



## **Optical Sensor Calibration Expert based at EUMETSAT, Darmstadt, Germany**

HAMTEC Consulting a provider of quality staff to the aerospace industry.

We are currently seeking a member of staff with an university degree or equivalent in Physics, Remote Sensing, Instrument engineering, or similar with at least 3 years practical experience in the processing of satellite data to generate calibrated LI datasets in the visible, near- and/or thermal infrared and at least 3-5 years practical experience in LI calibration/validation

Location: Darmstadt, Germany

Start Date: April 2017

Closing date: 8<sup>th</sup> February 2017

### **TASKS:**

The tasks of the Contractor to be performed via the Key person will typically include:

- scientific analysis of the radiometric and spectral calibration of LI data from OLCI and SLSTR,
- analysing results of pre-launch and in-orbit calibration systems and characterisation data , including:
  - solar diffusers, straylight, nonlinearity, SNR, polarisation sensitivity,
  - spacecraft manoeuvres performed during or after commissioning,
- developing in-depth knowledge of the instruments' operational processing chain,
- applying calibration monitoring tools to OLCI and SLSTR, including:
  - pseudo-invariant calibration sites,
  - Rayleigh scattering over the sea,
  - lunar calibration,
  - deep convective clouds,
  - inter-calibration against collocated hyperspectral sounder observations,
- developing specific components of the calibration monitoring tools to handle Sentinel-3 data,
- analysing results of these tools to assess these sensors' performance,
- performing comparisons with other instruments, such as AVHRR, VIIRS, MODIS to gain understanding of the performance of OLCI and SLSTR,
- using the GEOCAL tool developed by ESA to monitor the geometric performance of OLCI and SLSTR,
- providing recommendations to implement changes to the operational procedures and processing chains to improve the instruments' calibration,

- working with the team responsible for generating L2 products for these instruments to assess and improve the instruments' calibration,
- writing and reviewing documentation describing the instruments' calibration and aspects of their LI processing.

## **Qualifications and Experience**

- A university degree or equivalent in Physics, Remote Sensing, Instrument engineering, or similar
- At least 3 years practical experience in the processing of satellite data to generate calibrated LI datasets in the visible, near- and/or thermal infrared
- At least 3-5 years practical experience in LI calibration/validation

## **Essential Skills**

- Recognised expertise in the calibration of optical sensors -pre-launch or on orbit
- The Key person shall be able to demonstrate a good working knowledge of statistical techniques and understanding of the concepts of calibration and traceability
- The Key person shall have a knowledge of radiative transfer in the solar and/or infrared spectral ranges and practical experience in applying them for surface and/or atmospheric applications, for example using MODTRAN
- Proven experience in the use of (i) data analysis tools, such as Matlab/IDL, (ii) scripting languages, such as Perl/Python and (iii) high-level programming, such as C/C++ in a Linux/Unix environment, and an aptitude to learn further programming languages as required
- Experience in the implementation of calibration algorithms
- Very good communication skills - both verbal and written are an important aspect of this role -both between teams within EUMETSAT and with Industry and ESA
- To work effectively in a small team;
- To work autonomously without close supervision;
- To work to tight deadlines under changing conditions;
- To analyse complex problems, distinguishing between critical and less critical information, and to synthesise and clearly present the results of such analyses.

## **Desirable Skills**

- Knowledge and practical experience with the calibration of similar optical sensors, such as MERIS, MODIS, OLCI, (A)ATSR or AVHRR
- Experience of working in an operational satellite environment
- Experience of image analysis
- Experience with a range of different data formats used in satellite remote sensing
- Experience with software build environments and version control tools Fluency in English is mandatory.

Please send you CV in English to:

Simon Davidson via [recruit@hamtec.co.uk](mailto:recruit@hamtec.co.uk)

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<http://www.hamtec.co.uk>