The MUonE tracker

Silicon tracker made up of strips in the same direction – square active area

Two layers of strips per module – read out simultaneously by one chip, check hits in both to remove noise. Efficiency ~ 99%.

Arrangement of modules in tracker: xy – uv – xy: so strips at 90 degrees in each pair. Done to remove 'ghost hits', need min 5 hits (xy, xy, one of u or v).
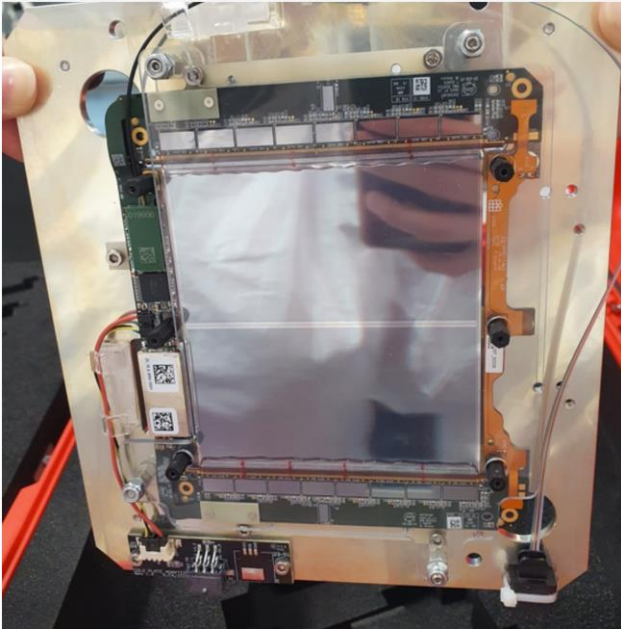

Alignment very important

Old method: laser scans with fiducial markers on rails, holders of modules, and the corners of the silicon. Not so good as moving it a lot. ~ 200 um.

New for 2025: overall 3D scanning of complete module. ~ 70-80um, need 10.