Stellenausschreibung: EGNOS V3 RIMS+NLES Performance Engineer

EGNOS is a satellite based European augmentation system for GPS signals and the upcoming European Navigation system Galileo. Currently the next generation EGNOS V3 is under development. In this frame Airbus Defence and Space GmbH in Ottobrunn near Munich is looking for **RIMS and NLES performance engineer**:

**Context:** The Ranging and Integrity Monitoring Stations (RIMS) are a central element of the Space-Based Augmentation System (SBAS) like EGNOS to generate the SBAS message contents used for Open Service and Safety-of-Life applications. The Navigation Land Earth Stations (NLES) are the uplink stations of EGNOS and in charge of disseminating the data to the users within the service area.

**Tasks:** The RIMS and NLES performance engineer is responsible for:

- Monitoring the proper implementation of the RIMS and NLES specifications imposed by EGNOS V3 system
- Characterizing the RIMS and NLES performances as achieved by the implemented RIMS and NLES (incl. characterization of RIMS and NLES environment) used as input for EGNOS V3 system performance analysis
- Maintaining and updating RIMS and NLES specifications as needed to support EGNOS V3 system performance analysis (this includes survey of specifications provided as CFI by the customer (e.g. scintillation specifications, RIMS and NLES RFI environment specifications, User Rx standards (e.g. new L5 DFMC SBAS MOPS), survey of NLES specification provided by the Customer)

In that role the RIMS and NLES performance engineer has to pro-actively interface with the RIMS and NLES sub-system developers as well as the system performance engineers.

For successful working the RIMS and NLES performance engineer must be able to anticipate the system performance needs and translate them into RIMS and NLES performance requirements.

**Qualifications:**

- Deep understanding of GNSS Rx and TX related technology used in GNSS ground systems and in GNSS uplink systems, e.g. RF-equipment (GNSS signal generator, GNSS receiver, rf-switch, amplifier, splitter) and antennas.
- Deep understanding of signal processing inside GNSS Rx (e.g. signal acquisition and tracking)
- Understanding of GNSS signal error contributors (e.g. hardware-induced, multipath, radio-frequency interference, ionospheric scintillation, jamming, spoofing) and mitigation techniques
- Knowledge of relevant GNSS / Rx standards (e.g. GNSS ICDs, IGS data formats, e.g. RINEX)
- Knowledge on hardware assembly, integration and test (AIT)
- Knowledge of relevant GNSS / Rx standards (e.g. GNSS ICDs, IGS data formats, e.g. RINEX)
• Experience in MATLAB, C and/or C++ and usage in complex analysis environment (e.g. analysis of Rx data for larger networks (50-80) and large amounts of data (days-months))

Add-ons (ideal candidate):

• Experience in GNSS/SBAS data analysis for characterization of Rx performances (e.g. ranging performance, signal quality, signal performance incl. characterization of relevant Rx environment)
• Background in GNSS/SBAS Systems and GNSS/SBAS System Performance
• Background in GNSS User Rx and related technology (e.g. user equipment for SBAS like WAAS, EGNOS, QZSS, etc.)
• Background in Aviation Standards for SBAS (e.g. RTCA L1 MOPS DO-229)
• Background on standards for Airborne Electronic Hardware (e.g. DO-245)
• Background on standards for Software Considerations in Airborne Systems and Equipment Certification (e.g. DO-178C)
• Background on frequency normal technology used in GNSS ground systems (e.g. Rubidium, Cesium, Maser frequency standards)