Passionate about people and passionate about space

HE Space is a successful international space company. For 40 years, we have been supporting our customers with qualified experts in the field of engineering, science and administration. We are currently looking for an End-to-End Simulations Support to Earth Observation missions to support our customer in the Netherlands.

End-to-End Simulations Support to Earth Observation missions

Key Tasks and Responsibilities

As part of the Mission and System Studies Section, you will have the following responsibilities:

- End-to-end (E2E) simulations support to the Future Missions and Instruments Division (EOP-FM) for Mission and System Studies. The Contractor will report to the H/ Mission and System Studies Section;
- Support the definition and development of the End-to-End (E2E) Mission Performance Simulators for future EO missions;
- Contributing to ensure the technical coherency and completeness of the simulation of the observation system, including, as needed, functional analysis, system level budgeting, system performance analyses, modelling of spacecraft and/or payload subsystems and related data processing to meet system and mission requirements;
- Install and use those E2E simulators on the EOP-FM IT infrastructure for mission performance evaluation and system trade-offs for future EO missions;
- Ensure consistent evolution and maintenance of the E2E simulators and proper configuration and storage of the relevant input/output datasets;
- Initiate and support work in the area of modelling of system/sub-system aspects (spacecraft, payload, ground processing) for E2E simulators and System Engineering Tools;
- Support the development of generic building blocks and modules, and aim at maximum synergy and reuse of those building blocks and modules from one E2E simulator to the next making use of ESA OpenSF infrastructure;
- Participate to the development of System Engineering Tools for preliminary analysis and sizing of future EO missions;
- Use the above System Engineering Tools for system trade-offs, preliminary sizing and evaluation of future EO missions;
- The tasks are twofold: Task 1 –E2E Simulations for Future EO missions, related to the definition, development and exploitation of E2E simulators, aiming at a coherent and representative modelling of each element of the system (satellite, payload, ground processing), contributing to the E2E mission performance, maximizing the synergies and reuse of building blocks from one simulator to the next:
    - Support definition and development of the E2E Mission Performance Simulators, including elaboration of SOW and technical specifications, participation to progress meetings and reviews;
    - Contributing to ensure the technical coherency and completeness of the simulation of the observation system, including, as needed, functional

analysis, system level budgeting, system performance analyses, modelling of spacecraft and/or payload subsystems and related data processing;
    - Install and use the E2E simulators on the EOP-FM IT infrastructure for mission performance evaluation and system trade-offs for future EO missions;
    - Provide feedback from E2E mission performance simulations and optimisations to the spacecraft and mission design;
    - Ensure consistent evolution and maintenance of the E2E simulators, configuration and storage of the relevant input/output datasets;
    - Initiate and support work in the area of modelling of system or sub-system aspects (spacecraft, payload, ground processing) for E2E simulators and System Engineering Tools;
    - Support the development of generic building blocks and modules, and aim at maximum synergy and reuse of those building blocks and modules from one E2E simulator to the next making use of ESA OpenSF infrastructure.
- Task 2 –Support related to the definition, development and exploitation of system engineering tools for Future EO missions:
    - Participate to the development of new System Engineering Tools for preliminary analysis and sizing of future EO missions, ensuring a coherent and representative modelling of each element of the system (satellite/platform and its subsystems, payload, ground processing) contributing to the system performance;
    - Participate to the evolution and maintenance of the existing System Engineering Tools used;
    - Use the above System Engineering Tools for system trade-offs, preliminary sizing and performance evaluation of future EO missions;
    - Provide feedback from mission optimisation to the spacecraft and mission design.

Skills & Experience

You will have the following qualifications and relevant experience:

- Masters's level of education or equivalent in relevant field;
- General knowledge of ESA Earth Observation missions;
- Capability to coordinate a large amount of inputs, synthesise, summarise and draw conclusions;
- Solid background on IT and computer programming;
- Good knowledge of MATLAB/ Python is required; knowledge of other programming languages is an asset;
- STK, MS Excel and CAD software knowledge is an asset;
- Experience on modelling and simulation of observing system characteristics (spacecraft, payload, ground processing, orbit...) and how they impact mission data quality and relate to system requirements and scientific goals is desirable;
- Experience with end-to-end mission performance simulation for EO missions is required;
- Knowledge of error propagation techniques is an asset;
- Fluency in English is mandatory; knowledge of another European language is an advantage.

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This job is located in Noordwijk. We welcome applicants who are available from September 2022 (or as soon as possible thereafter).

If you think you have what it takes for this job, please send your CV together with a letter of motivation (both in English and in Word or PDF) to Viktoria Panicharova, by clicking on the button "Apply for this job" quoting job **NL-HP-4870** before **13-Sep-22**.

An exciting and dynamic international working environment awaits you!

HE Space recruiting for ESA