



Satellite TTC Modem Test Automation Framework

About Celestia Antwerp

Celestia Antwerp is a leading company in Belgium, active in the field of satellite ground communication technology. It is part of the Celestia Technologies Group.

Celestia Antwerp's core business is in the delivery of satellite communication solutions for the ground segment extension with products and systems. Celestia Antwerp operates both on the commercial and institutional markets, supporting space agency programmes, as well as industrial company projects worldwide. The company activities have been located in Antwerp since 1962, when it was founded as part of Bell Telephone.

Type and Description:

Type: Internship

Description: The candidate will join the department in charge of the development of satellite communication products focusing on the Satellite Telemetry, Telecommand and Ranging (TT&R) baseband Modems (V-IBB). During this internship, he will contribute to the extension of the test automation coverage by adding new test scripts dealing with the verification of some DSP/RF functions in order to improve (time & quality) the overall product verification process.

Objective and Deliverables:

Objective: The objective of this internship consists in the development of test scripts in order to facilitate the modem testing activity. These scripts will mostly be based on C# programming language used with the [OpenTAP](#) automation framework in place. These will address functional and performance verification of the key functions that one can find in TTC Baseband modem (e.g. Channel codec (Low Density Parity Check code, Turbo code, Convolution code), modulation/demodulation schemes (BPSK, QPSK, 8-PSK, 4D-8PSK-TCM, GMSK, Spread Spectrum), Ranging (Tone Rng, Code Rng), Telecommand processor, Telemetry processor, RF/IF signal characterization, Station Control Center interface, RS-422 interface, Space Link Extension Interface, etc...). During this internship, the student will get the opportunity to get used with a product effectively used in ground stations for satellite communication. The candidate shall finish this activity with a presentation to a mixed audience of academic & industrial experts of the achievements reached with this internship.

Expected deliverables:

The following deliverables are expected:

- Test scripts (source code and user manual).
- Test report.
- Final internship report.

Duration:

Negotiable

Evaluation Criteria:

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The following will be taken into account for the final evaluation.

- Demonstrated technical skills.
- Timeline of deliverables vs agreed plan.
- Quality of deliverable.
- Level of autonomy shown by the candidate.
- Motivation and initiatives taken.

Location

Roderveldlaan 1 (bus 3) – 2600 Berchem - Belgium

More Information about Celestia and other potential internship or open vacancies:

<https://www.celestia-antwerp.be/>

Contact Information

Would you be interested in this internship or would you like to get more information about this internship, please take contact with hr@celestia-antwerp.be.