

Optical and Quantum Innovation Engineer

Job Req ID: 15224

Closing Date: 07 July 2022

Publication: Internal & External

Vacancy Type: Permanent

Date Posted: 09 June 2022

Vacancy in the Directorate of Telecommunications and Integrated Applications.

ESA is an equal opportunity employer, committed to achieving diversity within the workforce and creating an inclusive working environment. We therefore welcome applications from all qualified candidates irrespective of gender, sexual orientation, ethnicity, beliefs, age, disability or other characteristics. Applications from women are encouraged.

This post is classified A2-A4 on the Coordinated Organisations' salary scale.

Location

ESTEC, Noordwijk, Netherlands

Description

You will report to the ScyLight Strategic Programme Line Manager and be responsible for activities relating to advanced telecommunication technologies developed under ESA's ARTES Strategic Programme Line Optical and Quantum Communication – ScyLight. In targeting the next generation of optical, quantum and computational technologies, you will assist a growing team of engineers in the early creation, definition, design, development and validation phase of disruptive technologies to support next-generation satcom systems, such as ESA's HydRON project.

This effort requires strong coordination within the Agency and with its stakeholders in European and Canadian industry, the international space community and national space agencies. New ideas, relevant political and industrial trends and the agencies' role in translating these into new activities will be a central part of your work to support the ScyLight Manager and the Directorate's mission.

Duties

You will be responsible for defining new activities for the ScyLight Programme, coordinating with stakeholders and supporting system-related activities during the development, integration and testing of the space, ground and user segments of the HydRON Demonstrator System.

Your main responsibilities will include:

- monitoring relevant trends and developments in optical communication and quantum technologies in order to support strategy development;
- identifying new technology developments with a focus on the application of optical and quantum communication, artificial intelligence and machine learning;
- supporting the ScyLight Programme and its team in developing the optical and quantum technology roadmap and its implementation under ESA's ARTES 4.0 Programme. This includes industrial mapping activities focused on optical and quantum communication addressing especially newcomers and SMEs but also academia;
- organising workshops with HydRON users, as well as with relevant stakeholders, extending the Agency's network to non-traditional space entities in close coordination with

the ESA Business Applications and Space Solutions (ESA BASS) Office;

- coordinating between HydRON's industrial stakeholders and internal ESA stakeholders, supporting a cross-departmental push for the next generation of telecommunication systems;
- managing ScyLight's institutional stakeholders, in particular supporting the Agency's relations with the European Commission on the European Quantum Communication Infrastructure and the EU's Secure Connectivity initiative;
- supporting the overall system architecture definition for the HydRON-DS, trade-offs and design in close co-operation with industry;
- supporting the implementation of the HydRON-DS Phase A/B1 study;
- managing communication on ScyLight, ARTES 4.0 and complex topics through the creation of visuals and presentations, as well as coordinating relations with TIA MarCom and ESA Corporate Communications;
- supporting the team in its reporting to relevant ESA boards and ESA management teams.

Technical competencies

Development, systems engineering and integration of complex heterogenous systems and sub-systems, including software

System architecture and requirement decomposition

Experience in political affairs or governmental relations

Experience in stakeholder management and business development in an international organisation

Experience in- / in-depth understanding of strategy development, formulation and implementation in the European Space Sector

Behavioural competencies

Result Orientation

Operational Efficiency

Fostering Cooperation

Relationship Management

Continuous Improvement

Forward Thinking

Education

A master's degree in a relevant field (engineering or applied physics or astronomy) is required for this post.

Additional requirements

You should bring strong communication skills together with experience in producing outreach and communication materials. Professional experience (preferably with optical/laser technologies) ideally in both laboratory and industrial settings would be desirable.

First-hand experience in working with EU institutions such as the European Parliament or European Commission would be a distinct advantage.

Knowledge of free space communications, machine learning and quantum technologies would be an asset. You must be eligible to obtain security clearance from the relevant national authorities.

Other information

For behavioural competencies expected from ESA staff in general, please refer to the [ESA Competency Framework](#).

For further information please visit: [Professionals](#), [What we offer](#) and [FAQ](#)

The working languages of the Agency are English and French. A good knowledge of one of these is required. Knowledge of another Member State language would be an asset.

The Agency may require applicants to undergo selection tests.

At the Agency we value diversity and we welcome people with disabilities. Whenever possible, we seek to accommodate individuals with disabilities by providing the necessary support at the workplace. The Human Resources Department can also provide assistance during the recruitment process. If you would like to discuss this further please contact us email contact.human.resources@esa.int.

Please note that applications are only considered from nationals of one of the following States: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland, the United Kingdom and Canada, Latvia, Lithuania and Slovenia.

According to the ESA Convention, the recruitment of staff must take into account an adequate distribution of posts among nationals of the ESA Member States*. When short-listing for an interview, priority will first be given to internal candidates and secondly to external candidates from under-represented or balanced Member States*.

(<https://esamultimedia.esa.int/docs/careers/NationalityTargets.pdf>)

In accordance with the European Space Agency's security procedures and as part of the selection process, successful candidates will be required to undergo basic screening before appointment conducted by an external background screening service.

Recruitment will normally be at the first grade in the band (A2); however, if the candidate selected has little or no experience, the position may be filled at A1 level.

*Member States, Associate Members or Cooperating States.