



## Optical Communication Engineer

### Description of the Company

Since 2016, ODYSSEUS Space aims at increasing the flow of goods and information in the Solar System. For this purpose, the company is developing cost-effective technologies such as laser communication and autonomous navigation.

The technologies developed by ODYSSEUS can already address the small satellite constellations market while paving the way for future applications in the Space Resources Utilisation value chain.

Active in Luxembourg and Taiwan we are looking for motivated professionals to work collaboratively with a young, international and talented team on what will be the space technologies of tomorrow.

### Description of the Job

As an Optical Communication Engineer part of ODYSSEUS Space team in Luxembourg, you will be working on the design, manufacturing, testing and validation of our free-space optical communication terminal product (CYCLOPS), in interaction with the rest of our multidisciplinary team.

The CYCLOPS transceiver is a compact and secured high bandwidth communications terminal, expanding drastically information exchange capabilities around the Earth and beyond. This versatile system enables both, inter-satellite and space-to-ground laser communication.

Experience in modulation/demodulation functionalities and/or in fibre components (EDFA, filters, switches...) is needed. Complementary experience in aerospace, product development, lab work, prototyping, Assembly, Integration & Testing are strong advantages for the job.

ODYSSEUS Space can offer a competitive salary and fast career development opportunities to the candidate.

### Role

- Be responsible of the optical communication architecture definition, develop and characterize Tx/Rx subsystems including fibre and photonic components, take ownership of the fibred and free-space optical testbeds.
- Investigate new and existing modulation/coding formats, define requirements, and provide technical assessment related to laser communication, concept of operations definition, and risk reduction testing.
- Participate in the design of electrical (FPGA/DSP), software and optical sub systems (definition, requirements, functional analysis, performance analysis, integration, verification...).
- Perform modelling, link analyses and simulations of various free-space optical communication protocols and understand the impact of environmental conditions and system imperfections on the operational system.



- Participate in CYCLOPS design by working closely with the rest of the team, and document and develop procedures to improve the manufacturing process in the future.
- Support the testing and validation activities of the terminal.
- Preparation of the documentation for design reviews.

### **Must have**

- Master's degree/PhD in any relevant field, or equivalent
- Several years of experience in fibre optic communication (EDFA, filters, switches...) or modulation and demodulation functionalities.
- Experience in coordination on FPGA hardware design
- English proficiency
- Experience in both working independently and as part of a team
- The willingness to participate in a start-up adventure
- The willingness to learn new skills
- Highly organized and capable of planning and guiding complex technical work
- Strong oral and written communication skills

### **Nice to have**

- Experience in aerospace
- Experience in product development
- Experience in optical simulations
- Experience in communication simulations
- Experience in prototyping and testing
- Experience in any other design field (mechanical engineering, software...)
- European Union Citizenship

### **Contact**

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