

Training Opportunity for Portuguese Trainees

Reference	Specialist Area	Duty Station
PT-2012-TEC-SWS	Flight Software System	ESTEC
<p><u>Overview of the Division missions:</u></p> <p>TEC-SWS provide support for Development of Flight Software for platform and payload in Science, Earth observations, Telecom directorates. The section contributes to the definition of processor emulators, avionics tests beds as well as model driven testing. Further the section is responsible for ESA Independent Software Verification and Validation process. Additional areas of responsibility are Communication protocols, Avionics architecture and reference functional Specifications.</p>		
<p><u>Overview of the field of activity proposed:</u></p> <p>The trainee shall work in the area of CCSDS Spacecraft Onboard Interface Services (SOIS) Plug and Play technology research as part of the Flight Software System Section in TEC directorate.</p> <p>The trainee shall study the existing standards related to Plug&Play technology applicable to embedded and avionics system such as IEEE 1451 and TEDS Transducer Electronic Data Sheet as well as xTEDS (XML based TEDS). The trainee shall analyse the Spacecraft Onboard Interface Services (SOIS) Plug and Play architecture for this context and complement services if needed. The trainee shall define the requirements for a software prototype in the Avionics lab capable of demonstrating the elements of the tailored standard as identified above. The trainee shall implement and test the above specified SW prototype.</p> <p>In addition to the above tasks the trainee shall contribute to the activities of the SOIS Working Group.</p>		
<p><u>Required Education:</u></p> <p>The trainee shall have education in the following domains</p> <ul style="list-style-type: none"> • Embedded software systems and embedded software technology. • Communication protocols typically used in avionics systems (e.g. Mil1553 Bus, CAN Bus, Spacewire) or equivalent. • Low level software and device drivers development. • Simulation environments (e.g. Matlab). • Programming languages (e.g. C/C++). 		