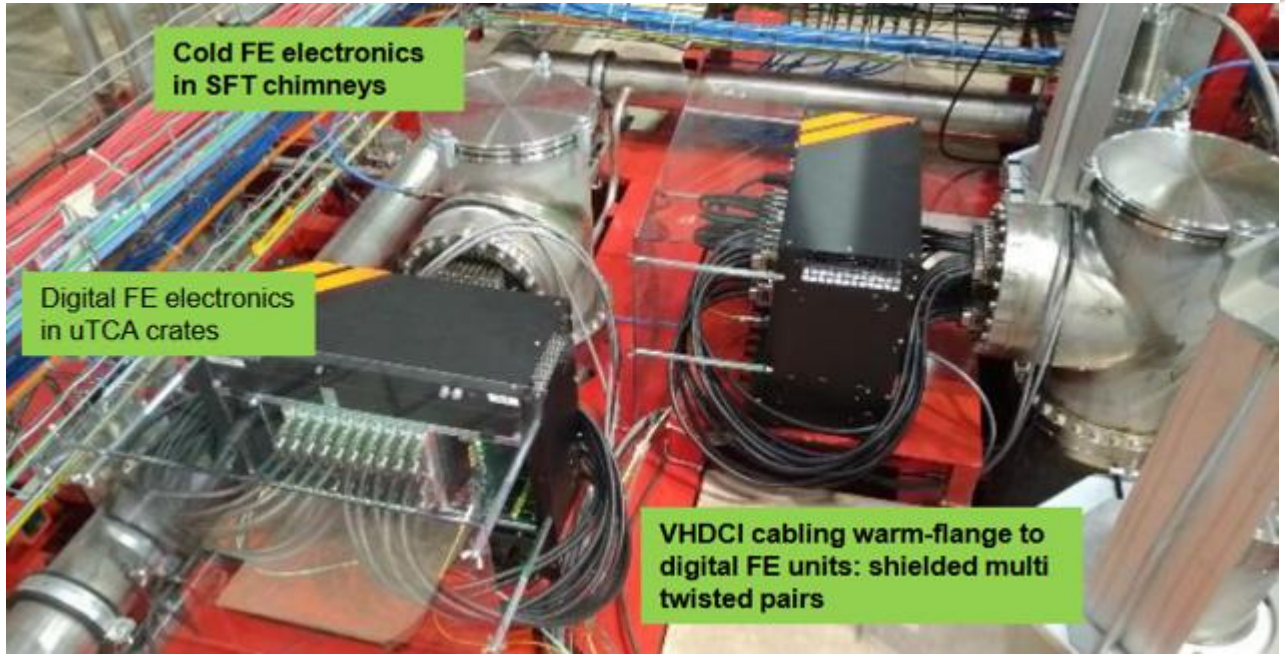
TDE Installation Module-0

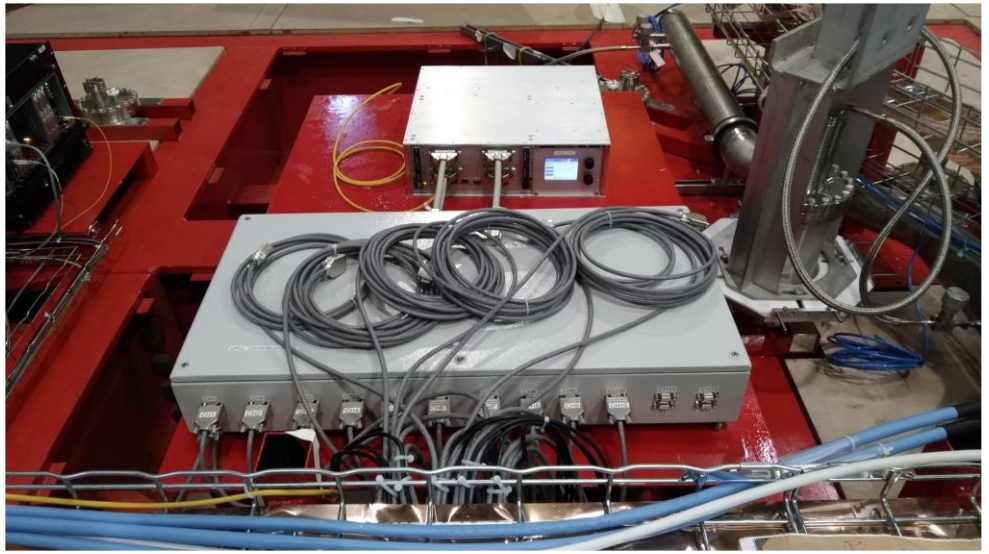
7/9/2022

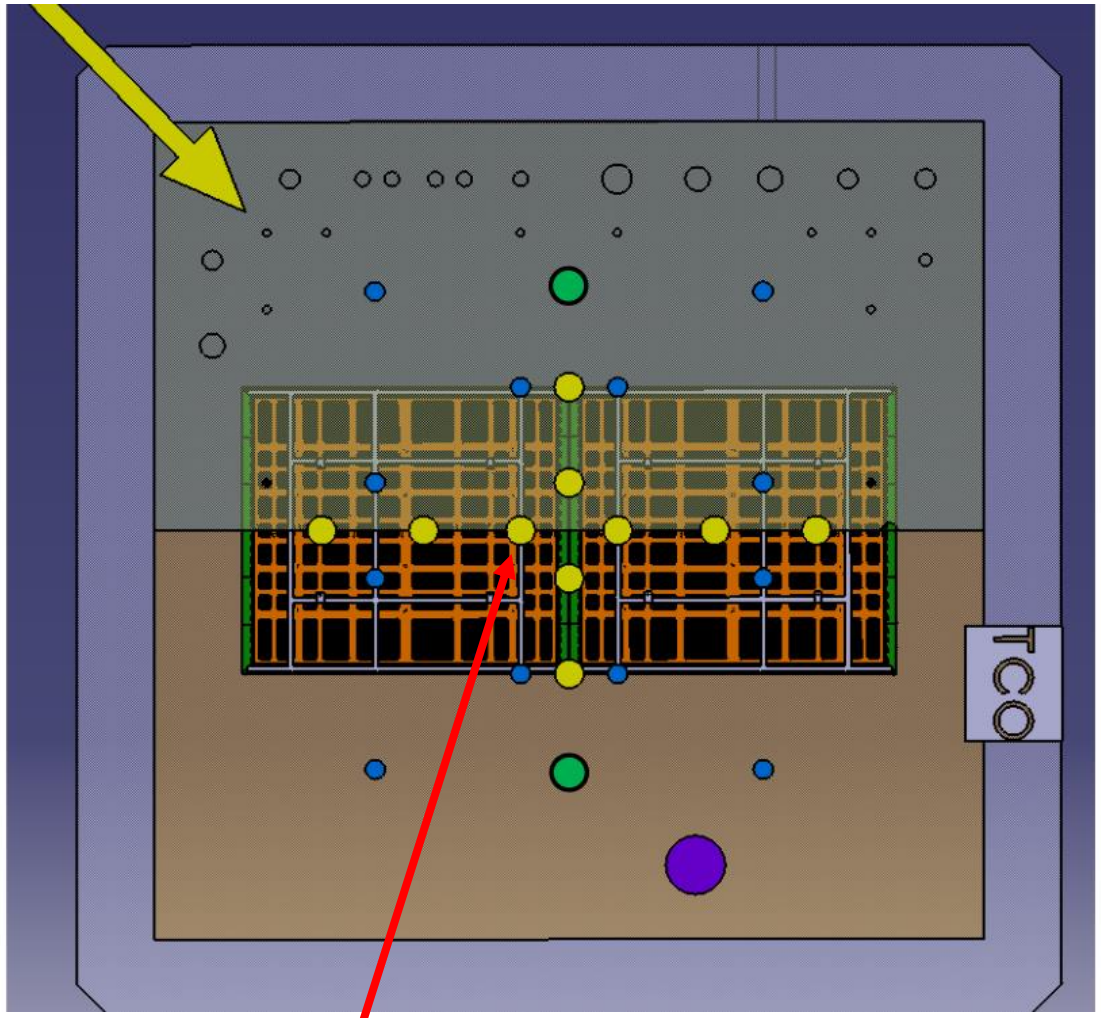
TDE benefits of already used/existing infrastructure on NP02 roof for DP:

- Use of existing chimneys
- uTCA crates
- Power distribution for uTCA
- Use of existing cable trays with cabling to chimneys already in place
- LV generation/distribution system
- White Rabbit distribution fibers already cabled

Pictures from current installation in NP02



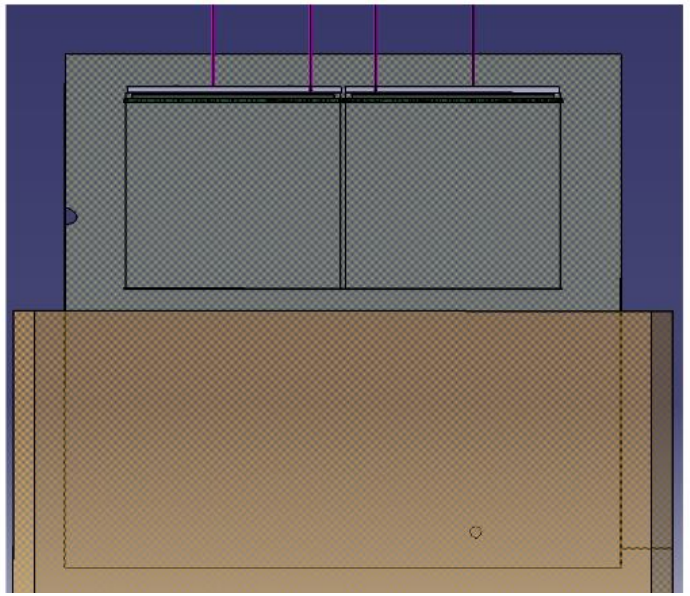




SPFT (SusPension FeedThrough)

SGFT (SiGnal FeedThrough)

From Nicolas presentation



SGFT, existing chimneys, 10 chimneys re-used for the two top-drift CRPs
Nicolas already discussed inner cabling scheme last time

Modification for 40 Gbit data connectivity of uTCA:

- Replace the MCHs from 10 Gbit to 40 Gbit version in the 10 already in place uTCA crates
- **Move the two existing 40 Gbit trunk cables (each one supporting a CRP) + patch panels from the cold-box and the Faraday cage** to the NP02 roof
- Re-cable the 40 Gbit/s patch cables from uTCA crates to patch panels

→ To be understood when to do it since it will make the other two installations on CB and FC un-exploitable

The rest of the re-installation is well defined (blades in chimneys + uTCA) and copying what is already functional

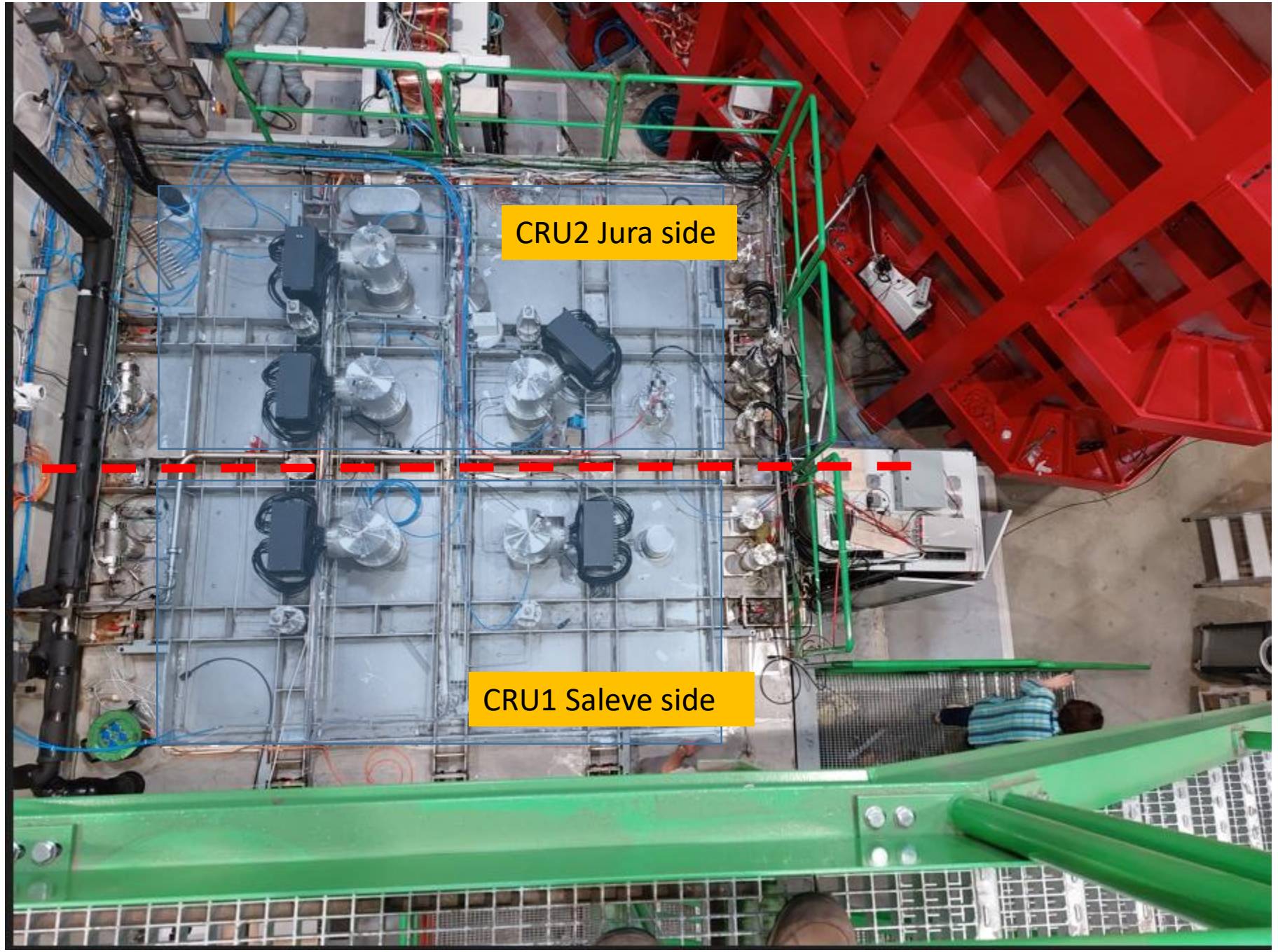
- Replace FE cards on blades with the VD version
- Replace AMC cards in the existing uTCA crates with the VD version

Possible interferences with new layout:
-Be careful not do damage already deployed material in cable trays with other installations or some possible heavy work - Check current crate positions around existing chimneys with respect to new material on the roof.

→ Inspection foreseen with Filippo in order to detect possible interferences with respect to additional material to be installed by other systems and protect already installed stuff where necessary

All installation is handled from outside the cryostat and it corresponds to about twice the work routinely done, for instance for the installation of CRP2 during the July test (see pictures in following slides)

TDE readout system with 5 chimneys/crates fully installed on CB roof with CRP2 on the Faraday Cage (24/6)



Top view of the cold box roof for CRP2 TDE readout (5 chimneys/uTCA crates)

New strips orientation and CRP layout:

- CRP1 TDE-CRU

CRU was going from Saleve to Jura (90 degrees from actual CRUs in CRP2)

- CRP2 full-top (2 TDE CRUs):

CRU1 completely on Saleve side
CRU2 completely on Jura side