Data Processing Reprocessing Engineer

Hiring organization
WGS Workgroup Solutions GmbH

Description
We are looking for a Data Processing Engineer to join our team.

The position is on a permanent basis, with foreseen start on 1 April 2025.

The successful candidate will be based in Spain and work remotely. T ravel within Germany/Europe/worldwide can occasionally be required.

The candidate shall support the EUMETSAT's reprocessing activities for Copernicus missions.

The reprocessing activities will address data from:

– the Sentinel-3 instruments: OLCI, SLSTR, SRAL and MWR.

– the Sentinel-6 instruments: Poseidon-4, AMR-C and the radio-occultation instrument.

– the MTG UVN spectrometer (Sentinel-4)

– the EPS-SG UVNS spectrometer (Sentinel-5)

and may include additional satellites depending on their launch dates and immediacy of their reprocessing needs (e.g. CO2M).

Responsibilities
The expected outputs, deliverables and tasks to be carried out are summarised herebelow:

- [R-1] Development, implementation and maintenance of a reprocessing environment or environments for Copernicus Sentinel data reprocessing;
- [R-2] Integration of Copernicus S3, S4, S5 and S6 processing software, normally for a complete processing baseline including the Instrument Processing Facilities (IPFs), processing rules (e.g. task tables) and static auxiliary data (ADFs), in the EUMETSAT reprocessing environment;
- [R-3] Production of data records resulting from full or partial mission reprocessing of Copernicus S3, S4, S5 and S6 data;

- [R-4] Production of test products resulting from smaller scale reprocessing for gap filling and/or in support of algorithm verification and validation for Copernicus S3, S4, S5 and S6 data;
- [R-5] Acquisition, preparation, organisation and checking (e.g. for gaps) of relevant input data data (such as L0 and/or L1, static and dynamic ADFs and job orders) from internal and external sources (including ADF) to support production as above;
- [R-6] Automated production quality monitoring, taking benefit of and evolving existing tools or development of new ones if necessary ;
- [R-7] Verification of reprocessing campaigns including monitoring of performance, failures/anomalies, completeness checks, aggregation of problems into classes that can be dealt with in single actions (e.g. all processing jobs affected by bug X), etc.
- [R-8] On request by scientific experts, production of data and graphical outputs in support of the validation of the reprocessed data, employing quality monitoring procedures and other validation techniques and data as directed by the scientific experts;
- [R-9] Preparation of produced data records for ingestion into the EUMETSAT Data Centre, and support in case issues are encountered during ingestion;
- [R-10] Compilation of reports containing technical documentation including description of processing outputs, coverage analysis (gaps, overlaps, duplicates, etc.) of input and output data, deviation from planning, etc.

Qualifications
The Key Person shall have the following attributes and skills:

- [R-41] Provision of services in similar domain, in particular familiarity with satellite data, satellite processing and quality evaluation of products;
- [R-43] Mass data processing;
- [R-44] Software and processing chain development;
- [R-45] Administration and usage of relational databases.
- [R-48] Operation of large scale data production systems including quality monitoring tools
- [R-49] Software engineering for data processing involving large data volumes, preferably for satellite data
- [R-50] Programming using C/C++ and/or Fortran programming languages as well as scripting languages, such as Python, Perl, Shell Unix/Linux environments
- [R-51] Programming using C/C++ and/or Fortran programming languages
- [R-52] Use of data bases such as PostgreSQL

- [R-53] Administration of data bases
- [R-54] Scientific product validation processes
- [R-55] Using scientific data formats such as NetCDF- 4, HDF5, GRIB, BUFR and the decoding of binary data formats
- [R-56] Use of satellite data
- [R-57] Fluency in English
- [R-58] Strengths in summarisation, analysis and presentation of results
- [R-59] Excellent technical writing skills
- [R-60] Excellent interpersonal, communication and team working skills, particularly with teams geographically distributed and communicating electronically
- [R-61] Ability to conduct all activities in an orderly and structured manner, to work calmly and correctly and to work without supervision
- [R-101] Knowledge and experience in Kubernetes for orchestration and deployment of containerized applications
- .[R-102] Expertise in creating and managing Dockerfiles for building and deploying containerized environments.
- [R-103] Familiarity with Jira for agile project tracking, issue management, and sprint planning.
- [R-104] Experience with GitLab for repository management, version control, and collaboration workflows.
- [R-105] Proficiency in setting up and maintaining CI/CD pipelines within GitLab for automated build and deployment processes.
- [R-106] Strong understanding of Git for version control, branching strategies, and collaborative development.
- [R-107] Understanding of basic cluster functionality, including resource scheduling, distributed processing, and load balancing for large-scale data processing systems.
- [R-108] Familiarity with concurrency programming concepts, including thread management, synchronization mechanisms (e.g., mutexes and semaphores), and parallel processing frameworks such as OpenMP, MPI, or Python's multiprocessing library, is an advantage.

Job Benefits

This position opens the opportunity to work at a recognised international institution, key player in the Space and Earth Observation sector and with very challenging projects.

WGS offers very attractive employment conditions and takes close care of their employees, who are considered as their main asset.

Contacts

Interested applicants should submit their CV and Cover Letter in Europass format, either through the website or by emailing the WGS recruitment team at **vacancies@workgroup-solutions.com.**

The position is open until 31.01.2025.