

Training Opportunity for Portuguese Trainees

Reference	Title	Duty Station
PT-2014-TEC-SBT	Space Technology Research Programme	ESTEC
<p>Overview of the Unit missions: The applicant will be integrated in the TEC-SBT, the TRP Planning and Implementation Section. The TRP is the ESA's Basic Technology Research Programme. The TRP is a mandatory programme for ESA's Member States and it is the only ESA technology programme that supports all Agency directorates across the entire spectrum of technical disciplines, providing the technological nucleus for most future developments on application areas such as Earth Observation, Space Science, Human Spaceflight, etc.</p>		
<p>Overview of the field of activity proposed: The applicant shall perform an analysis of the potential and trends of the main technologies being supported in the current TRP cycle (if possible to be complemented by the results of past TRP related activities or on-going activities in other ESA programmes). More precisely, the applicant shall build on previous studies done by TEC-SBT to:</p> <ul style="list-style-type: none"> a) For the technologies being pulled by a clear space application, the analysis shall focus on the expected benefits versus further effort needed (time and moneywise) to be continued in other ESA R&D Programmes and finally by Projects (planned future missions). The idea here is to estimate how far is the TRP effort from the final potential application and the likelihood of success (risk assessment). The applicant shall build on current studies about the influence of TNV (Technology Need Value), RD3 (Research and Development Degree of Difficulty) and AD2 (Advanced Degree of Difficulty) on the assessment of the activities. This will allow the applicant to build a TRP technology portfolio risk profile, which shall be compared with available literature on other R&D sectors. A secondary outcome of the study would be the evaluation of possible advantages of including any of the previous measurements as a secondary dimension (to Technology Readiness Levels (TRLs)) in the decision making process. b) For the technology-push activities, in addition to the analysis described in point a), the applicant shall also focus on the recent technology trends being pursued outside the Space industrial sector, in order to map competing technologies in terms of potential gains in performance versus accrued risk. The idea here is to benchmark the TRP portfolio, probably focusing on activities supported by the Innovation Triangle Initiative (ITI) in terms of innovation with respect to key players in the relevant research areas. c) Evaluate to which extent the activities with poor performance (in programmatic terms) suffer from: poor estimation at proposal level, poor performance of the contractor executing the technology activity or poor management from ESA. The study shall evaluate whether there is a significant difference in performance between technology push vs. technology pull activities. d) Evaluate whether spin-in technologies introduced via ITI have: a better performance, a lower risk profile and whether they need lower efforts to reach a certain TRL level. <p>Due to time constraints the above analysis may need to be conducted on a subset of technologies / R&D activities supported by TRP.</p> <p>The applicant shall also investigate recent developments and reported best-practices and proven tools (or approaches) in the field of Managing Technology Portfolios, Technology R&D and Innovation with the objective of suggesting updates to the existing processes in the Agency. The idea here is to perform a more theoretical work in the field of Technology/Innovation Management but still taking into account the reality of the Space segment in general (and of ESA in particular), thus still contributing to prepare the candidate for a potential career in Space.</p> <p>Depending on the background and interest of the candidate more focus can be put into one of the above described tasks.</p>		
<p>Required Education: The applicant shall have as minimum a MSc degree in space engineering or any related area (e.g. mechanical, electrical, electronic, materials engineering) and preferably background and interest in technology and project management.</p>		