

Megacell testing setup at CERN

Status and plans

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Test Overview:

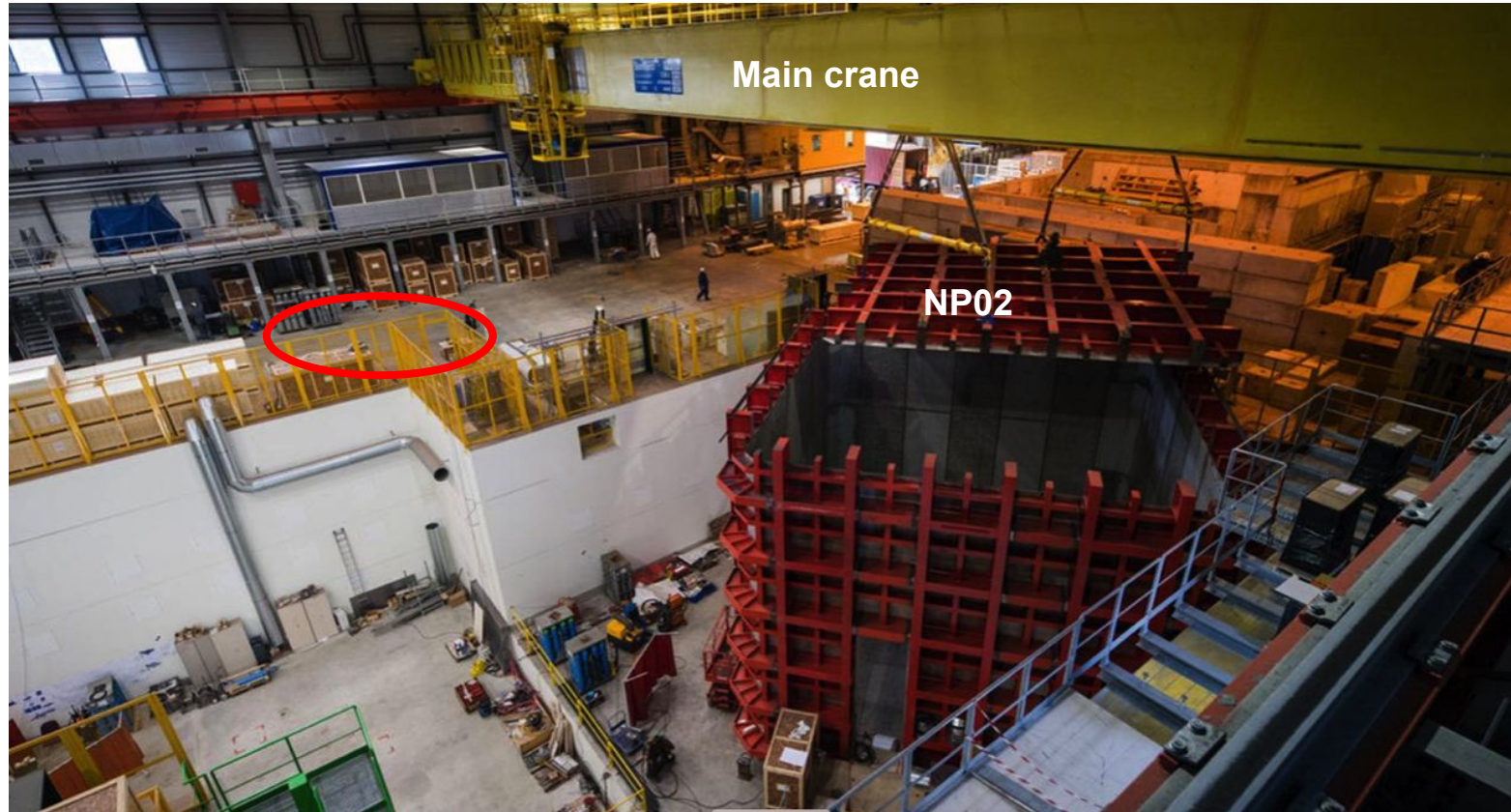
Testing each X-Arapuca with the front-end electronic integrated right before the installation in NP02 (Module-0).

- A total of 16 megacells have to be tested and installed.
- The main test purpose is to check for electronic integration integrity (connections, bias, PoF, SoF...)

Test will be performed in EHN1, using a big dewar with Liquid Argon

Dichroic filters could be not in place to avoid damaging during test.

Location for the setup installation: EHN1 (most likely in front of the PDS room)



Setup:

Dewra: D=70cm, H=122 cm

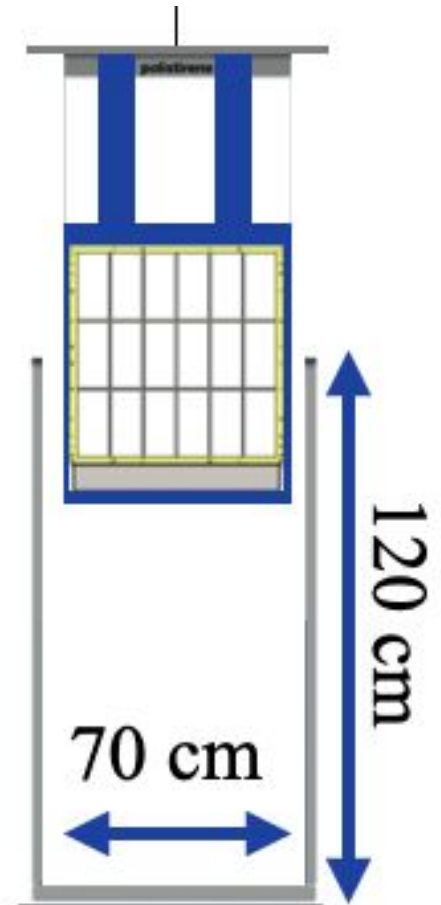
A an holder frame will host the megacell.
Electronic box will be on the bottom side.

The holder frame is fixed to the lid:
Easier movimentation
Minimal stress for cable and fibers.

The lid host electrical and optical feedthrough for the power and redout.

Dewra will have an internal box to reduce the volume of Liquid Argon used.

To avoid condensation megacell will be covered with a sheet and flushed with Gas Nitrogen/Argon



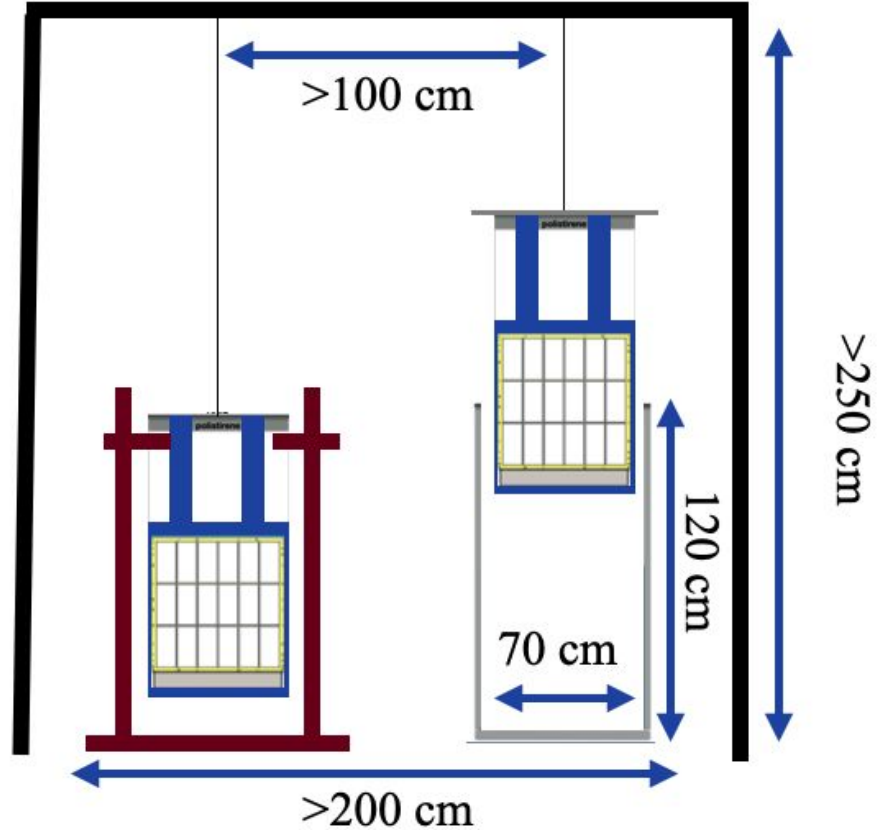
Operation:

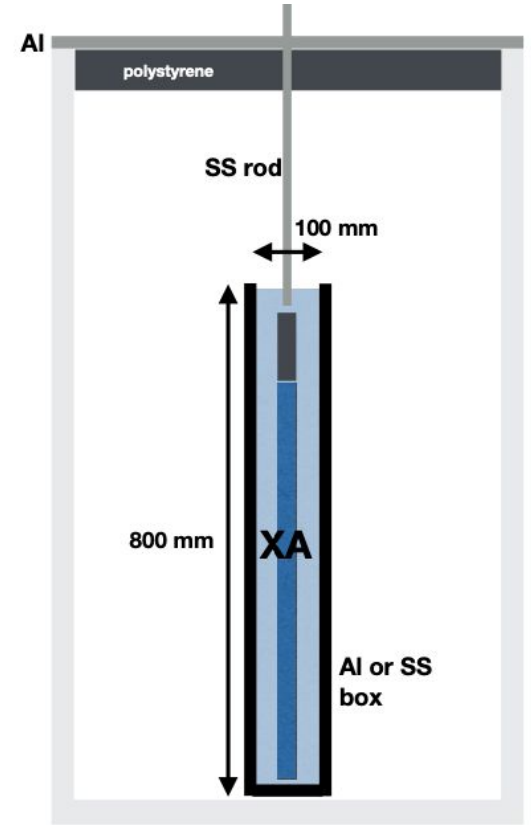
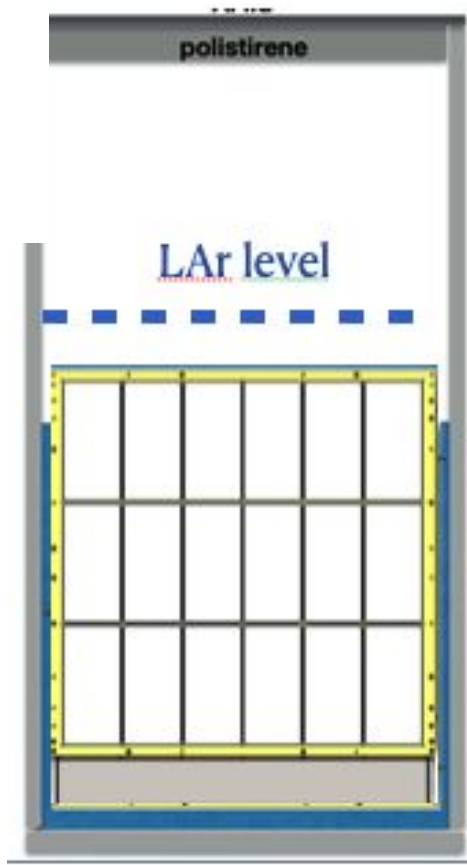
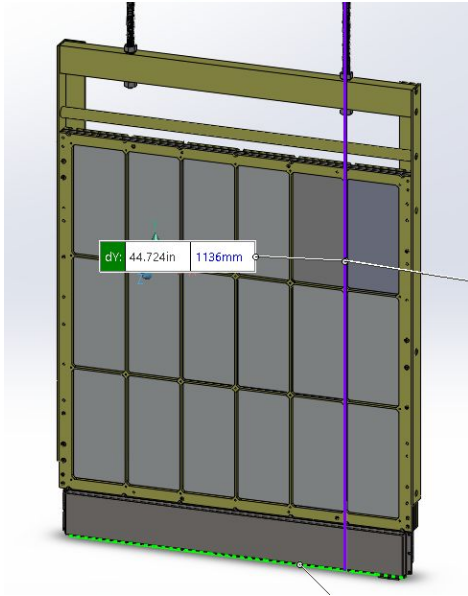
A structure (not yet finalized) with a pulley/trolley to handle the megacell + lid.

Calibration LED will help to check the megacell status.

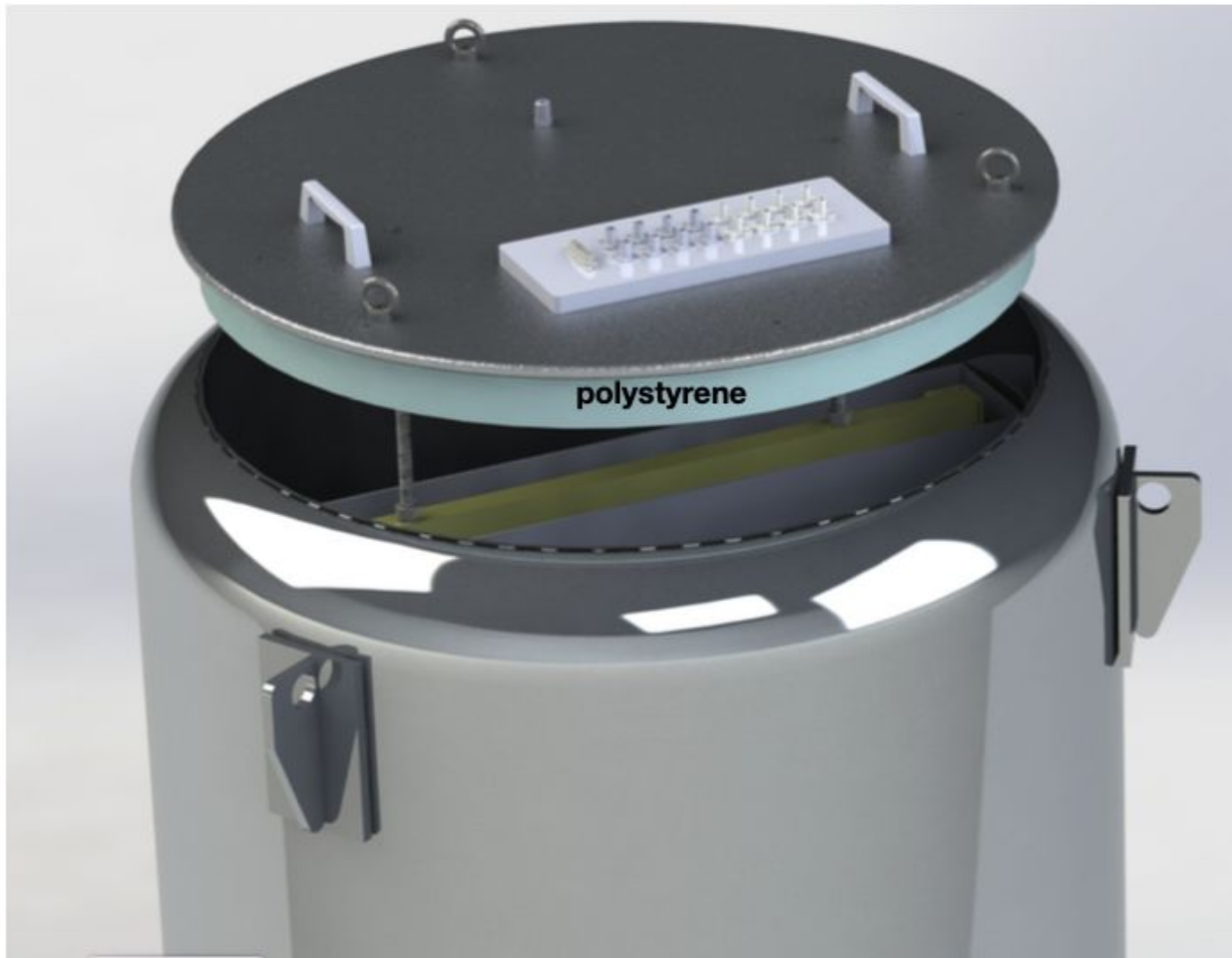
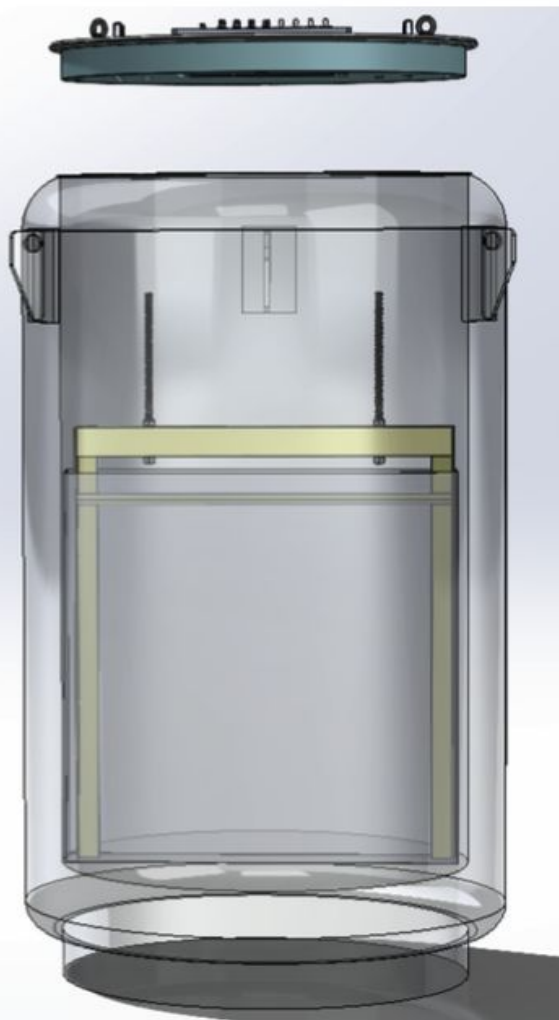
PoF, SoF or copper, will be fully connected, enabling the data readout.

After testing, dichroic filters will be mounted and the megacell will be installed in NP02.





Lid: 12 mm thick AL plate with polystyrene panels below



Feedthroughs:

- SUBD-25:

(for 6 temperature sensors)

- 8 BNC

- 8 FC-FC

- SWK 1/4" for GN2

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