

Upgrade of the CMS Tracker with tracking at Level-1 for the High-Luminosity LHC

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The planned upgrades of the LHC and its injector chain are expected to allow operation at luminosities around or above $5 \times 10^{34} \text{ cm}^{-2} \text{ s}^{-1}$ sometimes after 2020, to eventually reach an integrated luminosity of 3000 fb^{-1} at the end of that decade. In order to fully exploit such operating conditions and the delivered luminosity, CMS needs to upgrade its tracking detectors and substantially improve its trigger capabilities. To achieve such goals, R&D activities are ongoing to explore options and develop solutions that would allow including tracking information at Level-1. Some of the options considered are reviewed, discussing their potential advantages and disadvantages.