# Innovation Placement: Project Specification

## Industry Partner:
AEON Engineering Ltd. (www.aeon-eng.com)

## Office Location:
The Old Police Station, Water Street, Newcastle-under-Lyme, ST5 1HN

## Project Oversight:
Robert Gabrielczyk

## Project Title:
Design and Manufacture of an RF Fault Injector

## Project Overview:
Design, build and integrate a Fault Injection device, as part of a frequency standard verification system. The Project shall be managed and conducted by a self-motivated, multi-disciplined engineer, with a strong understanding of RF and digital electronics design, software development, integration and testing. An understanding of synchronisation and timing systems is advantageous.

## Detail of Undertakings:
The successful candidate shall:
- Fully integrate with the AEON team, including attendance to progress reviews, presentations and workshops
- Generate and maintain a project plan, formalised by way of Gantt chart
- Develop technical requirements, system architecture and product breakdown for the RF Fault Injector
- Derive conceptual design which satisfy the technical requirements and system architecture; and critically trade-off conceptual designs to establish a design baseline
- Generate test plans and test procedure to support the RF Fault Inject verification campaign
- Procure and build the RF Fault Injector (incl. any special test equipment), where necessary managing external suppliers and manufacturers
- Perform testing and document test results and test conclusions, where necessary identifying design refinements or optimisation
- Generate a design report to support the comprehensive documentation of the RF Fault Injector

## Essential Skills:
- Minimum 2:1 Degree in Physics or Engineering
- Demonstrated proficiency using Microsoft Word, Excel, Outlook
- Demonstrated experience in the design, manufacture and testing of RF and digital electronics
- Demonstrated experience using SQL, C#, C++ or Python (other programming languages considered)
- Basic understanding of engineering design practices (e.g. continuous integration vs. systems engineering)
- Understanding of basic project management practices, incl. generation of Gantt charts and project reporting (e.g. EVM)
- Skilled in recording and documenting as part of design and quality management practices
- Proactive attitude toward work, positive mindset, punctual, accurate and honest

## Desirable Skills:
- Awareness of the inner workings of frequency standards as part of synchronisation and timing systems
- Demonstrated use of Microsoft Project or similar management software
- Demonstrated proficiency using Microsoft SharePoint or similar document management systems
- Demonstrated proficiency using Enterprise Architect or similar modelling software
- An understanding of Systems Engineering (including requirements management, system architecture synthesis, verification and acceptance)
- Strong communication, documentation and report writing skills

## Deliverables:
- Project Plan including Gantt chart
- Cost Book including Bill of Materials (BoM)
- RF Fault Injector Test Plan and corresponding Test Procedures
- RF Fault Injector Test Report
- RF Fault Injector Design Report