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# On-Board Computers and Data Handling Engineer

**Key Tasks and Responsibilities**

As part of the ESA technology team you will have the following responsibilities:

Provide Technical Support to Projects:

- Provide expert consultation and problem-solving assistance throughout ESA projects lifecycle in the field of On-Board Computers and Data Handling;
- Support the development, verification, and validation of:
    - a. Data handling system elements, units and architectures
    - b. End-to-end data processing chains (including on-board data transfer buses and protocols);
    - c. Support the main unit level project reviews throughout all the project phases, e.g. SRR, PDR, CDR, TRR, etc.;
- Generic Support:
    - a. Conduct laboratory activities as assigned and required by WP Technical Responsible, and as part of R&D activities of On-Board Computers and Data Handling;
    - b. Contribute to the dissemination of project results and knowledge transfer across the ESA organization;
    - c. Support ESA Staff with CDF (Concurrent Design Facility) related activities and studies;
- Support to R&D Programmes and Activities

Computers and Data Handling, including:

- contributing to the definition of technology development requirements and work plans for the Agency's technology programmes;
- supporting the ESA Staff in defining, initiating and managing R&D activities covering both long- and short-term needs;
- upporting the ESA Staff in R&D activity reviews and meetings and reporting on the R&D activity development, progress and planning;
- supporting the ESA Staff in updating associated technical dossier, roadmap and harmonisation with European industries, laboratories and national agencies; fostering ;new application areas for multidisciplinary activities, placing emphasis on innovative concepts, cutting-edge technologies and system architectures.
- Support ESA ESA Staff in the procurement of on-board data handling hardware, including:
    - a. On-board computers (OBCs)
    - b. Solid State Mass memories
    - c. Instrument Control Units (ICUs).

    - d. Remote terminal/interface units (RTU/RIU).
    - e. (Optical) Payload processing units.
    - f. Data and control interfaces and associated protocols: High Speed Serial Links (HSSL), command and control interfaces
    - g. Cubesat/SmallSat/MiniSat data handling system modules and units
- Support the section in maintaining and improving the coordination and knowledge management in the field of On-board computers and Data Handling via the following tasks:
    - a. contributing to the dissemination of the results of the activities performed and the transfer of knowledge across the Agency;
    - b. Introducing any lesson learnt, important information and results from R&D developments, Project support and hands-on activities in common repository and in any other ad hoc directories that will be specified;
    - c. supporting the monitoring of applicable scientific and technological trends and maintaining state-of-the-art expertise.

Support to the Data Handling Laboratory Facilities

- The candidate will support the activities run by the ESA Staff in these facilities. The Data Handling Laboratory consists of the following facilities:Artificial Intelligence Facility; Payload Data Handling Facility; ADHA/SAVOIR/RASTA Facility; CubeSat Facility:

For each specific lab facility, tasks will include:

- Manage setup, development, update, optimization, including the relevant HW and SW elements;
- Assist ongoing projects with the design implementation, prototyping, testing, evaluation, optimization, benchmarking, debugging, and validation on the corresponding facility;
- Provide expertise in the implementation, use, testing, operation, and validation of the functionality and performance of designs;
- Plan, specify and setup of integration, functional and performance test and validation campaigns;
- Perform integration, functional and performance testing of relevant hardware and software elements in the facility;
- Recording, analysis and documentation of test and validation activities and test results, including equipment setup and configuration, and failure incidents;
- Manage the planning of the facility accounting for priorities given by the WP Technical Responsible;
- Service provider personnel shall comply with the ESA Quality Management System.

**Skills & Experience**

You will have the following qualifications and relevant experience:

- Master’s degree in engineering discipline is mandatory;
- Minimum 4 years of experience in the field of On-Board Computers and Data Handling Systems;
- Understanding of related technologies, R&D trends and the industrial landscape

- Project support experience in a relevant domain (development, verification and validation of Data Handling Architectures and End-to-End Data Processing chain at instrument level or satellite level);
- Spacecraft systems knowledge;
- Experience in the preparation of procurement activities for technology development and innovation (Statements of Work, proposal evaluation, etc.);
- Experience in the management and monitoring of industrial activities, including participation in reviews;
- Hands-on hardware experience in (one or more of) the following technical subjects:
- Testing and validation of (at least one) of the following unit types:
    - On-Board Computers, Solid State Mass Memories, Instrument Control Units (ICU), Remote Terminal/Interface Units (RTU/RIU), and (Optical) Payload
    - Processing Units;
- Design, test and characterisation of high-speed serial links;
- Integration, testing and validation of Cubesat/small-sat/minisatellite modules & DHS units;
- Testing and validation of command & control interface architectures and associated protocols;
- Benchmarking of single- and multi-core microprocessors, microcontrollers, AI/ML processing engines and accelerators, payload processing modules;
- Fluency in English is mandatory; knowledge of another European language is an advantage.

This job is located in **Noordwijk**.

If you think you have what it takes for this job, please send your CV (in English and in Word or PDF) to Viktoria Panicharova, by clicking on the button "Apply for this job" quoting job **NL-HP-516.**

*An exciting and dynamic international working environment awaits you!*

HE Space recruiting for ESA