

# Job Title: Flight Vehicles and Aerothermodynamics Engineer

Req ID 8736 - Posted 19/06/2019



## EUROPEAN SPACE AGENCY

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. Applications from women are encouraged.

### Post

#### Flight Vehicles and Aerothermodynamics Engineer

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

### Location

ESTEC, Noordwijk, The Netherlands

### Description

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

The incumbent will report to the Head of the Flight Vehicles and Aerothermodynamics Engineering Section.

The Section provides ESA engineering support and support to research, development and testing activities related to 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

Duties include:

- providing expert technical support and consultancy to ESA projects and programmes in the field of flight vehicle engineering and aerothermodynamics, during all project phases;
- contributing to the definition of technology development requirements and work plans for the Agency's technology programmes, and in particular in the areas of space transportation and space exploration vehicles;
- defining, initiating and managing R&D activities, including experimental investigations and numerical and engineering development studies; in particular, contributing to the establishment and running of activities in areas of concern of the Section for spacecraft, upper stages, space transportation, (re-)entry, and exploration missions;
- supporting the ESA Concurrent Design Facility (CDF) in the development of its required multi-physics, aerothermodynamics and interdisciplinary analysis tools;
- maintaining and improving the Section's related design and verification tools for application within ESA projects and programmes;
- supporting the development, procurement and maintenance of computational facilities within the Directorate's common framework, including support to the maintenance and operation of the computational fluid dynamics and 3D visualisation facilities;
- participating to the elaboration and promotion of ISO, CCSDS and ECSS standards in the multi-disciplinary domains;
- monitoring applicable scientific and technological trends and maintaining state-of-the-art expertise;
- contributing to the dissemination of the results of the activities performed and the transfer of knowledge across the Agency.

Due to the inter-disciplinary nature of the flight physics and aerothermodynamics engineering field, the postholder will be expected to establish and maintain good working relationships and networks with experts in the Directorate from other related disciplines.

## Technical competencies

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

Project support experience in a relevant domain

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

Experience with the design, development and application of relevant tools and methods

Experience with laboratory or field testing of relevant technical equipment

## Behavioural competencies

Communication

Teamwork

Customer Focus

Problem Solving

Results Orientation

Planning & Organisation

## Education

Applicants for this post should have a Master's degree or equivalent qualification in aerospace, mathematics, mechanical engineering or physics. A PhD in one of these domains is considered an asset.

## Additional requirements

Solid experience related to the technical domains of the Section is required, as well as in the definition and specification of technology R&D activities. In addition, applicants should have substantial experience (at least five years) in key fields of design and technology development, in particular with flight vehicle engineering in the areas of launchers, re-entry and space exploration projects.

At least five years' practical experience in the following domains is desirable:

- aerothermodynamics analysis methodologies, as well as proven experience with engineering tools used for design and verification of space vehicles with emphasis on the dynamic stability of re-entry vehicles;
- aero-decelerators, in particular supersonic parachutes.

## 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.

## The closing date for applications is 03 July 2019.

If you require support with your application due to a disability, please 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 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 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. (<http://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.