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Module Prototyping for the Phase II Upgrade of the CMS Outer Tracker

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In preparation for the High Luminosity LHC, the whole tracker of the CMS experiment will be exchanged within the Phase-II Upgrade until 2027.
The new outer tracker will be made of approximately 13000 silicon sensor modules called 2S modules (consisting of two parallel mounted silicon strip sensors) and PS modules (one pixel and a strip sensor combined in a module).
These modules provide tracking information to the Level 1 trigger by correlating the hit information of both sensor layers and, thus, allowing to discriminate particle tracks by their transverse momentum.
To guarantee a successfull operation of the CMS detector, the production of the outer tracker modules has to fulfill strict requirements.
This talk will present the various assembly and test concepts for the large scale production on the basis of 2S modules and will present the latest module prototypes.

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