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The CMS Outer Tracker Upgrade for the High Luminosity LHC

The era of High Luminosity Large Hadron Collider will pose unprecedented challenges for detector design and operation. The planned luminosity of the upgraded machine is $5 - 7.5 \times 10^{34} \text{ cm}^{-2} \text{ s}^{-1}$, reaching an integrated luminosity of 3000-4500 fb^{-1} by the end of 2039. CMS Tracker detector will have to be replaced in order to fully exploit the delivered luminosity and cope with the demanding operating conditions. The new detector will provide robust tracking as well as input for the first level trigger. This report is focusing on the replacement of the CMS Outer Tracker system, describing new layout and technological choices together with some highlights of research and development activities.

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