Job Title: Robotics System Engineer

Req ID **4761** - Posted **20/12/2017**

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
Robotics System Engineer

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

This position forms part of ESA's Advance Recruitment Scheme which is established to provide appropriate staffing resources when requirements materialise.
Appointments are therefore made for an initial duration of two years upon which the selected candidate may be appointed to a permanent post in the Agency.

Location
ESTEC, Noordwijk, The Netherlands

Description
Robotics System Engineer in the Automation and Robotics Section, Mechatronics and Optics Division, Mechanical Department, Directorate of Technology, Engineering and Quality.

The Automation and Robotics Section provides functional support to ESA projects and carries out technological research (R&D) in the field(s) of space robotics systems (from manipulators to autonomous vehicles) and laboratory supporting automation and robotics in manned and unmanned missions.

The Section specialises in the system engineering of space automation and robotics systems. Space robotics is an highly multidisciplinary subject. It depends heavily on the underlying space disciplines of structures, mechanisms, avionics, onboard software, ground operations and communication. However, packing these disciplines into a single system that moves, interacts physically with its environment and with humans with a certain degree of autonomy creates a complexity that is in itself a new discipline.

System engineering of space automation and robotics systems is the discipline of specifying, designing and ultimately validating space automation and robotic systems that fulfill utilisation needs under defined environmental and operational constraints.

Duties
Reporting to the Head of Section and within the technical fields described above, the main tasks and responsibilities of the post holder will include:

- providing expert technical support and consultancy to ESA projects, programmes and general studies in the field of space robotics systems throughout all project phases;
- participating in feasibility studies, project reviews and evaluation of procurement proposals;
- identifying critical development problems and assisting in their resolution;
- 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;
- fostering new application areas for multidisciplinary activities, placing emphasis on innovative concepts, cutting-edge technologies and system architectures;
- laboratory activities as required;
- monitoring applicable scientific and technological trends and maintaining a state-of-the-art expertise;
- contributing to the dissemination of the results of the activities performed and the transfer of knowledge across the Agency.

Duties may also include supporting other activities within the post holder's field of competence.

Technical competencies
General background and specific experience in the technical domains covered by the position
Understanding of related technologies, R&D trends and the industrial landscape
Project support experience in a relevant domain
Experience with laboratory or field testing of relevant technical equipment
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

Behavioural competencies
Teamwork
Customer Focus
Innovation & Creativity
Problem Solving
Results Orientation
Planning & Organisation

Additional requirements
Knowledge and/or experience in the following domains will be an asset:

- definition of utilisation concepts for space tele-operation, automation and robotics;
- analysis (functional, kinematic and dynamic) of robot systems;
- modeling (in physical or simulated form) of robot systems;
- testing of robot systems;
- physical interaction of robot systems with the environment and with humans (e.g. terramechanics, haptics);
- end-to-end control (covering the spectrum from tele-operation to autonomous control);
- (real time) control of A&R systems including human interfaces;
- image processing and video control;
- multimedia communication and interactive control.

Education
A Master's degree or equivalent qualification in an engineering discipline is required.

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 31 January 2018.

If you require support with your application due to a disability, please 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, Slovenia, Spain, Sweden, Switzerland, the United Kingdom, 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. Priority will first be given to internal candidates and
secondly to external candidates from under-represented Member States when short-listing for interview. 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.