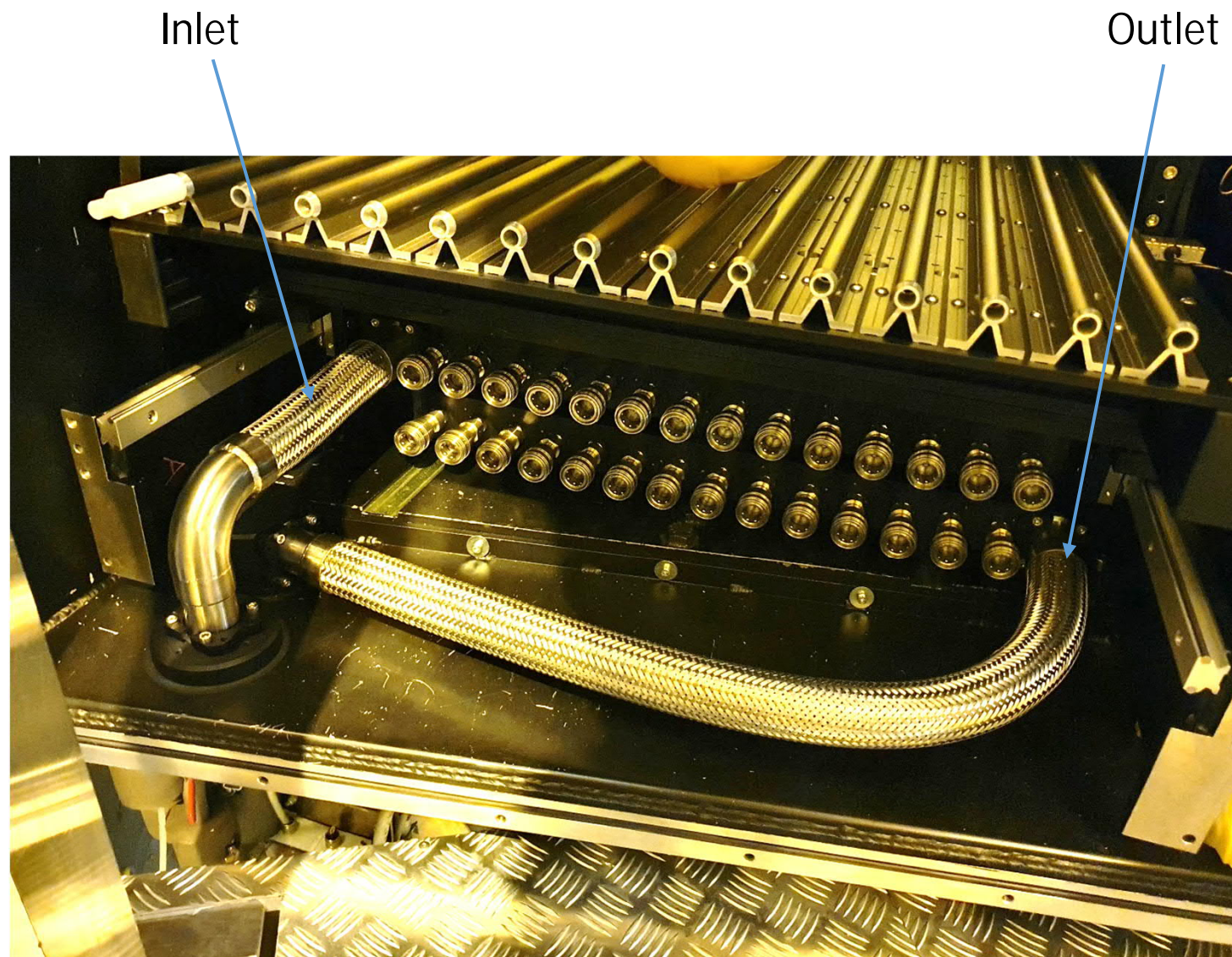




- Replacement of all shut-off Couplings
- Seal test of the manifolds in the lab
- Feedthroughs installed
- Pipes installed

Chiller ready

Transfer lines need to be modified



Transport of the Columns (A Side)



In the commissioning lab



A side:

- 2× Cabinets with 6× Columns
- Customized pallet
- Required stronger beams to lift them up
- Insurance coverage \Rightarrow transported one cabinet by one
- Smooth driving from Meyrin to LHCb pit



Down, in the pit

Column Installation, A Side, Dry Test



Handling Frame for the Column: Cabinet \Rightarrow Rack

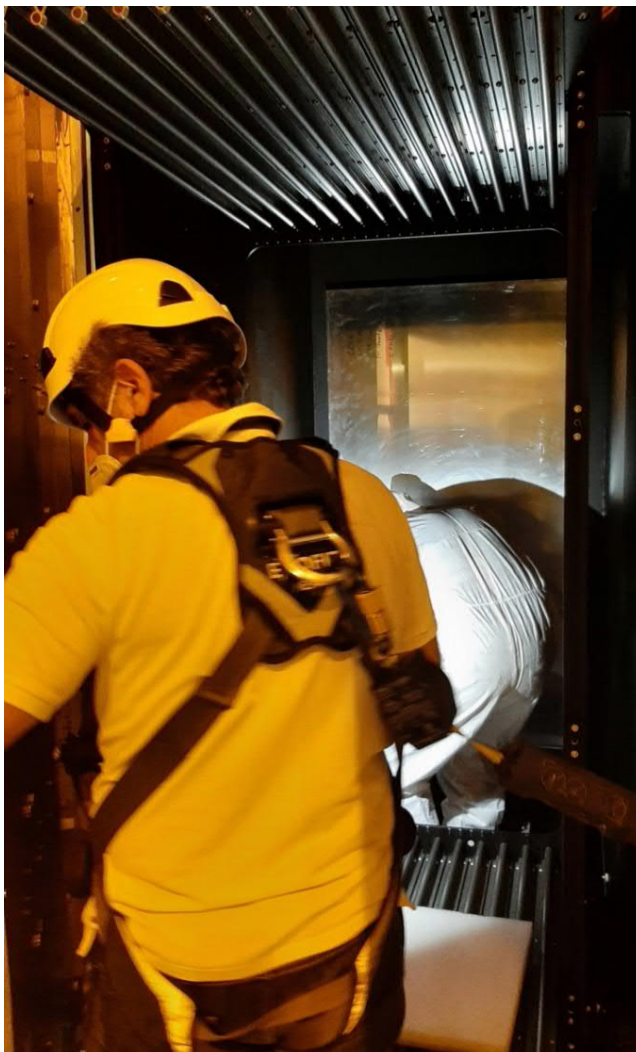


Dry test to check if the Handling Frame fits when the top platform is in place. Need of the “balcony extension” for the Chassis Extension. Use of the “canne à pêche” (which has a adjustable counterweight) Chain of the hook at the limit/against the gantry

Column Installation, A Side (1)



Installation of the
Chassis Extension
Move backward the Rack



Removing the
Quartz Protection



Quartz in good shape!
See the Flat Mirror Array

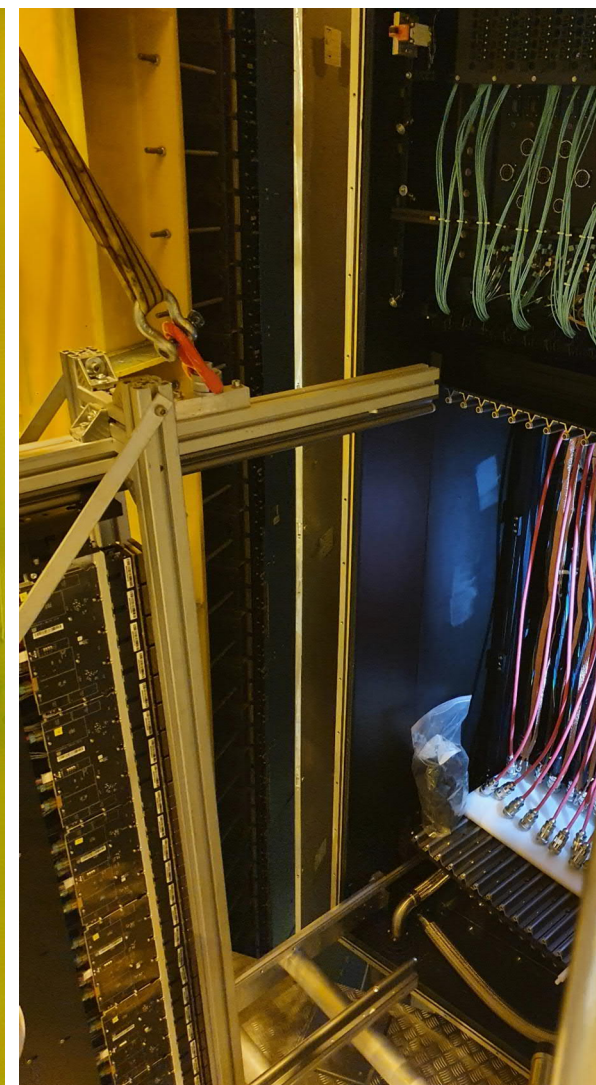
Column Installation, A Side (2)



Transfer from the Cabinet to the Handling Frame

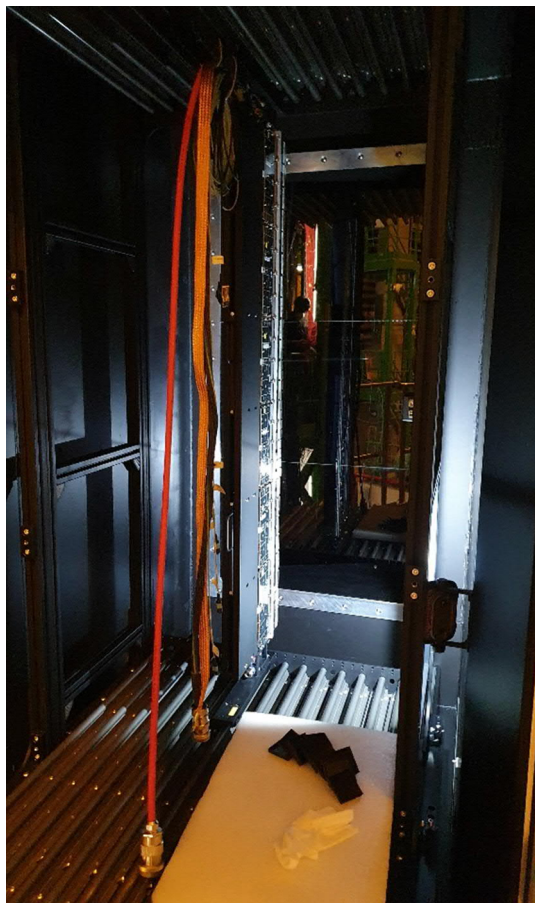


Moving up with the Canne à pêche

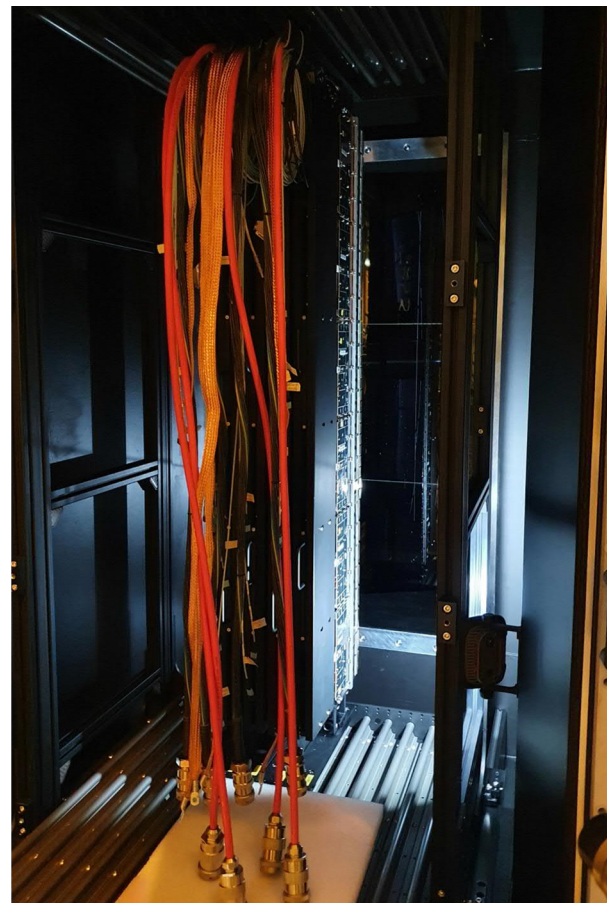
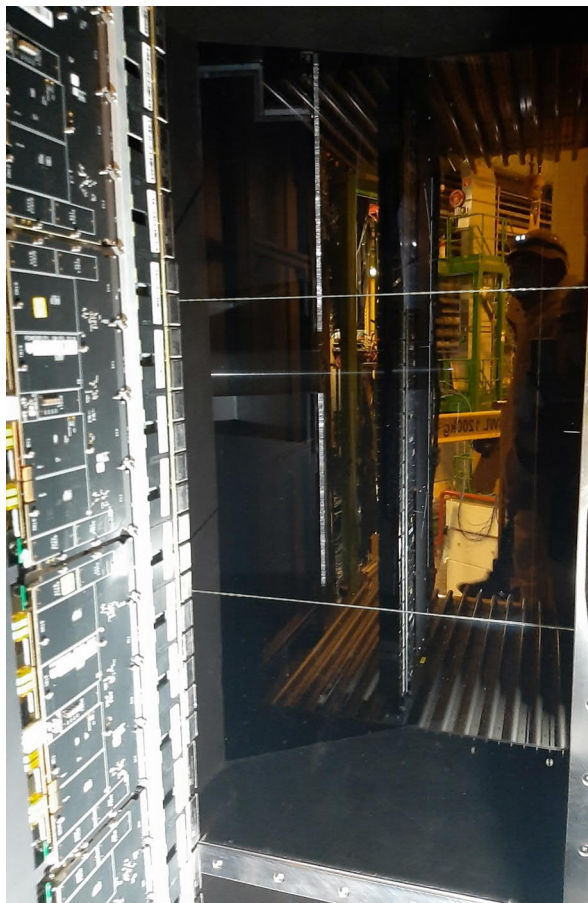


Insertion into the Rack

Column Installation, A Side (3)



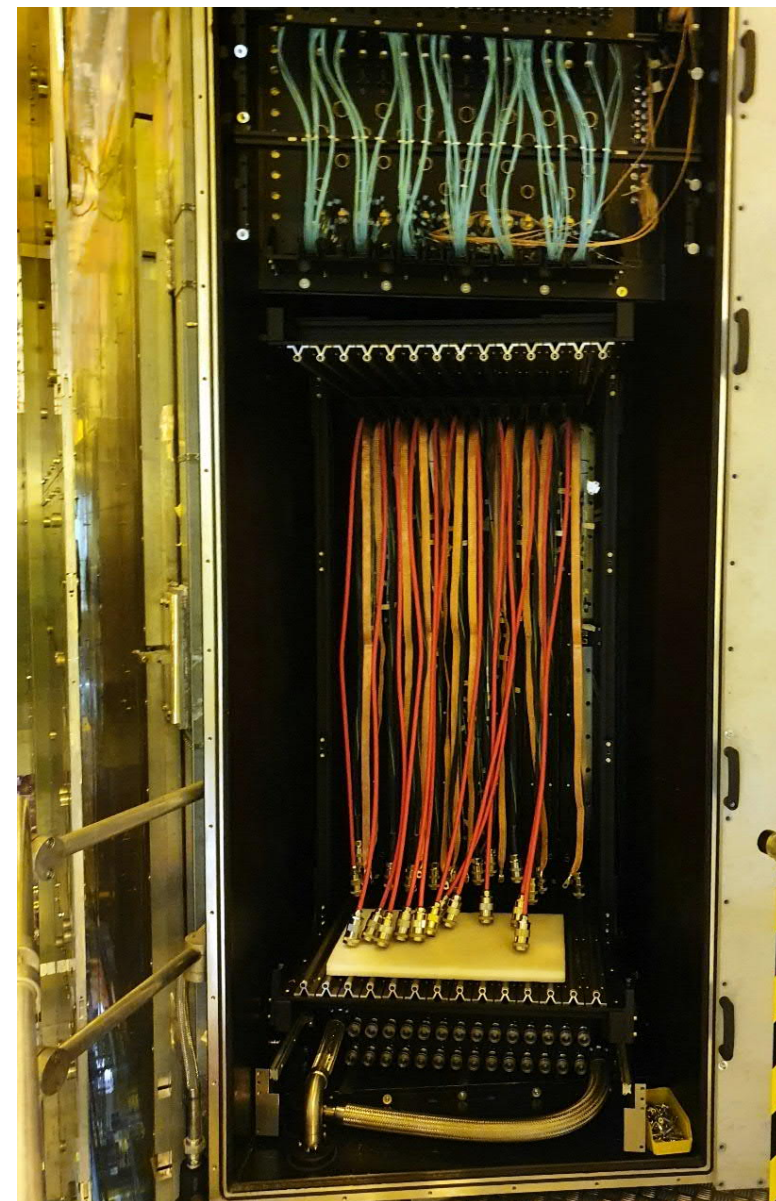
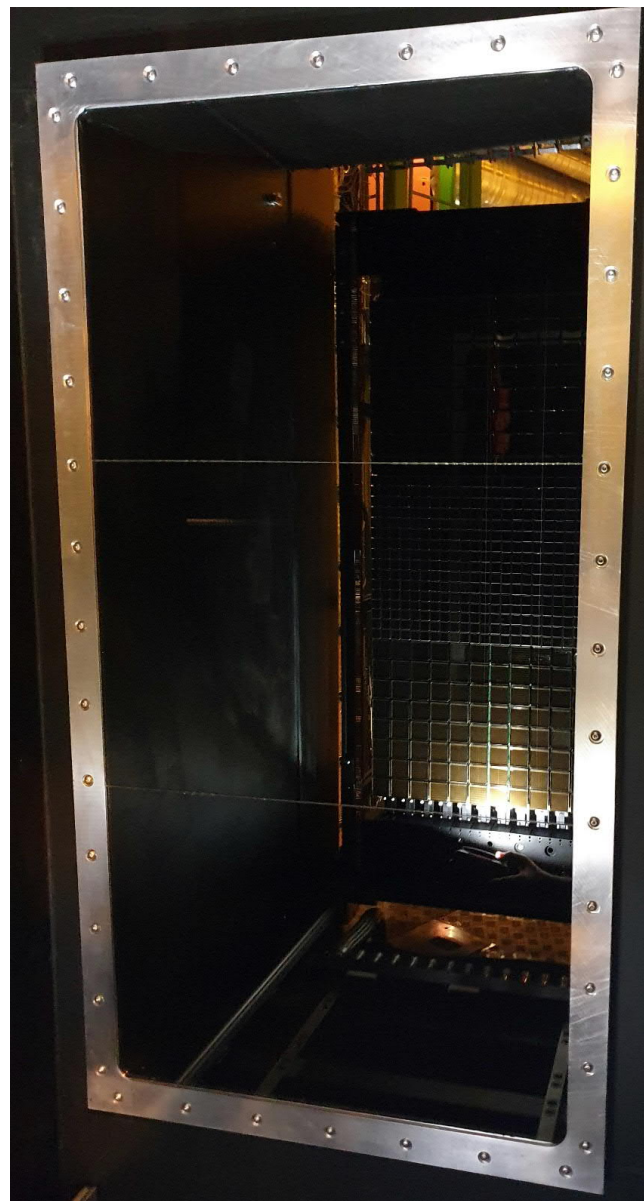
First Column in



Few more



Column Installation, A Side (4)



All Columns in

Look at the MaPMT array

Rack moved in

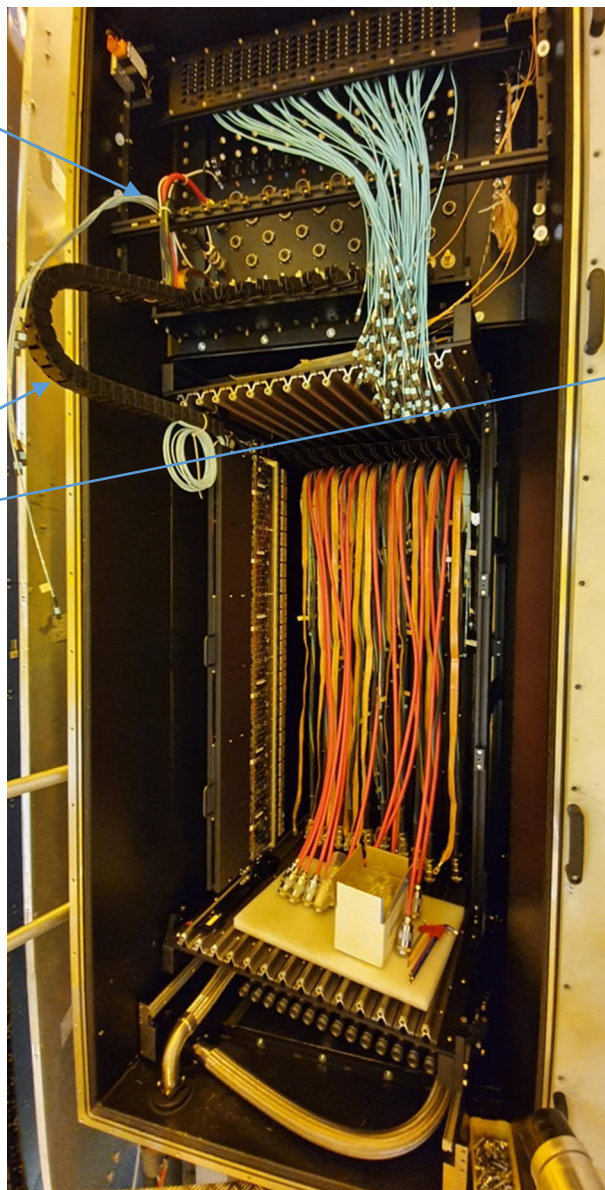
Columns can be extracted directly with the canne à pêche without the Chassis Extension

Sliding of the Column

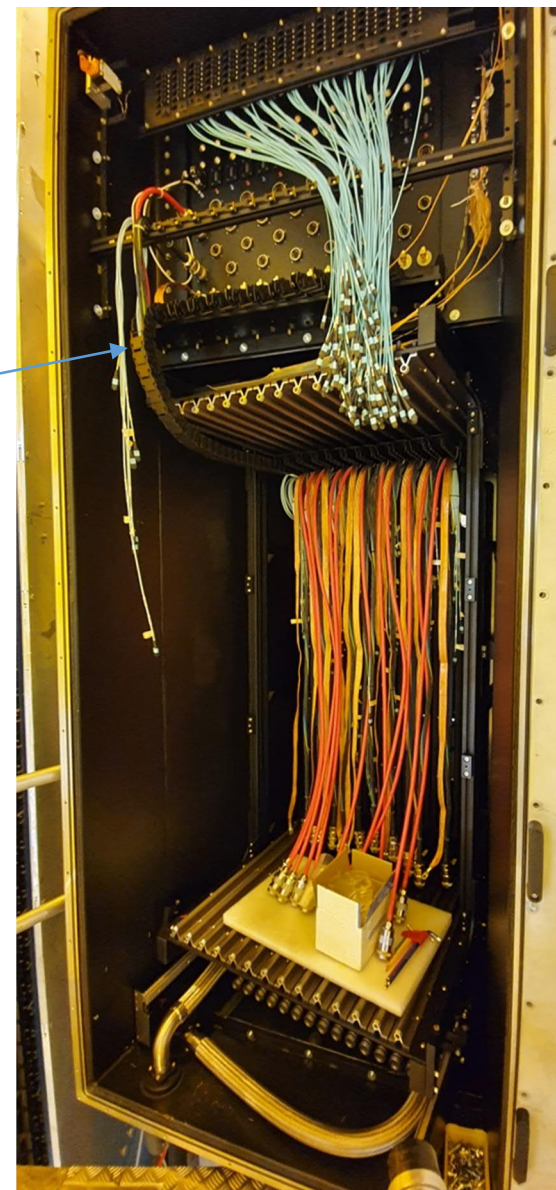
Routing/fixation of the cables coming from the Column

PT100 test with DCS already done

Cable chain



Column out



Column in