

## FPGA Verification Engineer

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Group:

BE-CO-HT

Starting Date:

as soon as possible

You will join the Beams Department/ CO Group/ Hardware and Timing Section:

- **The Beams Department** (BE), responsible for the beam production, beam and accelerator physics, beam diagnostics, radiofrequency, controls and performance optimization for the entire CERN accelerator complex including the LHC.
- **The Controls Group** (CO), responsible for the specification, design, procurement, integration, installation, commissioning and operation of the controls infrastructure for all CERN Accelerators, their transfer lines and the Experimental Areas.
- **The Hardware and Timing Section** (HT), responsible for the development, production and support of most of the BE-CO custom electronic modules. It also provides know-how for the technical choice of commercial modules to suit the needs of equipment groups in the Accelerator Sector.

### Functions

As part of the BE/CO/HT, you will join a team of electronics and low-level-software designers that develop custom electronic modules for the CERN accelerators. Within the team, you will take the role of FPGA Verification Engineer, with a focus on improving and unifying the currently used verification environments (simulations, continuous integration flows, unit tests, etc.) in projects hosted on the Open HardWare Repository (OHWR, [www.ohwr.org](http://www.ohwr.org)).

Your functions will include:

- Developing simulation environments adapting UVM principles
- Using formal verification methods where and when applicable
- Writing detailed verification plans
- Managing CI/CD infrastructure including integration with hardware test-beds
- Developing and improving open-source and internal tools

### Qualifications Required

- Degree in Electronics Engineering, Computer science or similar

### Technical Experience and Competencies

Ideally, your technical profile includes a mixture of FPGA and SW competencies from this list:

- HDL: System Verilog, VHDL
- SW: Python, C (and Tcl for interfacing with commercial EDA tools)
- Git
- CI/CD systems, esp. around the Gitlab ecosystem
- Project lifecycle management (SCM, versioning, DevOps, testing methodologies)