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: October 2021 - September 2022 (1 year contract)

Project:
FRAS (Full Remote Alignment System)

Activity:
Design and development of the supervision layer of the control system to automate the alignment of magnets in the LHC accelerator

Description of Project:
Within the CERN BE 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 Control Engineering section (BE-ICS-CE) is in charge of the engineering of the industrial control systems and provides technology support CERN wide.

You will participate in the FRAS project (Full Remote Alignment System). As part of the High Luminosity LHC project, it is intended to develop and deploy a motion control system capable of remotely align sets of magnets at the interaction points of the LHC. The project also includes the treatment of the data (data analytics) to design tools to improve diagnostics, maintenance and enhance the operation.

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 degree or bachelor's in computing, industrial control 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.