

# EUROPEAN SPACE AGENCY

## Science Operations System Engineer

**Job Req ID:** 12468

**Closing Date:** 12 November 2021

**Publication:** Internal & External

**Vacancy Type:** Permanent

**Date Posted:** 29 October 2021

Vacancy in the Directorate of Science.

ESA is an equal opportunity employer, committed to achieving diversity within the workforce & creating an inclusive working environment. We therefore welcome applications from all qualified candidates irrespective of gender, sexual orientation, ethnicity, beliefs, age, disability or other characteristics. Applications from women are encouraged.

This post is classified A2-A4 on the Coordinated Organisations' salary scale.

### Location

ESAC, Villanueva de la Cañada, Spain

### Description

The European Space Agency maintains a world-leading Science Programme with missions in heliophysics, planetary science, astrophysics and fundamental physics. The Department for Science and Operations (SCI-S) hosts the scientists who oversee the space missions from study to end of operations; it develops the science operation systems for the missions and operates the missions in space; and it archives and curates their data during operations and beyond. Our main objective is to maximise the scientific output of the missions for the benefit of humankind.

### Duties

You will be responsible for all engineering aspects of the development, implementation and maintenance of science archive systems at the ESAC Science Data Centre (ESDC), reporting to the Science Archives Development and Operations Manager (SCI-SAA) in the Data Science and Archives Division in SCI-S. You will work in close collaboration with the missions and the community, and be responsible for coordinating the work of the companies providing services to support your tasks.

You will be expected to strive for innovation and excellence in system and software engineering, within the standards adopted at ESA, promoting and extending adoption of those methods, processes and standards to all ESDC activities.

Specific responsibilities will include:

- Coordinating system engineering activities for all ESDC archive systems, such as
  - Setting up and supporting the systems engineering process at the ESDC for the benefit of all Science Archive Systems from all missions in the development, operations, post-operations and legacy phases, maximising availability of the

- Together with the IT stakeholders, determining the cost of archive system development and operations and of the required service, balancing mission-specific with generic solutions to optimise the overall cost;
- Coordinating the implementation and execution of the ESDC validation campaign: which must include all relevant compatibility, interface and end-to-end tests needed to validate the Science Ground Segment systems of the relevant missions plus the interfaces with the scientific community;
- Defining and maintaining all required ESDC interfaces (e.g. with representatives from the missions, other Science Ground Segment elements, and the Mission Operations Centre);
- Evaluating and applying relevant systems engineering lessons learned from other ESA science data centres;
- Participating actively in Department and ESA-wide systems engineering activities, such as
  - Identifying and coordinating potential cross-mission engineering activities and systems within the Department (e.g. science data handling, processing and archiving, system and software engineering, configuration control and document management);
  - Encouraging and coordinating the Department's participation in ESA Research and Development programmes, notably the General Studies Programme (GSP), General Support Technology Programme (GSTP) and Technology Development Element (TDE);
  - Performing software engineering technology watch with a view to potential applications in the Department, in particular liaising with the head of the Data Science Section to identify and integrate innovative Artificial Intelligence solutions into the ESDC systems;
- Representing ESA and ESDC internationally, such as
  - in international Virtual Observatory alliances (i.e. IVOA, IPDA, IHDEA, etc.), in workshops and at conferences;
- Acting as ESA Technical Representative for the service contract(s) supporting technical work in the ESDC, defining and overseeing the work expected from the partner companies, working closely with the Department's product assurance manager.

### **Technical competencies**

Experience in information technology system engineering

Experience in developing/operating data management and archiving systems

Experience in managing industrial contracts

Experience in project management

### **Behavioural competencies**

Result oriented

Operational efficiency

Fostering Cooperation

Relationship Management

Continuous Improvement

Forward Thinking

### **Education**

A Master's degree in software or computer engineering, space science or space applications

An asset for this position is technical competencies acquired in the context of data archiving and databases in space science, i.e.

- Experience in information technology system engineering in the context of databases, data dissemination and web front-end systems;
- Experience in developing/operating data management and archiving systems in the science operations context;
- Experience in project management in development activities involving multiple interface and in the context of space science;
- In addition, experience in managing industrial contracts, including a workforce service contract.
- Experience in Agile and/or DevOps methodologies and DevOps would be a further asset as would experience in designing scalable and distributed systems for big data operations.

### **Other information**

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

The working languages of the Agency are English and French. A good knowledge of one of these is required. Knowledge of another Member State language would be an asset.

The Agency may require applicants to undergo selection tests.

At the Agency we value diversity and we welcome people with disabilities. Whenever possible we seek to accommodate individuals with disabilities by providing the necessary support at the workplace. The Human Resources Department can also provide assistance during the recruitment process. If you would like to discuss this further please contact us email [contact.human.resources@esa.int](mailto:contact.human.resources@esa.int).

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Please note that applications are only considered from nationals of one of the following State Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland, the United Kingdom and Canada, Latvia, Lithuania and Slovenia.

According to the ESA Convention the recruitment of staff must take into account an adequate distribution of posts among nationals of the ESA Member States. When short-listing for an interview, priority will first be given to internal candidates and secondly to external candidates from under-represented Member States.

(<https://esamultimedia.esa.int/docs/careers/NationalityTargets.pdf>)

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.

Recruitment will normally be at the first grade in the band (A2); however, if the candidate selected has little or no experience, the position may be filled at A1 level.