

Junior Professional in Future hybrid 5G/6G Telecommunications Networks Engineering

Job Req ID: 14249

Closing Date: 20 June 2022

Publication: Internal & External

Vacancy Type: Junior Professional

Date Posted: 23 May 2022

Vacancy in the Directorate of 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. For this purpose, we 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 part of ESA's Junior Professional Programme. We are looking for enthusiastic candidates with a Master's degree and 2-3 years' experience to join ESA for an initial three-year period. During this time, you will actively work and learn on the job and will benefit from interesting development opportunities in order to prepare for a permanent position at ESA at the end of your Junior Professional assignment.

The selection process for the first cohort of Junior Professionals will take place during Spring 2022, successful candidates are expected to start work during the period June-October 2022.

This post is for an initial limited duration of three years and is classified A1 on the Coordinated Organisations' salary scale.

Location

ECSAT, Harwell, United Kingdom

You may be required to relocate temporarily to other ESA establishments or another location in order to carry out developmental assignments.

Description

As Junior Professional in 5G/6G Network Systems Engineering you will join the 5G/6G Strategic Programme to work on exciting national and international 5G/6G collaborative projects involving diverse stakeholders including user terminal, non-space industry, for example automotive/energy/logistics, terrestrial network, and commercial satellite operators. You will explore and support the development of customer services and applications seeking to exploit the opportunities offered by the Internet of Things (IoT) towards a future of fully intelligent, autonomous systems. A key enabler will be to integrate Artificial intelligence (AI) into these activities and as such you will contribute in bringing Europe to the forefront of developments in the domain of AI and IoT.

This role includes working within the 5G/6G Strategic Programme team to operate, evolve and support our 5G/6G hub located on the Harwell Campus, a world-class centre dedicated to the integration of satellite and 5G/6G systems. The Centre works in partnership with some of the world's leading organisations, as well as infrastructure and tool providers. The role will include an element of developing our AR/VR/MR demonstration capabilities to relevant stakeholders.

You will be responsible for supporting projects and delivering key technical solutions within the collaborative projects, which typically includes development, delivery and operation of the end-to-end architecture. You will play a key role in the development of the 5G/6G Hub and develop extensive knowledge of future networks and seamlessly integrated satellite and terrestrial networks.

Duties

- Assessing business, technological and operational requirements applicable to 5G/6G satcom networks (space and ground segments) and their integration with terrestrial wired and wireless networks in an end-to-end system context;
- Contributing to the definition of technology development requirements and work plans for the Agency's 5G and 6G programmes;
- Assessing requirements, exploring partnerships and reaching out to satellite and terrestrial stakeholders to promote satellite integration in 5G;
- Supporting technical suppliers with regard to the installation, testing and acceptance of the 5G/6G hub elements;
- Planning, implementing and executing end-to-end tests across a range of satellite and 5G/6G connectivity scenarios;
- Managing technical demonstrations for a range of audiences;
- Facilitating the testing and validation activities of third-party applications and services using the 5G/6G Hub;
- Working on test concepts from planning through to commissioning of new test equipment;
- Providing accurate, detailed written test reporting, including documenting of test processes;
- Collaborating with the engineering team throughout the project cycle to achieve the required outcomes;
- Participating in product specification;
- Coordinating expert technical support provided by other ESA organisational units on AR/VR/MR as required to ensure effective initiation and management of activities in Extended Reality, including the development of digital twins.

Development programme

In addition to your daily work, you will take part in an extensive learning and development programme. From day one, you will learn on the job and benefit from tailored development opportunities, including exposure to different ESA business areas and participation in technical and key skills training courses.

On top of this, you will have additional training to build up specific skills and knowledge as well as all the support you need to pursue your career in ESA.

As part of this assignment and with a view to boosting your professional experience and knowledge of the European space sector, you might be offered a one-year secondment with one of ESA's industrial partners.

Further, with a view, again, to boosting your professional experience as well as your knowledge of the European Space Agency, you will cooperate with, and may be offered the possibility to be assigned to a team outside your initial organisational unit.

This role may include visits to other ESA sites to learn and capture best practices, such as in the area of AR/VR/MR.

Technical competencies

Proficiency of mobile network architecture e.g. Evolved Packet Core (EPC), Radio Access Networks (RAN) and associated ancillary services e.g. IMS

Knowledge of satellite telecommunications systems

Experience of 4G/5G core architectures and mobile networks protocols

Behavioural competencies

Result Orientation
Operational Efficiency
Fostering Cooperation
Relationship Management
Continuous Improvement
Forward Thinking

Education

A Master's degree in networking and data communication, telecommunications systems or a similar discipline is required for this post.

Additional requirements

You should have between two and three years of professional experience, preferably in a relevant technical domain, after completion of your Master's degree.

Participation in one of ESA 's entry-level programmes, i.e. Young Graduate Trainee, National Trainee, or Research Fellow Programmes, will be recognised as eligible experience.

The following are considered valuable for this position:

Experience in a 5G lab environment, as well as AR/VR/MR.

Knowledge of 5G RAN and O-RAN/vRAN/cloudRAN

Virtualisation and cloud platforms (e.g. Openstack/kvm and docker/Kubernetes)

Experience of MEC, Networking L2/L3, Software Defined Networks (SDN)

Specificities

The ESA Junior Professional Programme has a forward-looking perspective. Subject to confirmed good performance, both technically and behaviourally, it is the intention to offer you a permanent contract at the end of the three years. As such, this initiative represents a significant investment by ESA in your personal and professional development. The programme is designed to provide you with the required knowledge and skills in order to ensure an optimal match, and to allow you to fulfil your role as effectively as possible. You can expect to be given many opportunities to develop your professional experience and competencies, to learn from ESA experts and to contribute to ESA activities.

Recruitment will take place at the A1 grade. You can expect to be upgraded to A2 at the end of the fourth year, if you are offered a permanent position at the end of your Junior Professional assignment.

Other information

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

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 within 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 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.

*Member States, Associate Members or Cooperating States.