

Call for contribution (Industrial Informatics)

CERN invites collaborating institutes and universities to contribute the expertise of their qualified employees to the activity described below.

Date: March 2022 - February 2024 (2 years)

Project: **PSEN (Supervision system for the Electrical Network)**

Activity:

Consolidation project involving the design and development of the supervision layer of the control system for the CERN electrical network.

Description of Project:

Within the Beams department (BE), the Industrial Control Systems group (ICS) develops solutions and provides support for large and medium scale industrial control systems and also promotes their use. The support covers the domains of the experiments, the technical infrastructure and the accelerators. The *Controls Engineering* section (BE-ICS-CE) is in charge of the engineering of the industrial control systems and provides technology support CERN wide.

As part of a consolidation project the PSEN (Supervision System for CERN Electrical Network) system will be enhanced with: (1) an improved online engineering workflow mechanism, (2) the adaptation of the alarm management system to be compatible with the new alarm system, NextGen Alarm and (3) the alignment of procedures and specific components towards the standardised UNICOS tools and workflows: e.g. HMI configurable layout, Logging configuration and installation tools.

The project activity will focus on the development of the supervisory control layer for this system, based on Siemens WinCC OA (SCADA) and using CERN's UNICOS framework for rapid control system development.

Detailed description of Activity:

The main tasks will be the following:

- Gathering the requirements of the control system and compiling all the relevant documents with the other members of the team.
- Design and development the control software for the SCADA layer (Siemens WinCC OA)
- Deploy the solution, in agreement with the control layer, and validate with the experts
- Commission and follow up the supervisory control system

Profile:

Master's or Bachelor's degree in computing, industrial informatics or similar.

Technical competences:

- Initial experience with industrial controls systems
- Confident in software development practices including rigorous use of version control and testing
- Knowledge of high-level programming and scripting languages (e.g. C/C++, python...)

Status at CERN:

Associated Member of the Personnel (Project Associate).

Conditions in accordance with CERN's Staff Rules and Regulations and Administrative Circular No. 11.

Subsistence allowance is payable by CERN to cover the additional cost arising from the individual's (and, as applicable, their family's) stay in the local area while performing activities at CERN.