

## Training Opportunity for Portuguese Trainees

Reference	Specialist Area	Duty Station
PT-2010-TEC-QQD	Reliability, Availability, Maintainability and Safety (RAMS) Engineering	ESTEC
<p><b><u>Overview of the Division missions:</u></b>            The mission of the Quality, Dependability and Product Assurance Support Division is to contribute to the success of ESA projects and activities, by providing expert support and facilitating the exchange of knowledge in the areas of responsibility. The disciplines covered by the division includes: system safety, dependability (i.e. reliability, availability and maintainability), quality assurance and quality management, software quality.</p> <p>Quality assurance, safety and dependability engineering are primarily concerned with the development and implementation of methods, techniques and processes to achieve the confidence for a safe and reliable system design, manufacturing, operation and disposal.</p>		
<p><b><u>Overview of the field of activity proposed:</u></b>            ESA's Dependability and Safety Assurance section (TEC-QQD) is responsible for the development, implementation and maintenance of Dependability (Reliability, Availability and Maintainability) and Safety (also know as RAMS) expertise and standards, and for providing support to projects of the European Space Agency in its specific domains of competence.</p> <p>Dependability and safety within ESA are integrated disciplines covering satellites (hardware, software), as well as, ground infrastructure and operations (human aspects). It is focused on failures, failure prevention and on the reduction of the consequences of failure (life, cost, schedule, availability of service, etc). Safety and dependability analyses provide the basis for making space systems more failure-tolerant, within mass and cost constraints, and reducing the risks posed by hazard and failure scenarios.</p> <p>Specific responsibilities and tasks will include:</p> <ul style="list-style-type: none"> <li>• Acquaintance with the main dependability and safety methodologies (Hazard Analysis, FTA - Fault Tree Analysis, FMECA - Failure Modes and Effects Criticality Analysis);</li> <li>• Acquaintance with the RAMS software tools available in the section;</li> <li>• Support the evaluation of safety and dependability analyses of space systems concepts, designs and operations for compliance with defined dependability and safety requirements, and for assessing system robustness and investigating system weaknesses;</li> <li>• Support the evaluation of safety and dependability analyses including risk assessments, and risk reduction processes;</li> <li>• Support the definition and identification of general and project-specific programmatic and technical dependability and safety requirements in the framework of ECSS (European Cooperation for Space Standardization) standards;</li> <li>• Support the activities entrusted to the section, including in particular:               <ul style="list-style-type: none"> <li>- support to R&amp;D activities in dependability and safety requirements, techniques, methods, tools and training</li> <li>- support to standardization activities in the field of Human Dependability and Integrated Logistics Support.</li> </ul> </li> </ul> <p>Note 1: Reliability is focused on the capability to function without interruption, Availability is the ability to operate when needed and Maintainability refers to the easiness of repairing/replacing or upgrading the product.</p>		
<p><b><u>Required Education:</u></b>            Applicants should have completed a University course at Masters level in a technical or scientific discipline. Knowledge of space systems would be an advantage. Candidates must be fluent in English or French, the official languages of the Agency. Candidates should have good interpersonal and communication skills and should be able to work in a multi-cultural environment, both independently and as part of a team.</p>		