ATLAS ITk Lecce

Outcome Genova Meeting

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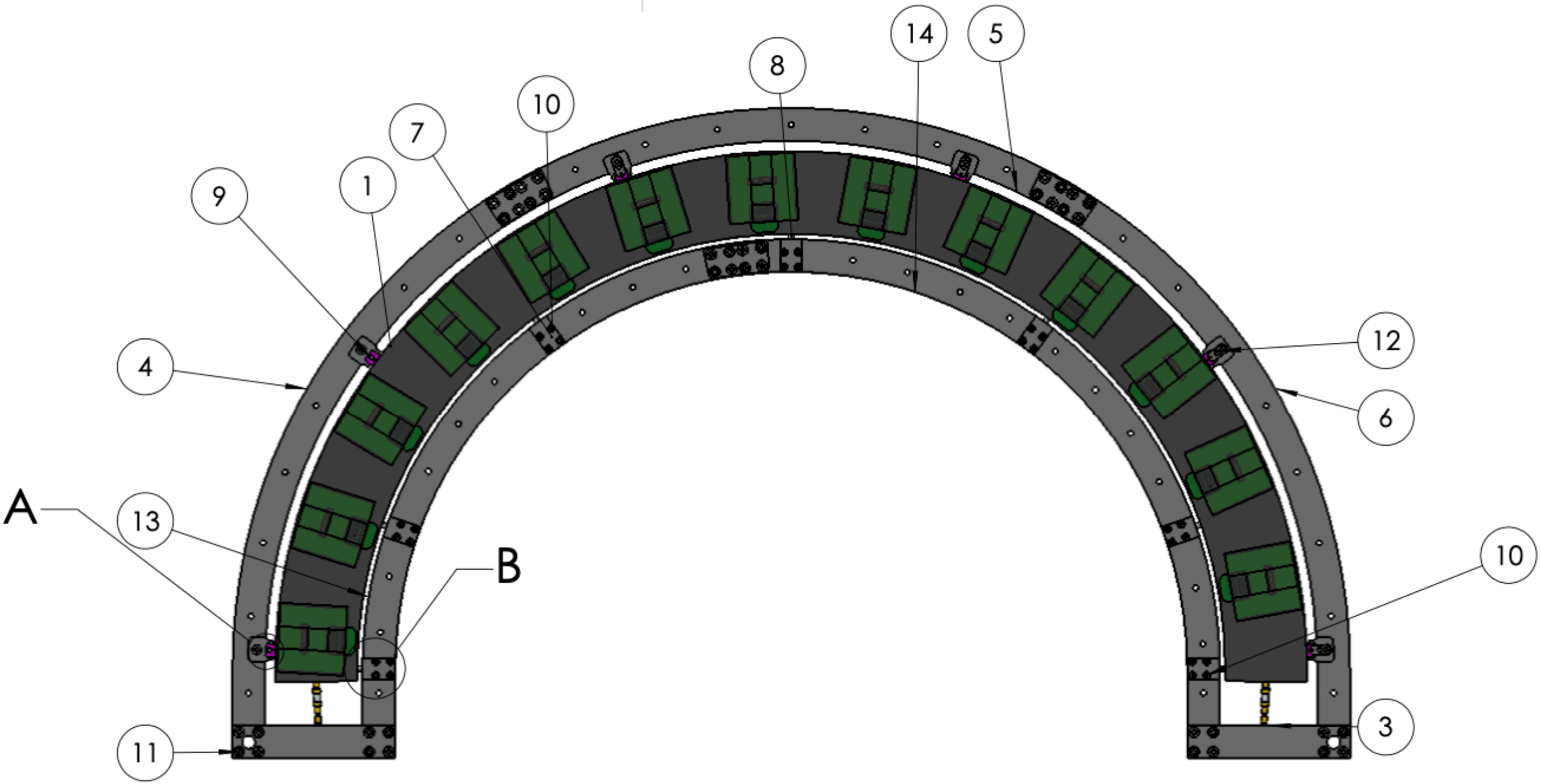
Internal meeting: Nov 30, 2021

Half ring & Handling Frame

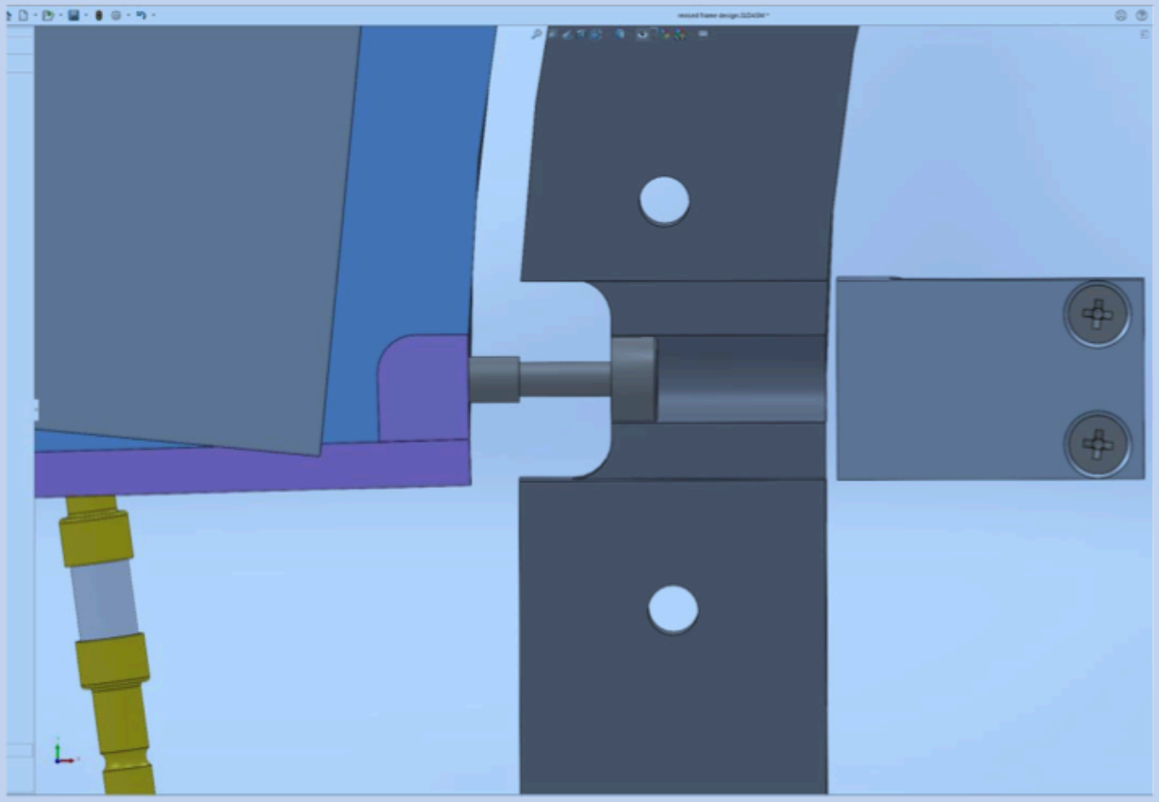
- **Genova showed us how they mounted the Genova outer HR on Lecce outer HF. Old style design.**
- **Genova and Lecce agreed that the HF must follow the HR shape to avoid stress on the HR**
- **What about the HF (and then the HR) on the Gantry breadboard? We decide to decouple problems. This is a Loading problem.**
- **Genova and Lecce agreed that Lecce produce HF, assembly them on a dummy HR and send to Genova. The tolerances should be good enough to handle different HR.**
- **Plan for pre-production with newest HR and HF:**
- **Time scale May 2022**
- **Start with new outer HF (Lecce) and new outer HR (Genova)**
- **Clarification from Liam make us to understand that the new design face exactly our doubts about stress on the HR.**

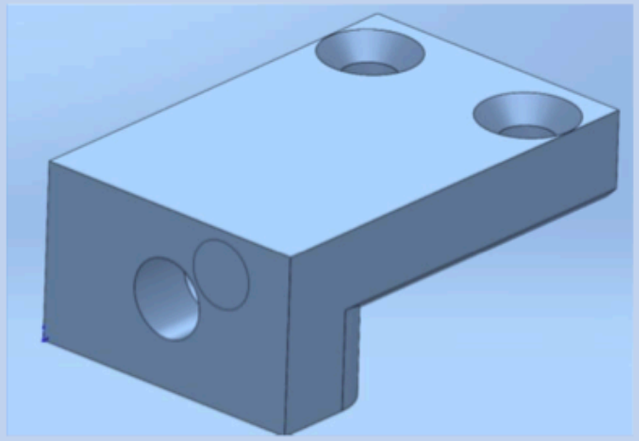
New Handling Frame

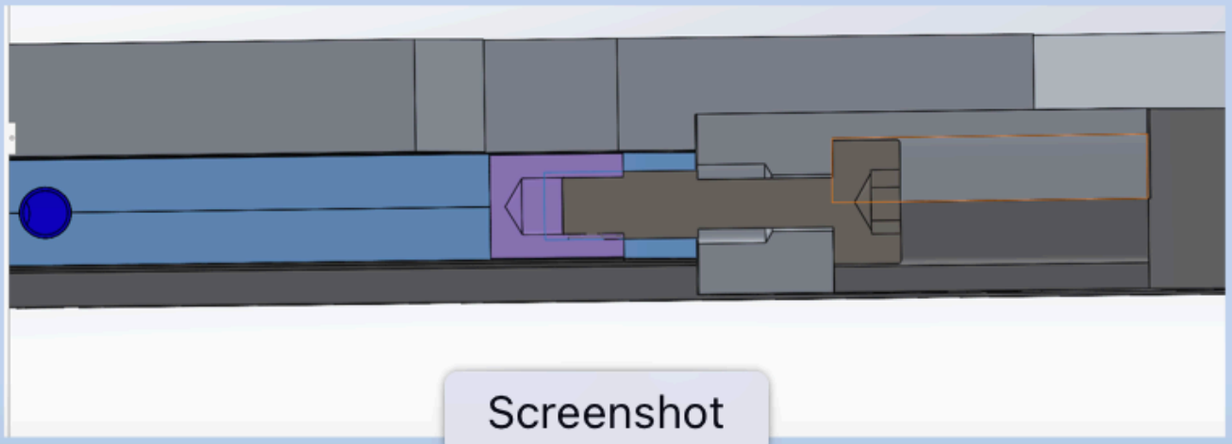


Captive screws

University of Glasgow
Experimental Particle Physics

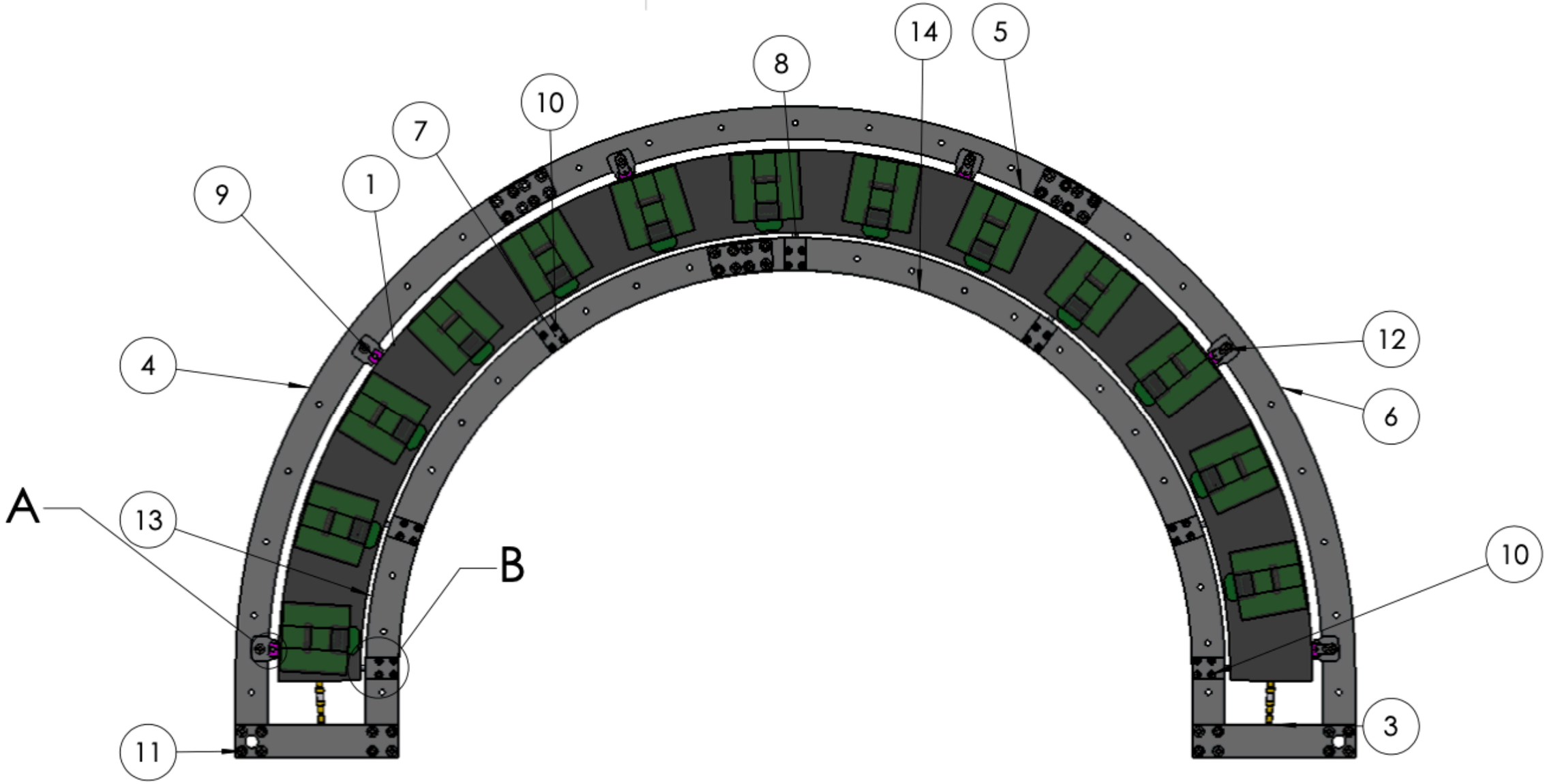






Insert block containing captive screw.
Screws into ring for support and retracts back in to the frame for ring install. This may be less rigid then the previous design

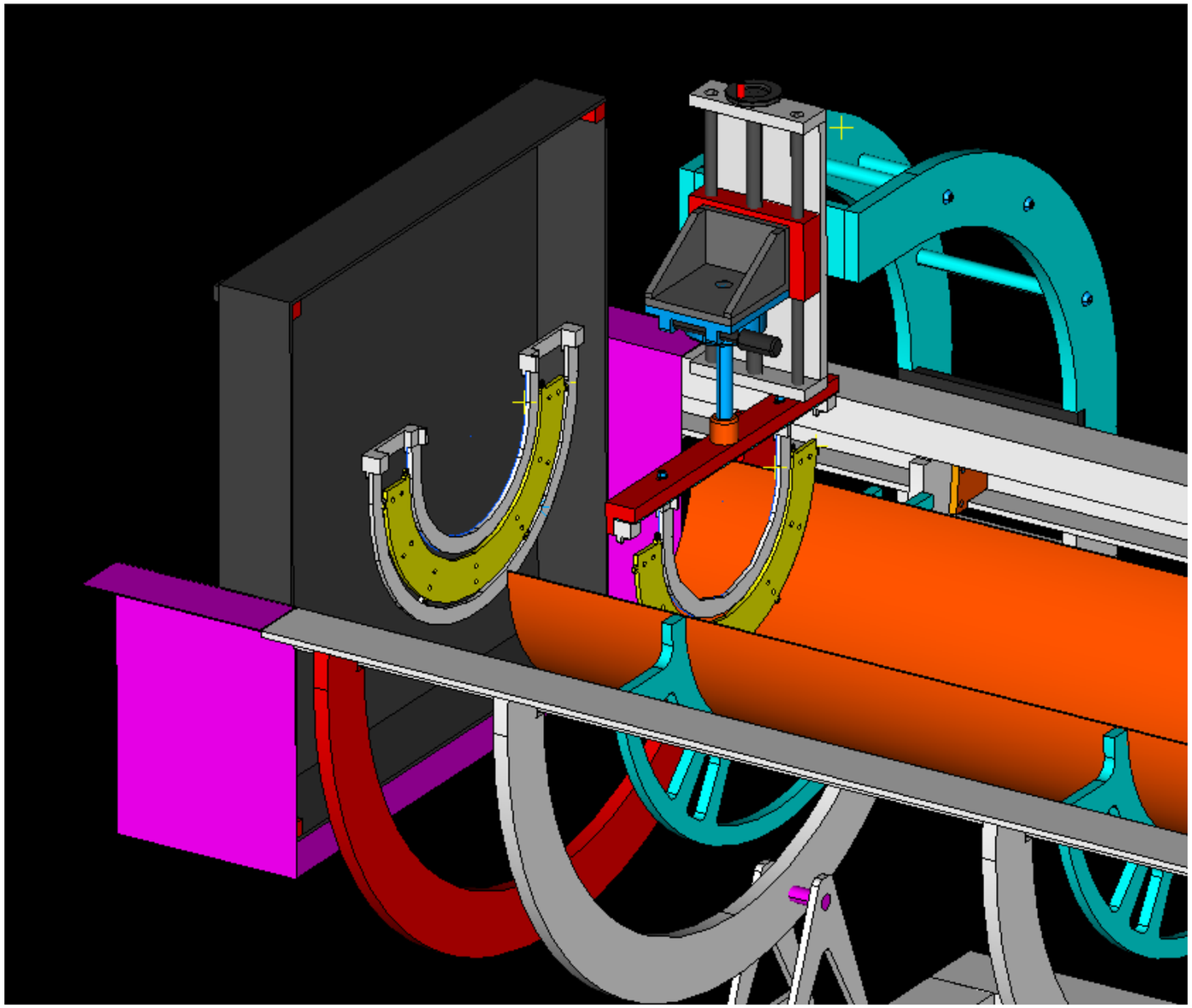
Next step



Build Outer Half Ring from Genova design
Build Outer Handling Frame Inner Radius only, no Outer Radius, no Bases
Verify goodness of the captive screw concept and HF assembly

Half shell integration tool

Dummy Outer HR + Real Outer HF Inner Radius useful for HS integration tool to realize in Lecce and integrate in Frascati at the beginning of next year.



Frascati is waiting the HS integration cradle prototype from factory
Alessandro finalised the purchase of the linear axis to be mounted on the Frascati cradle.

DCS for LLS

Genova is quite advanced in a solution based on:

- **wincc panels <— —> opcseververs**
- **influx database**
- **SP32 board for sensors (similar to Canary board: Arduino like and builtin WiFi)**
- **HV —-> GPIB + Opcserver**
- **LV —-> TPC-IP + Opcserver**
- **Interlock —-> SP32 board**

Lecce:

- **wincc panels <— —> opcseververs**
- **HV —-> GPIB + Opcserver**
- **LV —-> GPIB + Opcserver**
- **ELMB board for sensors + CERN opcserver + Anagate for CAN bus**

Oper items:

- **Serial powering need CAN protocol for MOPS chip**
- **DAQ to DCS**
- **GUI**
- **…**

Testing next steps

- **Flush the BOX with dry air (reached about -46 C DewPoint without armaflex inside the box and USB cable crossing the gasket).**
- **Readout Vaisala Dew Point Sensor with ELMB (better isolated BOX using feed-throw connector)**
- **Insert stainless still cooling lines for MARTA to be used also for water cooling**
- **Move digital quad in the box**
- **Test digital quad in the box**
- **Test bench to develop DCS for Half Ring**