

# Status report on the architecture and future upgrades of the CMS Electromagnetic Calorimeter Control and Safety Systems

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The Electromagnetic Calorimeter (ECAL) is one of the sub-detectors of the Compact Muon Solenoid (CMS) experiment of the Large Hadron Collider (LHC) at CERN. Since more than 10 years, the ECAL Detector Control System (DCS) and the ECAL Safety System (ESS) have supported the experiment operation, contributing to its high availability and safety. The evolution of both systems to fulfill new requirements and constraints, in addition to optimizations towards improving usage and process automation, led to several changes to their original design. This paper presents the current software/hardware architecture of both CMS ECAL DCS and ESS and reviews the major changes applied to both systems during the past years. Furthermore, in view of the CMS Phase-II upgrade of this sub-detector, the corresponding plans for the control and safety systems are also discussed.

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