

Job Title: Young Graduate Trainee for Multi-Mission Infrastructure Programme

Req ID 8526 - Posted 16/08/2019



EUROPEAN SPACE AGENCY

Young Graduate Traineeship Opportunity in the Directorate of Operations.

ESA is an equal opportunity employer, committed to achieving diversity within the workforce and creating an inclusive working environment. Applications from women are encouraged.

Post

Young Graduate Trainee for Multi-Mission Infrastructure Programme

This post is classified F1.

Location

ESOC, Darmstadt, Germany

Our team and mission

The Young Graduate Trainee (YGT) will be part of a team developing a Multi-Missions Infrastructure Programme. This programme deals with the production and deployment of a new generation ground systems that is expected to provide end-to-end (from development up to operational execution) support to all ESOC missions. The current generation of mission control systems is not supporting multi-mission configurations and each mission deploys their dedicated version of the satellite control system. The rollout of the future Multi-Mission control system will be big change and challenging in many ways and this YGT position is a unique opportunity to be part of this process.

In order to produce and deploy the new generation Multi-Mission control systems, our team will have to implement the following tasks:

- Production of the target architecture of the Multi-Mission Infrastructure and the identification of the necessary tasks to 'multi-missionise' all elements of the future ground segment;
- Development of the new generation mission control system infrastructure;
- Evolution of existing ground systems towards the target architecture of the Multi-mission Infrastructure, in particular to enable the provision of multi-mission services and shared deployments;
- Development and adoption of fully automated processes related to system resources and applications management and deployment;
- Integration and operational validation of a 'multi-mission infrastructure' based ground segment.

In the time-frame of this traineeship the team will focus on the production of the new generation mission control system infrastructure and on the definition of the most appropriate deployment options to support operations of multiple missions through shared resources. There will also be opportunities for the YGT to get an insight in how spacecraft and ground stations are operated.

Interested candidates are encouraged to visit the ESA website: http://www.esa.int/Our_Activities/Operations

Field(s) of activities

The operational ground segment supporting the preparation, planning and execution of mission operations consists of large and complex systems, each covering a well-specified role. The most radical change in the ground segment design that the Multi-Mission Infrastructure Programme will bring is in the area of mission control operations execution, which is supported by the so called Mission Control System. Currently, Mission Control Systems at ESOC are developed based on a generic framework referred to as SCOS-2000. The new generation system, which will belong to the Multi-Mission Infrastructure, will instead be based on the European Ground System – Common Core (EGS-CC). The EGS-CC is the result of a Europe-wide initiative and is currently materialising in a concrete product, which can form the basis of sophisticated monitoring and control applications for space systems. The applications intended to replace the current

generation Mission Control Systems are currently being developed at ESOC under the umbrella of the so-called EGOS-CC Project.

This traineeship will provide the opportunity to gain a detailed insight into the EG(O)S-CC based new generation Mission Control Systems. This is based on Java and associated technologies supporting a modular/component based design. The role of the trainee will be to implement very specific/well defined tasks related to the design verification, applications integration, performance assessment and functional validation of the EGOS-CC software applications. These tasks will be implemented in tight collaboration with the EGOS-CC Integration and Validation Team, which will provide the necessary support to clarify the background and enable a phased integration of the Trainee in this team. The team works in close collaboration with future end-users, e.g. flight control teams and mission operators, and it will be necessary to familiarise with the operational use of mission control applications across the Ground Segment.

In the frame of the traineeship, the following activities are proposed:

- Familiarisation with the main concepts, technical specification and design of the EGS-CC and EGOS-CC extensions;
- Familiarisation with the development, integration and validation environment for EGOS-CC based applications;
- Familiarisation with the main use cases of EGOS-CC based monitoring and control applications;
- Development of automated test cases to verify compliance of the implementation with the expected behaviour;
- Contributing to the definition and testing of multi-mission deployments;
- Troubleshooting and investigations of unexpected behaviours.

Technical competencies

Knowledge of relevant technical domains

Relevant experience gained during internships/project work

Breadth of exposure coming from past and/or current research/activities

Knowledge of ESA and its programmes/projects

Behavioural competencies

Self Motivation

Communication

Continuous Learning

Cross-Cultural Sensitivity

Teamwork

Education

Applicants should have just completed, or be in their final year of a University course at Masters Level (or equivalent) in a technical or scientific discipline which ensures a high-level of familiarity with computer sciences and programming languages.

Additional requirements

Applicants must be fluent in English and/or French, the working languages of the Agency. A good proficiency in English is required.

In addition to the above competencies, applicants should demonstrate good interpersonal skills and the capacity to work both independently and as part of a team.

During the interview the candidates' motivation and overall professional perspective/career goals will also be explored.

Other information

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

The closing date for applications is 15 September 2019 .

If you require support with your application due to a disability, please 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, and the United Kingdom. Nationals from Slovenia, as an Associate Member, or Canada as a Cooperating State, can apply as well as those from Bulgaria, Cyprus, Latvia, Lithuania and Slovakia as European Cooperating States (ECS).

Priority will first be given to candidates from under-represented Member States.

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