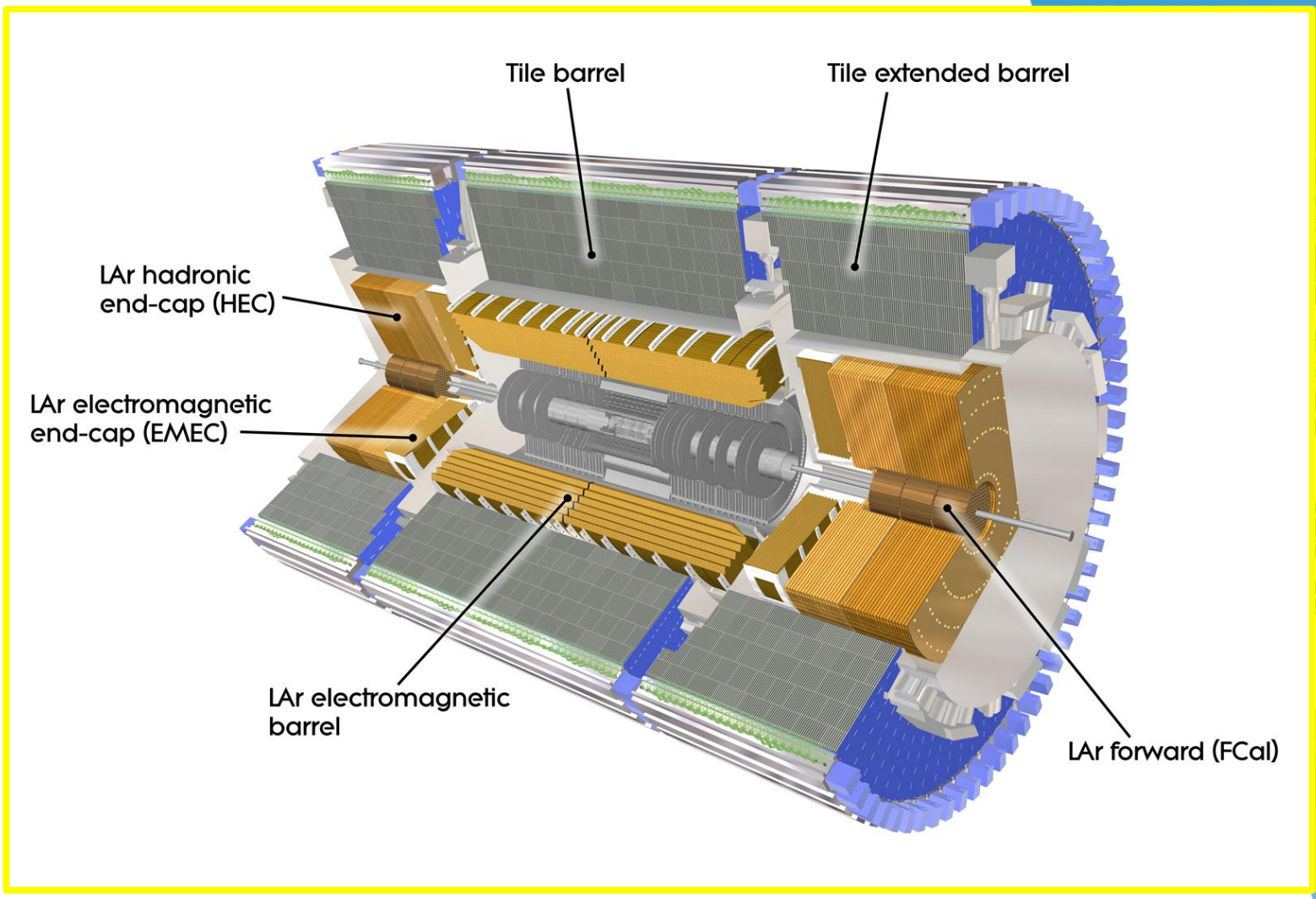
ATLAS

Mapping the secrets of the universe

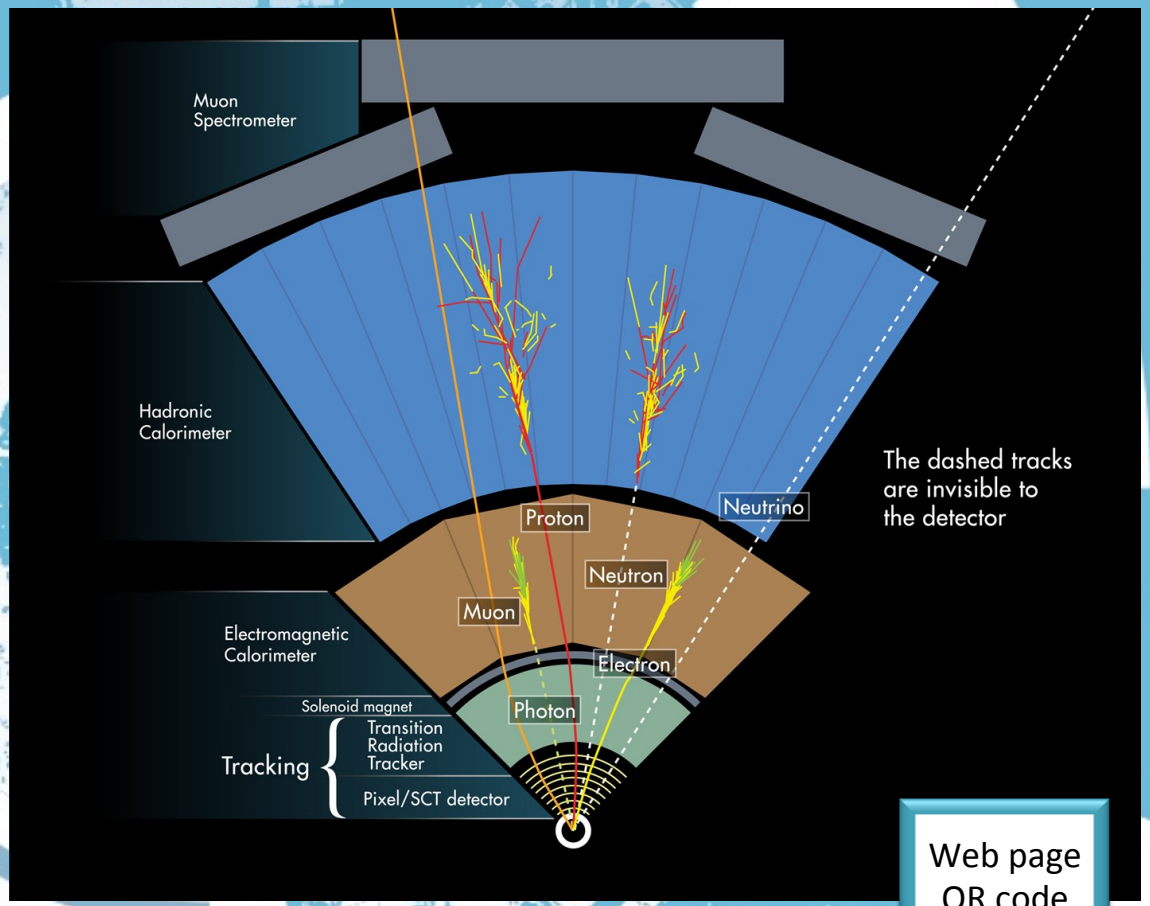


The Liquid Argon (LAr) Calorimeter works with Liquid Argon at -183 degrees C

- The EM barrel calorimeter is 6.4 m long, 53 cm thick, 110 000 channels. EM endcaps have thickness 0.632 m and radius 2.077 m.
- LAr endcap cryostats also include Hadronic endcaps [two wheels of thickness 0.8 and 1.0 m with radius 2.09 m] and Forward calorimeters [three modules of radius 0.455 m and thickness 0.450 m each].

The Tile calorimeter (TileCal) measures the remaining ~30% of hadronic energy after the LAr calorimeter. It counts 500 000 scintillator tiles, integrated in steel absorbers.

- Barrel made of 64 wedges, each 5.6 m long and 20 tons.
- Each Endcap has 64 wedges, each 2.6 m long.



Web page QR code

Run 2 achievements

Future challenges

In the 2015 ATLAS Phase-II Upgrade plans:

The Liquid Argon, Tile and Hadronic Endcap calorimeters maintain their performance and do not need interventions, but their electronics will be completely replaced, both because of radiation tolerance and to adapt to the new trigger system rate and latencies. The performance of the Forward Calorimeters (FCal) will be degraded in a region specially important for physics processes (vector boson fusion and scattering). On the other hand a replacement would require the opening of the LAr cryostat and several alternatives are studied.