

Training Opportunity for Polish National Trainees

Reference	Title	Duty Station
PL-2023-OPS-G	Next Generation Ground Segment for New Space Economy	ESOC, Darmstadt

Overview of the mission:

The Ground Systems Engineering and Innovation Department is responsible for all the ground systems engineering and support activities required to support mission operations and implement innovation.

The Department maintains and manages a full level of competences, technologies and services in all engineering disciplines related to ground systems, infrastructure, technology evolution and Engineering R&T and innovation. The Department provides expert support in these areas in matrix organisation of ESA to all program directorates for all current and potential missions and leads, in the role of architect, ground systems evolution and innovation implementation in the infrastructure.

The Department is furthermore responsible for the overall technical standardisation coordination for the ground segment. As such, the Head of Department is the ESA representative in the Management Council of the Consultative Committee for Space Data Systems (CCSDS).

The Ground Segment Engineering Department is organised as following:

- Mission Operations Data Systems Division (OPS-GD)
- Ground Station Engineering Division (OPS-GS)
- Flight Dynamics Division (OPS-GF)
- Navigation Support Office (OPS-GN)
- Multi-Mission Infrastructure Programme Manager (OPS-GM)

Overview of the field of activity proposed:

Under the supervision of the Senior Ground Systems Strategy and Commercialisation Manager, the Polish National Trainee will help on development of the strategy for next generation ground segment with focus on Commercialisation and support of New Space Economy. The candidate will also support the production of Technology Development Roadmaps for key technology domains relevant to ground segment, including

- Artificial Intelligence
- Cyber Security
- Model Based System Engineering

- Systems in support of CubeSats
- Optical Communication
- RF Systems
- Flight Dynamics Development Platform
- Moon Surface Landing selection and In-situ Navigation for Robotics
- Delay Tolerant Networks
- Quantum Computing

The work will combine the Engineering aspects with Business Development and Economic aspects. The exact details of the work will depend on the qualification and the interests of the selected candidate. The training may also provide the opportunity of exposure to real spacecraft operations.

Required education and skills:

- You should have recently completed, or be in the final year of a university course at Master's level in Engineering with Business Administration and Economics.
- Knowledge of New Space Economy, Software Start Ups landscape as well as modern software methodologies, strategy development and Business Administration would be an asset. In Engineering area expertise in one or multiple of following domains is an asset: AI (Machine and Deep learning), Cyber Security, AR/VR technologies, Optical Communication, RF, Embedded software development.
- Good interpersonal and communication skills
- Ability to work in a multi-cultural environment, both independently and as part of a team
- Fluency in English and/or French, the working languages of the Agency