

EUROPEAN SPACE AGENCY

Flight Vehicles and Aerothermodynamics Engineer

Job Req ID: 15023

Closing Date: 23 March 2022

Publication: Internal & External

Vacancy Type: Permanent

Date Posted: 09 March 2022

Vacancy in the Directorate of Technology, Engineering and Quality.

ESA is an equal opportunity employer, committed to achieving diversity within the workforce and 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

ESTEC, Noordwijk, Netherlands

Description

Flight Vehicles and Aerothermodynamics Engineer in the Flight Vehicles and Aerothermodynamics Engineering Section in the Propulsion, Aerothermodynamics, and Flight Vehicles Engineering Division, Mechanical Department, Directorate of Technology, Engineering and Quality.

The Flight Vehicles and Aerothermodynamics Engineering Section provides functional support to ESA projects and carries out technology research (R&D) on flight vehicles, flight physics, aerodynamics, thermodynamics and fluid dynamics engineering and the architecture design and analysis of suborbital, (re-)entry, space transportation, and exploration vehicles. The Section is also the focal point for the architecture design, analysis and technical assessment of space transportation vehicles for suborbital, orbital and exploration applications, including upper stages, (re-)entry, expendable, and reusable vehicles.

Duties

You will report to the Head of Section and, within the above technical fields, your main tasks and responsibilities will include:

- providing expert technical support and consultancy to ESA projects, programmes in the field of flight vehicle engineering and aerothermodynamics throughout all project phases;
- participating in feasibility studies, project reviews and the evaluation of procurement proposals and contributing to the definition of technology development requirements and work plans for the Agency's technology programmes;
- defining, initiating and managing R&D activities covering both long- and short-

term needs;

- supporting the analysis, initiation and pre-development of advanced propulsion concepts, technologies and techniques in the area of advanced cryogenic propulsion systems, green propellants and green propellant chemistry technologies, advanced electrostatic, electromagnetic, and electrothermal propulsion subsystems, solar thermal and nuclear propulsion, and advanced solar sailing and tethered propulsion systems;
- supporting the development of breakthrough concepts for flight vehicle SCRUM engineering methods and tools for flight vehicle engineering;
- supporting the development of advanced new concepts, and ideas in the area of laser beamed propulsion, Lorentz force accelerators, cryo-solid propulsion, etc;
- monitoring applicable scientific and technological trends and maintaining state-of-the-art expertise;
- contributing to dissemination of the results of activities performed and the transfer of knowledge across the Agency.

Your duties may also include supporting other activities within your area of competence.

Technical competencies

General background and specific experience in the technical domains covered by the position

Knowledge of design, development and application of relevant tools and methods for flight vehicle engineering

Understanding of related technologies, R&D trends and the industrial landscape

Spacecraft systems knowledge

Experience in preparation of procurement activities for technology development and innovation (statements of work, proposal evaluation)

Experience in the management and monitoring of industrial activities, including participation in reviews

Experience with Space Engineering Standards and their preparation and implementation

Behavioural competencies

Result Orientation

Operational Efficiency

Fostering Cooperation

Relationship Management

Continuous Improvement

Forward Thinking

Education

A master's degree or equivalent qualification is required in aerospace, mathematics, mechanical engineering or physics. A PhD in one of these subjects is considered an asset.

Additional requirements

Knowledge related to the Section's technical areas is required, as well as to the definition and specification of technology R&D activities. In addition, you should have some experience in key areas of design and technology development, as follows:

- At least one year's practical experience of flight vehicle engineering in launchers or re-entry or space exploration projects;
- At least one year's practical experience in aerothermodynamics analysis

methodologies, as well as some experience of engineering tools used for design and verification of space vehicles.

Other information

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

For further information please visit: [Professionals](#), [What we offer](#) and [FAQ](#)

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.

Please note that applications are only considered from nationals of one of the following States: 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 or balanced 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 conducted by an external background screening service.

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.

*Member States, Associate Members or Cooperating States.