GNSS-CRPA Receiver Test and Validation Engineer Intern

End-of-studies internship in the Engineering cycle

Syntony GNSS is a human-sized company with an international dimension, based in Toulouse and with the **FrenchTech label,** specializing in **Global** Navigation Satellite Systems (GNSS).

Our ambition: To provide our customers with relevant, innovative, reliable and robust solutions.

World leaders in radio navigation and embedded systems, we are present in fast-growing markets, such as aeronautics, space, road and rail transport, mining and IoT (Internet of Things). We have developed a range of products (simulators, receivers, indoor/outdoor location systems) that meet the growing needs of these industries.

Keysight, Airbus, Airbus Constellation, Hitachi Rail, Thales Alenia Space, Honeywell, Rockwell, MDA, or the Stockholm, New York and Toronto metros... So many partners who trust us and push us to always go further.

With passion, we constantly evolve our solutions to anticipate their needs and perfect our know-how.

At Syntony, we offer a pleasant and stimulating work environment, where the quality of life at work and the availability of our employees promote fulfillment and collaboration. Intellectual stimulation is omnipresent through innovative and varied projects.

We work on a variety of subjects, ranging from aeronautics to space, transport, mining and the environment.

Thus, Syntony vibrates around three fundamental values:

Benevolence:

Together, we cultivate listening, respect and empathy in our interactions, while also valuing the multiculturalism that enriches our exchanges.
We contribute to a positive environment where everyone feels valued and supported. We enrich each other by building strong relationships, both internally and externally.

Excellence:

Together, we strive for excellence in everything we do. Through our commitment, our high standards and our sense of responsibility, we guarantee quality, efficiency and performance. It is through our collective rigour that we meet challenges and provide sustainable solutions.

Adaptability:

Together, we are flexible in the face of the changes around us.
By combining creativity, collaboration and resilience, we find innovative solutions and move forward efficiently. Our agility allows us to evolve in line with our environment.

From students to professionals qualifié.es, help develop future navigation solutions in partnership with our team of experts. Evolve in a caring environment where your ideas take flight and your contributions strengthen the synergy of the company.

Internationally, we meet the challenges of today and tomorrow, supporting our customers throughout the entire process: from the initial vision to development, to delivery and the collection of their satisfaction.

The Context

As part of several of its products, Syntony has developed various GNSS receivers, as well as a GNSS signal simulator, using CRPA (antenna processing) techniques.

The objective of this internship is to carry out validation tests relating to the various functionalities of the CERBER product according to the test plan already established, and to analyse the results.

The main features to test are:

1. Interference mitigation (anti-jamming).
2. Estimation of the DoA (Direction of Arrival) of interfering signals.
3. Estimation of the DoA of GNSS signals.
4. Self-calibration and attitude estimation.
5. Mitigation of lure (anti-spoofing).
6. Beamforming.

What you'll accomplish with Syntony GNSS

You will join the R&D Innovation team, and your internship subject will aim to carry out validation tests relating to the various functionalities of the CERBER receiver, then to analyse the results. The objective is to validate the CERBER receiver as part of ongoing projects and to increase skills on the CRPA technologies developed at SYNTONY.

To do this, a specification and the associated VTP (Validation Test Plan) have already been drafted by the project team and the customer. To carry out the tests described in the VTP, it will be necessary to use the advanced CRPA measurement and simulation means (GNSS signal simulator developed by Syntony: Constellator CRPA).

The analysis of the results of these tests and the writing of a VTR (Validation Test Results) are also part of the expectations of the internship.

The subject of the internship could evolve according to the themes depending on the candidate and the duration of the internship.

The technical skills we are looking for:

- Data analysis.
- Signal processing / estimation method.
- Octave / Matlab (or Python).
- Knowledge of navigation and GNSS systems (GNSS receivers, positioning, etc.) is required.
- Knowledge of CRPA (Antenna Processing) is a very appreciated plus.
- Knowledge of test and measurement instrumentation (oscilloscope, spectrum analyzer) is a plus.
- Technical curiosity, desire to learn, team spirit.
- Fluency in technical English and good English/French writing skills
- A taste for experimentation and analysis of real data is necessary (critical thinking, autonomy, writing).

About you

Currently in the last year of the Aeronautics, Space, Embedded Systems Engineering... or at the end of a Master's degree (with a specialization in space systems, GNSS, satellites, signal processing, RF, etc.), you are looking for an end-of-studies internship in the field of radio navigation and embedded systems.
You have a solid foundation in mathematics and a strong appetite for theoretical studies with experimental application.
Your technical curiosity, your desire to learn and your team spirit will be the assets necessary for the success of your mission.

Ready to get on board with us? 🚀 ✨ Send us your CV under the reference ENG-639-FR: jobs@syntony.fr or apply directly from the career page of our website