaces with optimal usability/user experience • Identify, collect, convert and update different data types/sets in several locations (e.g. ETL) • Produces data models according to specific problems statements. • Scripting and programming. • Contribute to the design and implementation of the analytics architecture and its solution stack (including performance aspects, physical design, capacity dimensions etc...) • Write the different documentation associated with the tasks and liaise with other project teams as necessary to address cross-project interdependencies.
<i>Education</i>	<ul style="list-style-type: none"> • EQF6 focus on Data management
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Excellent knowledge of Data Analytics techniques and tools. • Experience in Machine Learning and Natural Language Processing. • Experience with languages like R, Python, PERL. • Proficient in continuous code delivery and unit testing • Good knowledge of business intelligence tools (Tableau, SAS, SAP, GoodData...) • Expertise in the ETL processes and tools (i.e. Talend Open Studio...) • Good knowledge of SQL tooling (NoSQL DB, MongoDB, Hadoop, SQL) • Knowledge of architectural design and implementation of scalable modern data stores. • Knowledge in one of the following areas: predictive (forecasting, recommendation), prescriptive (simulation), sentiment analysis, topic detection, social media crawling and processing, plagiarism detection, trends/anomalies detection in datasets, recommendation systems

*Certification
and/or Standards*

- Not applicable

Skills

- Ability to work in a team as well as autonomously
- Results-oriented mindset, focused on delivering
- Good communication skills in English, both orally and in written form

On-call services foreseen for this profile:

☐ Yes ☒ No

19. Blockchain specialist

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Provide expert level business and technical solution advice around Blockchain solution • Install and maintain a distributed consensus db (etcd, consul) • Understand and maintain the Rest API service running behind those distributed DB. • Research, design and test the newest blockchain technologies (proof of stake in Ethereum) • Be involved in the global blockchain community • Document new solutions as well as maintaining that of existing ones
<i>Education</i>	<ul style="list-style-type: none"> • EQF 6 • IT engineering degree / applied Mathematics degree / Cryptography / Web 2.0 and REST API application
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Good knowledge of encryption format and protocol (x509, SHA, RSA, ECDSA) • Good knowledge of kubernetes. • Experience with DevOps and GitOps
<i>Certification and/or Standards</i>	<p>Mandatory certifications (one of)</p> <ul style="list-style-type: none"> • Certified Kubernetes Administrator (CKA) • RedHat Certification Enterprise
<i>Skills</i>	<ul style="list-style-type: none"> • Autonomous • Passion for developing innovative solutions • Capability of integration in an international/multi-cultural environment • Communication and presentation skills to include technical and business concepts

On-call services foreseen for this profile:

☐ Yes ☒ No

20. Workplace security Specialist

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Conducting security risk assessments in Digital Workplace context • Diagnose potentially complex security-related and/or identity-related issues, • Design implement and support effective solutions for mitigating security risks • Integrating different security technologies in a complex environment. • Integrating end point security solutions but with knowledge of backend server and network infrastructure • Provision of security studies associated with information system projects • Security assessments of information systems
<i>Education</i>	<ul style="list-style-type: none"> • EQF6 any degree
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Good knowledge of security standards applying to European Commission information systems • IT Security Risk Management Methodology • IT Security Compliance Management • Experience in drafting security plans
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Not applicable
<i>Skills</i>	<ul style="list-style-type: none"> • Strong analytical and problem-solving skills • The ability to work in a proactive and independent manner, with a focus on priorities, communication and decision-making capacities • Good organization, coordination and planning skills – with a high degree of drive and desire to empower ICT change and evolution • Excellent communication skills, adaptable to audiences ranging from senior management to technology specialists

On-call services foreseen for this profile:

☐ Yes ☒ No

21. IT Specialist Profile

Please, see section 2.6.2 of the Service Requirements Document.

Lot 3: Expert external consultancy services in the field of information systems.

1. Expert in DevSecOps

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Plan, implement, upgrade DevSecOps pipelines • Facilitate the continuous delivery of IT applications by using Application Lifecycle Management and automation tools. • Promote the usage of DevSecOps methodologies for IT projects. • Architect and design API Security, Container Security, Cloud Security.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 7
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Experience with large, enterprise-level multi-user Information Systems • Good knowledge in establishing and managing deployment pipeline and release management • Good knowledge with DevOps container or serverless /orchestration tools (ie: Docker, Ansible, Terraform, buildpacks, Kubernetes, etc.) • Good knowledge in at least a programming language (JAVA, Python, Bash, Perl, etc.) • Good knowledge in conducting DevSecOps in an agile work environment • Good knowledge in cloud security architecture and security requirements • Good knowledge in black box and white box testing (OWASP, HP Fortify, etc.) • Good knowledge of continuous delivery and Application Lifecycle Management tools (JIRA, Git, Bamboo, Nexus, etc.) • Good knowledge with secret management tools (CyberArk, Hashicorp etc.) • Good knowledge with Monitoring tools (Dynatrace, Prometheus etc.) • Good knowledge in the Cloud (Aws, Azure, Google, OVH etc.)
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Mandatory certifications (one of): Certified DevSecOps Professional (CDP) certification, AWS Certified DevOps Engineer – Professional, Microsoft DevOps Engineer Expert, Google Professional Cloud DevOps Engineer, or equivalent to be approved by the

Commission

Skills

- Rapid self-starting capability and experience in team working.
- Excellent interpersonal and communication skills
- Ability to participate in multi-lingual meetings, ease of communication
- Security and cloud Skills
- Automation skills to optimize and understand the DEVSECOPS pipelines

On-call services foreseen for this profile:

☐ Yes ☒ No

2. Expert in Secure Development

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Contribute to the design of the overall application security. • Define security requirements and derive technical actions targeting the application components and the code base. • Draft documentation such as architecture design descriptions, assessment reports and configuration descriptions. • Take an active part in developing and improving the application security, and have it understood and implemented by the team. • Analyse risks and security policy requirements and propose actions. • Vulnerability testing definition of corrective actions. • Categorize events, incidents and vulnerabilities based on relevance, exposure and impact. • Provide security training and education. • Draft security programmes, security plans and propose implementation actions.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 7
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Experience with ISO 27000 family of standards or equivalent security standards implementation. Knowledge of ITSRM2 is a plus. • Excellent knowledge of application security. • Experience in the security aspect of software development (i.e.: authentication with open id connect SAML or CAS, secure rest or web services, encryption with PKI, authorisation, secrets management). • Experience with secure IT development patterns. • Experience in the security domain • Understanding of risk assessments • Experience in penetration testing and ethical hacking (i.e.: usage of tools like Metasploit, Burpsuite or equivalent). • Experience with security test tools (i.e.: Fortify or equivalent) and web site vulnerability scans. • Good understanding of the 3rd party dependency security (libraries, container and VM images).

	<ul style="list-style-type: none">• Knowledge of OWASP.• Knowledge of Agile methodology.
<i>Certification and/or Standards</i>	<ul style="list-style-type: none">• Mandatory certification (one of): Certified Information Systems Security Professional (CISSP), Certified Information Security Manager (CISM), Certified Ethical Hacker (CEH), Offensive Security Certified Professional (OSCP) or equivalent - to be approved by the Commission.
<i>Skills</i>	<ul style="list-style-type: none">• Experience in coaching and training.• Excellent interpersonal and communication skills.• Good redaction skills, experience in preparation of written reports.• Ability to animate a community of practice.• Capability of integration in an international/multi-cultural environment.

On-call services foreseen for this profile:

☐ Yes ☒ No

3. *Expert Product Owner*

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Works within the agile process and is the final authority for decisions regarding priority, business value, and functionality for all the work done by the agile development team. • Typically supervises several business analysts. • Possesses an in depth knowledge of goals and desired objectives of the project. • Interacts and validates requirements with the business • Propose solutions by combining IT tools and business process refactoring or improvements based on an in-depth understanding of a specific business domain (see skills). • Creates, maintains, prioritizes, and sequences the product backlog based on business value or return of investment. • Creates user stories and acceptance tests from themes and features granular enough for a single sprint. • Is involved in the decision making process related to user stories scheduling into sprints. • Participates in project planning, daily stand-up meetings (SCRUM). • Participates to retrospectives, sprint and release planning, demos and other Scrum-related meetings. • Reviews deliverable and demonstrable product version/software functionalities after every sprint. • Organizes live demonstration of the product at the end of the sprint. • Facilitates the acceptance of the product by the business. • Develops and maintains standards for testing. • Provides progress reporting. • Assists with internal and external communication by improving of transparency and dissemination of information. • Assists with prioritization and resolution of defects / bugs. • May perform the role of Scrum master.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 7 any degree
<i>Specific expertise</i>	<ul style="list-style-type: none"> • Experience with large, enterprise-level multi-user

and technologies

Information Systems.

- Experience in Agile.
- Good knowledge of agile toolbox (i.e. JIRA, Confluence, BigPicture, Gliffy, Balsamiq, etc.).
- Good knowledge of Application Management Lifecycle.

*Certification
and/or Standards*

Mandatory certification (one of):

- Certified Scrum Product Owner (CSPO),
- Professional Scrum Product Owner (PSPO),
- SAFe Product Owner or equivalent.

Optional certifications:

- ITIL certification above ITIL foundation (or equivalent).
- Project management certification such as Prince2, PM² or equivalent

Skills

- Rapid self-starting capability.
- Excellent interpersonal and communication skills.
- Excellent knowledge broker.
- Delegation and decision making skills.

On-call services foreseen for this profile:

☐ Yes ☒ No

4. *Enterprise Architect*

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Create business architecture models that reflect the organization's strategies and goals • Integrate the project and program strategies and ensure alignment with business strategies and drivers, and management priorities • Identify ways to reduce costs in IT and business leadership • Evaluate systems for discrepancies or vulnerabilities • Conduct research to find ways to improve operations • Provide business architecture and systems processing guidance • Create and implement a business vision and multi-year plan
<i>Education</i>	<ul style="list-style-type: none"> • EQF 7
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Knowledge of enterprise architecture frameworks such as TOGAF, COBIT, Zachman..., and actual experience developing and building models based on such framework • Knowledge of enterprise architecture notations such as ArchiMate, BPMN... • Knowledge of enterprise architecture tools such as ARIS...
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Not applicable
<i>Skills</i>	<ul style="list-style-type: none"> • Experience defining and implementing strategies under a CIO or equivalent • Ability to combine many different skills and experiences to address and solve business, information, and technology related opportunities and problems • Extensive experience with enterprise architecture best practices and goals • Excellent leadership and conciliation skills • Communications skills, both verbal (e.g.: presentations, seminars, etc.), and written (e.g.: reports, articles, etc.). • Group session facilitation. • Promotion skills ("selling" the results of architectural

approaches through presentations).

- Analysis and design.
- Modelling and graphical representations and abstractions.

On-call services foreseen for this profile:

☐ Yes ☒ No

5. *User eXperience consultant*

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Facilitates participatory design, design sprints, conversational design • Prepares quantitative and qualitative research and analysis • Field studies • Usability studies • User requirements research • Task flows • Heuristic evaluations • Surveys • Synthesis of UX research, web analytics data, as well as surveys, legacy and organizational goals • Presents reports • UX writing • Problem solving attitude • Data-driven decision-making • Service design • Coach, mentor and transfer UX knowledge across the organisation • Communicate the organisation's strategic vision and goals from an end-user' point of view • Works closely with business and cross functional teams to reach desired organizational goals
<i>Education</i>	<ul style="list-style-type: none"> • EQF 7 IT or Business
<i>Specific expertise and technologies</i> ¹⁹	<ul style="list-style-type: none"> • Experience as a UX consultant, UX researcher, Digital communicator or equivalent • A portfolio that shows the ability to work across various industries • Knowledge of HTML/CSS • Experience with UI Design tools - Sketch, Adobe Suite XD or equivalent • Knowledge of web technologies and standards (e.g. HTML, XML, CSS, SEO, web analytics) • Knowledge of prototyping, wireframing, interaction

¹⁹ “good knowledge” refers to at least 1 year of relevant higher education, or at least 12 months of relevant professional experience.

flows, information architecture and user testing

*Certification
and/or Standards*

Mandatory certifications:

- User centred design
- Usability and accessibility standards

Optional certifications:

- Participatory design (design sprints, visual conversation)
- Agile
- Research techniques

Skills

- Develop trusted relationships with business leaders across a company to help them integrate user experience capabilities as a strategic asset
- Excellent communicator
- Task oriented and result focused
- Maintain high standards for quality of work
- Ability to convince high level management, back up with arguments and confidence
- Team worker and ego-free attitude
- Strong communication skills English: Understanding (C1), Speaking (C1), Writing (C1)

On-call services foreseen for this profile:

☐ Yes ☒ No

6. Security Infrastructure Architect

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Focus on integrating end point security solutions but with knowledge of backend server and network infrastructure • Participating in the security aspects of the design and architecture of the Digital Work Place. • IT Project management for Commission-wide workplace infrastructure projects • Collaboration with other departments of the Commission
<i>Education</i>	<ul style="list-style-type: none"> • EQF 7 any degree
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Operating systems • On premise Microsoft server technologies • Integration with cloud services (O365, Azure, AWS) • Remote working solution based on VPN access and VDI • General networking technologies, proxy services, load balancing, etc... • Directory, Authentication and federation protocols • PKI and Encryption solutions
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Not applicable
<i>Skills</i>	<ul style="list-style-type: none"> • Strong analytical and problem-solving skills, to help develop creative and practical solutions • Experience in managing ICT related Projects • The ability to work in a proactive and independent manner, with a focus on priorities, communication and decision-making capacities • Good organization, coordination and planning skills – with a high degree of drive and desire to empower ICT change and evolution • Excellent communication skills, adaptable to audiences ranging from senior management to technology specialists

On-call services foreseen for this profile:

☐ Yes ☒ No

7. DWP System engineer

Nature of the tasks	<ul style="list-style-type: none"> • Identification, validation and deployment of solutions in the Digital Workplace environments • Technical assistance to the DWP team in identifying and solving technical issues • Technical studies, technical expertise, technical evaluations in relation with the Digital Workplace environments • Assistance with evaluating and testing Digital Workplace components (applications, security components and principles) • Production of technical documentation • Assistance with production deployment tasks and in training administrators and users • Participation in meetings within the Commission
Education	<ul style="list-style-type: none"> • EQF 7 IT or relevant technical degree
Specific expertise and technologies	<ul style="list-style-type: none"> • Excellent knowledge of Windows-based user environments, notably of Group Policies and registry settings management • Excellent knowledge of large-scale Digital Workplace administration, including operational monitoring, telemetry, update/patch management, configuration change management • Understanding of Data Protection regulations and their impact on technical solutions • Good knowledge of Microsoft 365's applications management and administration • Good understanding of network principles and technologies • Good understanding of IT security matters • Knowledge of scripting tools
Certification and/or Standards	<p>Optional certifications:</p> <ul style="list-style-type: none"> • Microsoft 365 certifications are an asset.
Skills	<ul style="list-style-type: none"> • Ability to cope with fast-changing technologies and configurations • Ability to conduct complex, in-depth, multipartite technical investigations into issues that involve multiple components • Technical redaction skills in English and/or French or

the required language for that location of delivery

- Ability to participate in multi-lingual meetings
 - Ability to integrate in an international and/or multi-cultural environment
-

On-call services foreseen for this profile:

☐ Yes ☒ No

8. GIS Expert

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Providing expertise in GIS strategies, architectures and technologies • GI requirements analysis and software engineering (all stages) • Conducting GI data analysis and data modelling • GI creation and maintenance • Administration of GIS software • Give presentations and write reports on the results of his work • Development, testing and maintenance of GIS web applications and GIS services; • Liaison with the EC Data Centre for the deployment of GIS applications and integration with standard EC services (e.g. EU Login authentication); • Monitoring and testing of the GIS architecture; • Update and maintenance of geographical databases; • Data quality checks; • Providing technical advice and preparing PoCs in the requested technologies; • Integration with other applications • Writing of technical documentation
<i>Education</i>	<ul style="list-style-type: none"> • EQF7 • University degree in Science, Geography, Information Technology, Engineering, or related subject

<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Training in ESRI tools (ArcGIS, ArcSDE, ArcGIS Server, ArcGIS APIs). • Excellent knowledge and experience with GIS tools including ArcGIS Desktop/Pro, ArcToolbox, ModelBuilder and Python scripts; • Experience in the management of geographical databases and datasets including analysis and updates; • Experience in the management of map services including development, testing and maintenance based on user requirements; • Excellent knowledge and experience in web GIS application development with ArcGIS API for JavaScript; • Expertise in WebLogic application servers and Oracle databases; • Experience in testing web applications; • Experience in quality checks of geographical data; • Experience in spatial analysis and modelling.
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Not applicable
<i>Skills</i>	<ul style="list-style-type: none"> • Participation in user, service and project meetings. • Excellent oral and written skills • Capability of integration in an international/multi-cultural environment, etc. • Autonomous • Team and client oriented

On-call services foreseen for this profile:

☐ Yes ☒ No

9. Expert in Information and Document Management

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Provide expert advice on defining policies and strategies for content, records, archives and information management, including capture, selection, retention and digital preservation. • Contribute to the design, development and maintenance of records, archives and information management systems and to the technical implementation of new or adapted policies. • Identify requirements for content, records, archives and information management systems and draw up functional and/or technical specifications. • Elaborate system integration and data migration approaches for legacy repositories. • Develop and maintain solutions for long-term digital preservation and archiving in accordance with the applicable legal framework, including support of encryption, digital signatures, confidentiality, secure access to documents and data protection. • Contribute to the definition and implementation of metadata standards for content and records management, including archival description. • Implement data publication and exchange solutions by exploiting potential advantages of linked open data and semantic web technologies.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 7
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Knowledge of standards and best practices in the domain of records, archives and information management, digital preservation and public access to documents. • Experience in design and implementation of content, records, archives and information management systems in public or private sectors. • Experience in implementation or support of large-scale, enterprise-grade multi-user information systems, active participation in projects implementing or using Enterprise Content Management (ECM) or long-term digital preservation platforms. • Practical experience in information management, ontology design, metadata management, open data technologies, document encryption, digital signature, full-text search techniques and semantic web

technologies.

- Good knowledge of agile process and methodologies.
- Familiarity with web services, enterprise integration patterns and best practices as well as knowledge of cloud platforms and database management systems will be considered as an asset.
- Experience in configuring, customising and operating document management information systems such as OpenText Documentum, Alfresco or equivalent document management platforms is an advantage.

*Certification
and/or Standards*

- Not applicable

Skills

- Analytical thinking, excellent problem solving skills
- Agility, results-oriented attitude
- Ability to work autonomously
- Team spirit, cooperation, willingness to work in an international/multi-cultural environment
- Good communication skills in English and French.

On-call services foreseen for this profile:

☐ Yes ☒ No

10. On-boarding Manager

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Customer relationship management aiming at the adoption of digital solutions • Creation of stakeholder maps or similar • Creation of adoption dashboards and reports • Overseeing the adoption journey of several types of stakeholders • Resolving stakeholder complaints quickly and efficiently • Contributing to the success of digital projects and initiatives by keeping stakeholders updated to ensure their adoption of digital solutions • Identifying the services needed to ensure stakeholder satisfaction • Autonomously turn communication objectives into strategies, tasks and activities and oversee / contribute to their implementation • Managing communications and defining strategies to increase results in line with defined adoption targets (from awareness to action) • Creating and enforcing plans that help meet the needs of stakeholders • Reporting to relevant structures
<i>Education</i>	<ul style="list-style-type: none"> • EQF 7
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Knowledge of customer relationship management practices and tools • Knowledge in using tools to build stakeholder maps • Knowledge in using tools to build adoption dashboards and reports • Knowledge in analysing customer segments, e.g., experiencing a specific product problem • Experience in the use of Atlassian collaborative tools (e.g., Confluence and Jira) and Microsoft Office Tools (e.g., PowerPoint) • Experience in (or familiarity with) the IT domain is a plus.
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Not applicable

Skills

- Ability to work autonomously, managing his/her own workload independently, providing status updates, liaising with others and escalating issues as appropriate.
- Strong interpersonal skills and ability to understand what each stakeholder wants and needs
- Aptitude to foster positive relationships
- Problem-solving attitude
- Excellent communication skills
- Ability to prepare clear and well-structured documents, and presentations
- Teamwork and leadership skills, including ability to work in a friendly, organised, and well-structured manner also under pressure

On-call services foreseen for this profile:

☒ Yes ☐ No

11. Operating System Deployment and update specialist

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Design systems management solutions for an install base of more than 40k computers, more specifically: <ul style="list-style-type: none"> ○ design solutions for the secure deployment of operating systems to computers both on premise and via the cloud for remote workers ○ design solutions for quickly and securely patching systems both on premise and via the cloud for remote workers ○ In the event of continued remote working making sure the solutions don't overload the existing network infrastructure ○ Integrate end point security solutions on computers • IT Project management for Commission-wide workplace infrastructure projects • Collaboration with other departments of the Commission
<i>Education</i>	<ul style="list-style-type: none"> • EQF 7 any degree
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Client operating systems, Windows, Linux • On premise Microsoft server technologies • Cloud services (O365, Azure, AWS) mores specifically services related to systems management • Remote working solution based on VPN or other technologies • Directory, Authentication and federation protocols • PKI and Encryption solutions
<i>Certification and/or Standards</i>	<ul style="list-style-type: none"> • Not applicable
<i>Skills</i>	<ul style="list-style-type: none"> • Strong analytical and problem-solving skills, to help develop creative and practical solutions • Experience in managing ICT related Projects • The ability to work in a proactive and independent manner, with a focus on priorities, communication and decision-making capacities • Good organization, coordination and planning skills – with a high degree of drive and desire to empower ICT change and evolution • Excellent communication skills, adaptable to

audiences ranging from senior management to
technology specialists

On-call services foreseen for this profile:

☐ Yes ☒ No

12. Expert in Business Intelligence

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Creation and maintenance of Enterprise Data Warehouses (EDW) and complex Business Intelligence Solutions (Data Lakes / Data Lakehouses). • Designing architectures both on the cloud and on premises (whether hosting or cloud on-premises) or combination of both (hybrid). • Gathering business requirements. • Designing ETL processes. • Data virtualization. • Data modelling. • Design and development of reporting applications • Physical DB design. • DB performance analysis. • Design of Data Quality and Health Monitoring processes. • Elaboration of test programs. • Writing of technical documentation. • Assistance with deployment and configuration of the system. • Participation in meetings with other project teams.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 7
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Excellent knowledge of data warehouse design & architecture. • Good knowledge of data lake/data lakehouse design and architecture. • Excellent knowledge of relational database systems applied to data warehouse. • Knowledge of non-relational database technologies. • Excellent knowledge of SQL. • Excellent knowledge of business intelligence reporting tools. • Excellent knowledge of ETL tools. • Excellent knowledge of modelling tools. • Excellent knowledge of online analytical data processing (OLAP) and data mining tools. • Knowledge of near real time data warehousing and/or change data capture technologies.

- Good knowledge of cloud-based business intelligence design.

*Certification
and/or Standards*

Optional certifications:

- Microsoft Data Analyst Associate
- Microsoft Azure Data Engineer Associate
- Amazon Certified Data Analytics Speciality

Skills

- Ability to participate in multilingual meetings.
- Ability to understand, speak and write French and English.
- Ability to work in a team.
- Ability to work with a high degree of rigour and method and, more specifically, to follow naming conventions and coding standards.
- Ability to work in multi-cultural environment, on a large project.

On-call services foreseen for this profile:

☐ Yes ☒ No

13. Expert in AI /NLP/ ML

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Development and maintenance of software applications in the field of Natural Language Processing (NLP), Machine Learning (ML) and/or Artificial Intelligence (AI); • Training of custom machine learning / deep learning models based on structured and unstructured data; • Selecting features, building and optimizing classifiers using machine learning techniques; • Studies and developments aiming at improving the quality of machine translation (MT) engines for each installed language pair, addressing the specific needs of customers of the service concerning MT quality and contributing to a general strategy for the systematic evaluation and long-term improvement of MT quality; • Interact with data stewards and other IT stakeholders to define the data rules; • Define data controls and implement actions to ensure data quality and integrity; • Creating automated anomaly detection systems and constant tracking of its performance; • Data mining using state-of-the-art methods; • Processing, cleansing, and verifying the integrity of data used for analysis; • Design the IT architecture for solitons in the NLP / ML / AI fields, and coordinate its implementation considering master- and meta-data management concepts; • Analyse data architecture for consistency, completeness, accuracy and reasonableness; • Contributing for the analysis of data management vision, strategy and policy and derive the IT requirements; • Contributing to the design of the IT architecture considering master- and meta-data management concepts.
<i>Education</i>	<ul style="list-style-type: none"> • EQF7 • Advanced university degree in natural language processing (computer science or computational linguistics); • A specialisation in (statistical/neural) machine translation (MT), or equivalent experience.

	<ul style="list-style-type: none"> • University degree in IT / Computer Science / Engineering or equivalent with specialisation in artificial intelligence.
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Excellent knowledge of Perl, Python, Matlab, R and its NLP/ML libraries (SpaCy, NLTK, scikit-learn, pandas...). • Excellent knowledge of machine learning techniques and algorithms, such as k-NN, Naive Bayes, SVM, Decision Forests, Neural Network, and/or artificial intelligence frameworks. • Excellent knowledge of Data Management • Good knowledge of AWS and/or Azure; • Good knowledge of Linux; • Good knowledge of Unix and Bash; • Good knowledge of natural language processing systems lifecycle and agile software development methodologies; • Good knowledge of quality assurance and quality control for machine translation (MT) and experience with MT quality procedures, testing methodologies and tools, such as automatic quality metrics (BLEU scores and similar) and human evaluation of MT quality; • Knowledge of query languages, such as SQL, Hive, Pig, etc and with information extraction • Knowledge of NoSQL databases, such as MongoDB, Cassandra, HBase, etc. • Knowledge of data visualisation tools, such as D3.js, GGplot, etc • Experience in the field of corpus based linguistics; • Experience with alignment models and classification methods. • Experience with data analytics over big datasets, non-structured databases as well as data lakes.
<i>Certification and/or Standards</i>	<p>Optional certifications:</p> <ul style="list-style-type: none"> • AWS Certified Machine Learning • Microsoft Azure AI Engineer Associate • SAS Certified Professional AI and Machine Learning Certification.

Skills

- Ability to participate in multilingual meetings
 - Ability to understand, speak and write English, optionally French as an additional asset
 - Excellent interpersonal and communication skills
 - Ability to work in a team as well as autonomously
 - Results-oriented mindset, focused on delivering
 - Good applied statistics skills, such as distributions, statistical testing, regression, etc.
 - Good scripting and programming skills
 - Data-driven mindset.
-

On-call services foreseen for this profile:

☐ Yes ☒ No

14. Secure data and document exchange expert

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Architecture, design and implementation of the integration layer between backend systems and secure messaging software • Provide expert advice on confidentiality, integrity, authorisation, authentication, non-repudiation, availability • Assist the team to test and conduct periodic vulnerability and security risk assessments of the messaging and data transfer system • Provide comprehensive guidance and consulting for the optimisation of the integration layer • Participate to the maintenance of technical specifications related to transport and messaging protocols and their implementation in software
<i>Education</i>	<ul style="list-style-type: none"> • EQF 7
<i>Specific expertise and technologies</i>	<p>Document protection</p> <ul style="list-style-type: none"> • Good knowledge of digital signature and encryption with X509 certificates, Public Key Infrastructure (PKI) • Good knowledge of data containers: Associated Signature Containers (ASiC), gzip • Good knowledge of the legal framework for the use of trust services: the Electronic Identification and Trust Services Regulation (eIDAS Regulation 910/2014/EC) <p>Messaging</p> <ul style="list-style-type: none"> • Good knowledge of open standards for data and document exchange: ebMS3, AS4, SBDH, XHE • Good knowledge of open standards for service discovery: Business Document Metadata Service Location (BDXL), Service Metadata Publishing (SMP) • Good knowledge of open standards for party identification: ebCore Party Id Type • Good knowledge of message format standards: XML, XSD, XPATH, WSDL, JSON, JSON schema • Good knowledge of discovery and service location technologies: DNS (NAPTR, CNAME), DNSSEC • Good knowledge of Business-to-Business (B2B) and Electronic Data Interchange (EDI) and common data and document exchange patterns <p>Web Security</p> <ul style="list-style-type: none"> • Good knowledge of techniques used to secure Web

applications: HTTP, TLS, WS-Security, Content Security Policy, Web Services (SOAP and REST), OAuth2, OpenID, OWASP

- At least one of the following areas:

Backend development

- Good knowledge of backend development techniques: inheritance, polymorphism, SOLID principles, data types, concurrency, design patterns, unit testing
- Good knowledge of the Java platform: garbage collection strategies, memory spaces, class loaders, serialization, multi-threading, syntax and semantics of the Java language, APIs of the Java Development Kit
- Good knowledge of databases, directories and transactions: SQL, LDAP, ACID, XA

Mobile development

- Good knowledge of mobile development techniques: Android/Java & Kotlin, iOS/Swift, Key Attestation

Integration & Monitoring

- Good knowledge of continuous integration techniques and tools: Jenkins, TeamCity, Bamboo, GIT, SVN
- Good knowledge of testing tools: SonarQube, Selenium WebDriver, Serenity, TestLink, JMeter
- Good knowledge of databases, directories and transactions: SQL, LDAP, ACID, XA
- Good knowledge of monitoring tools: Dynatrace, Splunk

Containerisation

- Good knowledge of containerisation tools: Docker, Kubernetes

Infrastructure

- Good knowledge of operations including networking, hardware and operating systems: TCP/IP, Linux, databases, directories, shell scripts, virtualisation, load balancers, reverse proxies, web application firewalls, HSM, TPM

Management

- Knowledge of project management and software development methodologies: OpenPM2, SCRUM, Extreme Programming

Methodology and Tools

- Experience in the use of Atlassian collaborative tools (like Confluence and Jira) is required

	<ul style="list-style-type: none">• Experience with Agile development methodologies is a plus• Experience in working with the EU institutions is a plus
<i>Certification and/or Standards</i>	<ul style="list-style-type: none">• Not applicable
<i>Skills</i>	<ul style="list-style-type: none">• Ability to work autonomously, managing his/her own workload independently, providing status updates, liaising with others and escalating issues as appropriate• Ability to write clear and structured documents• Ability to give technical presentations• Ability to apply high quality standards• Ability to cope with fast-changing technologies used in application architecture and design• Ability to participate in multi-lingual (French and/or English) meetings• Good communication skills• Ability to integrate in an international/multi-cultural environment

On-call services foreseen for this profile:

☒ Yes ☐ No

15. Augmented / Virtual Reality Expert

<i>Nature of the tasks</i>	<ul style="list-style-type: none"> • Provide expert level business and technical solution advice, principally through Augmented / Virtual Reality product demonstrations and the scoping and delivery of in-depth Proof-of-Concepts. • Installation and configuration of AR / VR systems after acceptance • Development and maintenance of AR / VR systems and their IT components.
<i>Education</i>	<ul style="list-style-type: none"> • EQF 7 • IT engineering degree / applied Mathematics degree
<i>Specific expertise and technologies</i>	<ul style="list-style-type: none"> • Excellent knowledge of Enterprise Augmented / Virtual Reality platforms • Excellent knowledge of Service Management: Including: Customer Service, Field Service, IT Service, DevOps, IT Operations Management, Security Incident Response, Code application development
<i>Certification and/or Standards</i>	<p>Mandatory standards (one of):</p> <ul style="list-style-type: none"> • ISO/IEC 18039:2019 • ISO/IEC 18040:2019 • UL 8400, the Standard for Safety for Virtual Reality, Augmented Reality and Mixed Reality Technology Equipment. • UL/IEC 62368-1 Safety Standard • IEEE P2048 Virtual Reality and Augmented Reality Standards
<i>Skills</i>	<ul style="list-style-type: none"> • An understanding of front office, middle office and back office functions • Autonomous • Curiosity for about researching current and emerging technologies • Passion for developing innovative solutions • Capability of integration in an international/multi-cultural environment • Communication and presentation skills to include technical and business concepts

On-call services foreseen for this profile:

☒ Yes ☐ No

16. IT Expert Profile

Please, see section 2.6.2 of the Service Requirements Document.