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# The upgrade of the CMS Muon System for the LHC Phase 2

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During the Phase 2, the Large Hadron Collider (LHC) will increase the instantaneous luminosity to 5-7.5 x 10^34 cm-2 s-1, representing a new challenge for the Muon System of the CMS detector. To cope with the new data-taking conditions and to improve the present tracking and triggering capabilities, the muon system will undergo specific upgrades targeting both the electronics and detectors. The upgrade of the electronics will involve all legacy systems, based on Drift Tubes (DT) and Resistive Plate Chambers (RPC), in the barrel region, and Cathode Strip Chambers (CSC) and RPC in the endcap region. In order to restore the Muon System redundancy in the high eta region and further extend the coverage up to |η| ~2.8, new stations based on triple Gas Electron Multiplier (GEM) and Improved RPC (iRPC) will be installed. During the second long shutdown LS2 (2019-2021), the first GEM station and few GEM and iRPC demo-chambers were installed. Moreover, some prototypes of the new On Board electronics for DT(OBDT) were installed in the CMS slice-test demonstrators. In this presentation, we report the status of the Muon Upgrade project, including the performance results of the already installed systems with the Run-3 data. The status of the production and validation tests of the new detectors that will be installed before LS3 and of the new electronics boards to be installed during LS3 will be also reported.

**Primary author:** PUGLIESE, Gabriella

**Presenter:** PUGLIESE, Gabriella

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