



Sample Project: HL-LHC: Vacuum upgrade study for the High Luminosity upgrade of the LHC

Code	TE4108
Programme	FCT
Department	TE
Responsible	98081 - Dr. Giuseppe Bregliozi
Created by	28225 - Dr. Paulo Gomes
Updated by	41065 - Dr. Johan Bremer
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Title

HL-LHC: Vacuum upgrade study for the High Luminosity upgrade of the LHC

Description

In the framework of the operation of the Large Hadron Collider and of its upgrade to High Luminosity, you will be part of:

the Department Technology (TE), that provides the technologies specific to existing particle accelerators, facilities & future projects;

the Group Vacuum Surfaces and Coatings (TE-VSC), responsible for the design, construction, operation, maintenance and upgrade of high & ultra-high vacuum systems for Accelerators and Detectors;

the Section Beam Vacuum Operation (TE-VSC-BVO), in charge of the design, maintenance & operation of the beam vacuum system of all Accelerators and Detectors.

You will participate in the upgrade study of the LHC beam vacuum system, performing integration studies for the existing vacuum layout.

You will contribute to the design of vacuum components, including the interaction with the design team at CERN, and take care of sourcing and follow-up of procurements of vacuum components.

You will participate to the vacuum commissioning in the LHC tunnel and you will also participate to vacuum laboratory studies, in order to validate new materials and perform vacuum profile calculation with LTSpice and Molflow+ software.

Master or Bachelor Degree in materials science or mechanical engineering or similar.

Experience in working with vacuum and UHV systems. Ability of using software to perform simulations necessary for the vacuum calculations.

Skills

Vacuum: technology and materials; Mechanical Engineering: numerical techniques and software

Disciplines

Applied Physics, Mechanical Engineering, Material Science

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