

## CMS pixel upgrade for the HL-LHC

In 2023, the LHC will be upgraded to the HL-LHC, increasing the luminosity to  $5 \times 10^{34} \text{ cm}^{-2} \text{ s}^{-1}$ . The increased luminosity will present new challenges in higher data rates and increased radiation. The CMS Phase 2 Pixel upgrade will require a high bandwidth readout system and high radiation tolerance for sensors and on-detector ASICs. Several technologies for the upgrade sensors are being considered, including thin planar and 3D options. DC-DC conversion or serial powering schemes are under consideration to accommodate significant constraints on the system. These prospective designs, as well as new layout geometries that include very forward pixel discs, will be presented.

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