

SSA Sensor Engineer

LMO SARL is a company based in Luxembourg developing innovative technologies for Vision-Based Space Situational Awareness (SSA) Systems to support future missions for In-Orbit servicing and dual-use applications. LMO SARL is involved in the design, development, verification, build, test, and operation of its space-borne systems and does so through collaborating with major research and industrial players in the field of Computer Vision AI solutions.

Position Summary

The SSA Sensor Engineer will be the senior subject matter expert responsible for sensors selection, specification, sizing and analysis, including mathematical models and inputs to the LMO SSA payload performance analysis. They will be able to translate the requirements from the mission scenarios and platform Interface requirements defined by our customers, into requirement specifications for LMO sensors suite. They will integrate the sensors in the overall SSA payload design ensuring optimum compatibility with the payload interfaces (digital, thermal, mechanical, electrical) and support trade-offs and performance analysis. They will deal closely with the sensors data interpretation for use in related computer vision algorithms and payload Concept of Operations (CONOPS). They will support sensors calibration, testing, processing and interpretation of experimental data and feedback into SSA performance analysis.

This position involves close interaction with a multi-disciplinary engineering team (System engineer, CV engineers, SW developers, FPGA engineer, etc.) supporting the maturation of LMO technologies.

Location

Technoport – Belval, Luxembourg

9, Avenue des Hauts-Fourneaux, L-4362, Esch-sur-Alzette

Capabilities we are looking for:

- In-depth understanding of the principles of optical sensors operations: visible cameras (grayscale, RGB), thermal infrared cameras, Lidars, stereo-cameras.
- Understanding of sensors interfaces (digital, electrical, mechanical, etc.)
- In-depth understanding of detector technology and its electro-optical properties: CMOS, CCD, Photodiodes, and their responsivity properties, noise properties, etc.
- Understanding of sensor requirement specifications and their relation with mission requirements,

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- Familiar with gathering and analysing experimental data (processed or raw) from different detector types (CMOS, microbolometers, Lidar point clouds, etc.),
- Capable of building radiometric models of sensors to use for sensors sizing and performance analysis at mission level,
- Knowledge or exposure to optical analysis (e.g. using ZEMAX software), familiar with the concepts of MTF, diffraction, encircled energy, RMS spot size, and various sources of noise.
- Experience with calibration of different types of sensors in laboratory, familiar with optical laboratory tools, techniques, and procedures.

Things are a bonus, but not a must:

- Exposure to sensors applications for space
- Familiar with the opto-mechanical design, and with tolerancing analysis for optical payloads,
- Familiar with the functioning of electronics and communication protocols with detectors in sensors,
- Some understanding of RADAR technology would be a plus
- Basic knowledge of machine learning techniques and applications.

What we offer

- Work autonomy (low management overhead)
- International environment
- Flexible hours, hybrid work
- Fast career evolution
- Engagement with the Space and Machine Learning communities (Academia, Space Agencies, conferences, etc.)

Salary Information

For this role the base salary expectation, depending on experience, is between 85,000 and 105,000 EUR per annum for a 40-hour work week. This includes 26 days annual leave.

Contact Information

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