

Development of an on-orbit welding unit

Full-time engineer position, Orsay

Application open from July to August 2023

Contact person: Guillaume.mohara@spacequarters.space, +33-6-45-33-21-60

About Space Quarters: Space Quarters is a French-Japanese startup whose mission is to revolutionize the infrastructure of space systems. We achieve this by providing an in-space assembly technology based on robotic welding. Applications include communication satellite antennas (first orbital mission in 2028), solar panel arrays, large space stations, Moon infrastructure and more.

Mission: As part of a dynamic startup/research team, you are a passionate and hands-on collaborator who will support our startup's development of an electron beam welding unit for use in space both from a design/engineering standpoint (electrical, mechanical) and experimental standpoint (experimental setup, troubleshooting). You will actively take part in the TRL4 lab-scale prototype test campaign of the new electron beam gun design (gun performance, welding tests) and lead design improvements based on experimental results and simulations (thermal, electrostatic) from you or colleagues. Your hard work and critical thinking will enable the successful execution of an ambitious 5-years roadmap from lab to orbit, including parabolic microgravity test flights in 2025. You will be located at the LPGP laboratory and shared incubator office in Orsay.

Profile: 3-5 years' experience developing and testing electro-mechanical equipment, either in a lab or for higher TRL product development. Demonstrated track record of professional or personal projects running troubleshooting/diagnostics and fixes on electro-mechanical equipment is preferred. Knowledge of electrical systems is required; understanding of mechanical systems and CAD/simulation tools (Solidworks, Comsol) is valued. Must exhibit highly autonomous capabilities, hands-on, curious and first-principles critical thinking values. Result-driven, hard-working but also respectful and likes to work/collaborate in teams. Proficiency in English is required; French is a plus.

Prerequisite: passionate about everything space-related!



Images: (left) LPGP vacuum chamber for welding unit testing, (right) Salyut 7 on-orbit welding tests (1980s).