



Contribution ID: 12

Type: **not specified**

Controls and software status for the HL-LHC IT String (WP16/TE-MPE)

Friday 27 September 2024 15:50 (30 minutes)

The HL-LHC IT String facility includes accelerator systems such as power converters, quench protection, cryogenics, insulation vacuum and alignment. The applications for the system controls and for the operation of the HL-LHC IT String facility compose a three-layer architecture. The front-end layer is composed of Programmable Logic Controllers (PLC) or Front-End Computers (FEC). The systems' layer is composed of monitoring, control, and supervisory applications. The operation layer is composed of supervisory, sequencer, and magnet circuit test analysis applications. As a preparation of the HL-LHC commissioning phase, the definition of all the required software interfaces, in line with the HL-LHC era, is essential to guarantee the suitable operation of the String facility control system. The readiness status of the controls and software is reported. The Dry Run tests are essential to validate the operation applications and the complete control system before the cooling and the powering test phase of the HL-LHC IT String commissioning program.

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Session Classification: Hardware Commissioning of the HL-LHC IT String