HL-LHC Resources request

Date: 2017-03-13	*Title Position/Task:* Mechanical engineer for the HL-LHC Crab cavities
Project/Activity: WP4	

Description Project:

The Mechanical and Materials Engineering Group (MME) of the Engineering department (EN) is in charge of engineering support combining mechanical design, production facilities and material sciences, for the maintenance of CERN facilities and the manufacturing of prototypes as required for CERN projects.

The Crab cavities are superconducting radio frequency cavities that will be used, as part of the future High-Luminosity LHC upgrade, to provide a transverse deflection to particle bunches.

Task:

Within the Engineering Design and Measurements section of EN-MME group and in the frame of the Crab cavities mechanical engineering related activities, the selected candidate will carry out three types of actions:

- He (she) will use advanced analytical and numerical methods (Finite Element Method, Multiphysics analyses) to perform calculations in several domains such as: structural mechanics, thermo-mechanical calculations, modal analyses;
- He (she) will be in charge of the documentation management of all the data produced by the group;
- He (she) will help with the coordination of the Crab cavity activities in the group including: mechanical design validation, prototyping, set-up of production facilities, manufacturing process, quality assurance implementation and follow-up.

Profile: Mechanical engineering diploma or equivalent

Experience:

The selected candidate has experience in the design and advanced mechanical analyses using analytical and numerical methods.

Ideally, he (she) has some knowledge of manufacturing technologies, material properties and use of non-conventional materials, analysis and testing methods, pressure vessels standards, cryogenics, ultra-high vacuum technology.

He (she) has excellent organization and communication skills.

Requester: EN-MME

Starting date: December 2017