

Training Opportunity for Luxembourgish Trainees

Reference	Title	Duty Station
LU-2019-OPS-SC	Clean Space Engineer	ESTEC
<p><u>Overview of the unit's mission:</u></p> <p>The ESA Clean Space initiative aims to turn challenges into an opportunity, giving a proactive answer to the environmental challenges both on earth and in space, including the Agency's own operations as well as operations performed by European space industry in the frame of ESA programmes.</p> <p>The implementation of the Clean Space initiative is organised around three distinct branches: Ecodesign, Space Debris Mitigation (CleanSat), and In-Orbit servicing/Active Debris Removal. Check out the Clean Space blog to discover the activities: blogs.esa.int/cleanspace</p>		
<p><u>Overview of the field of activity proposed:</u></p> <p>Through EcoDesign, ESA started to assess the environmental impact of its space missions with a number of Life Cycle Assessment (LCA) activities. The LCA studies previously performed by ESA looked at both spacecraft and launchers and identified the environmental impact in terms of various environmental indicators such as Global Warming Potential, Ozone Depletion Potential, Human Toxicity Potential, Metal Depletion Potential to name but a few. ESA has become a worldwide leader in this area but there are still many uncertainties that need to be investigated.</p> <p>Furthermore, unlike ground-based products, currently space products cannot be reused or recycled. The reuse of space debris in orbit would turn a problem into a valuable asset, leading to an increased interest from government and industry in orbital debris removal.</p> <p>The trainee will be working in the area of eco-design and in particular in:</p> <ul style="list-style-type: none"> • Design for Recycling: design philosophy to ease in-orbit recycling operations aiming at space sustainability • Space opera tool: Tool to perform preliminary LCA and give eco-design recommendation in early phases of a satellite mission • LCP game: communication board game to show the environmental impacts of a space mission • ESA LCA Database: containing specific space materials, processes and equipment 		
<p><u>Required education:</u></p> <p>Master-level degree in engineering with preferably an aerospace background and/or specialization in Environmental science. Candidates must be fluent in English and/or French, the official languages of the Agency.</p>		