



HL-LHC Integration Study

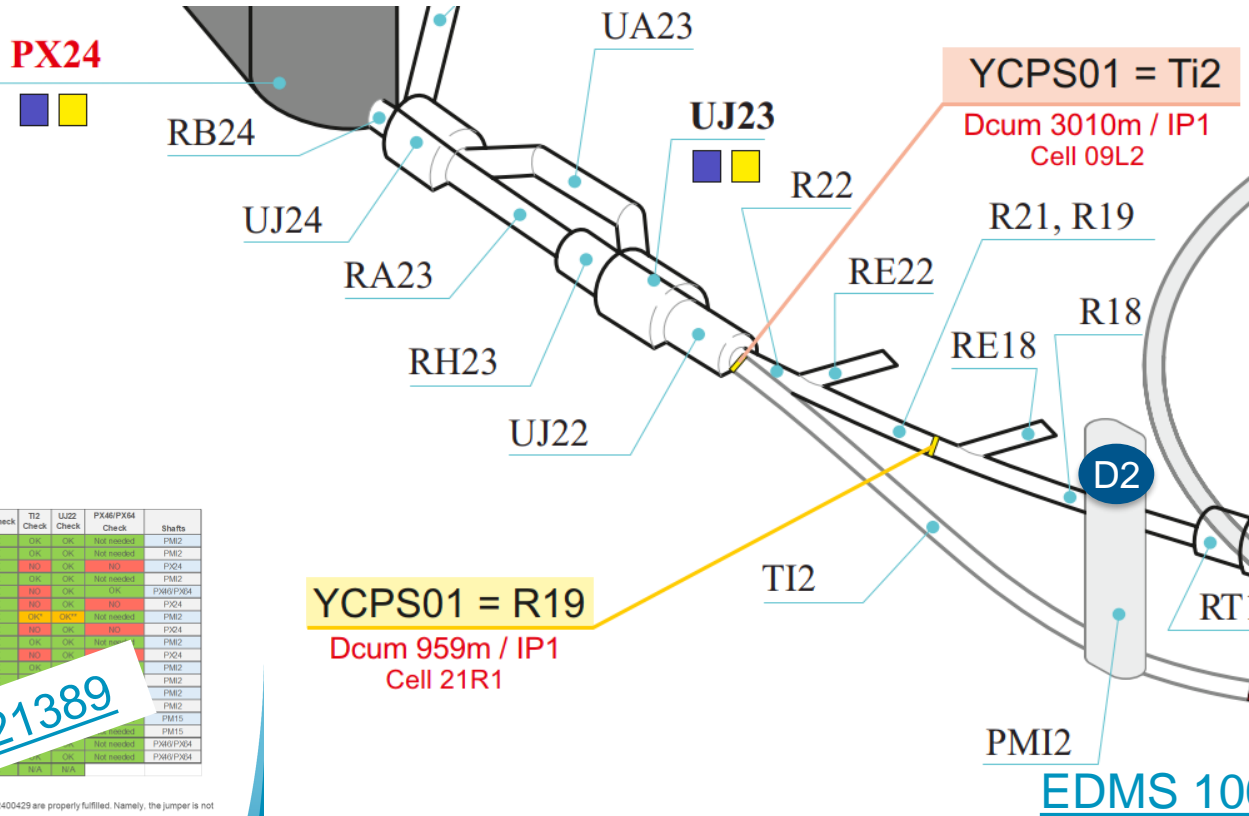
Status of D2 installation procedure

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12/11/2021

Path of D2 in the LHC Underground System

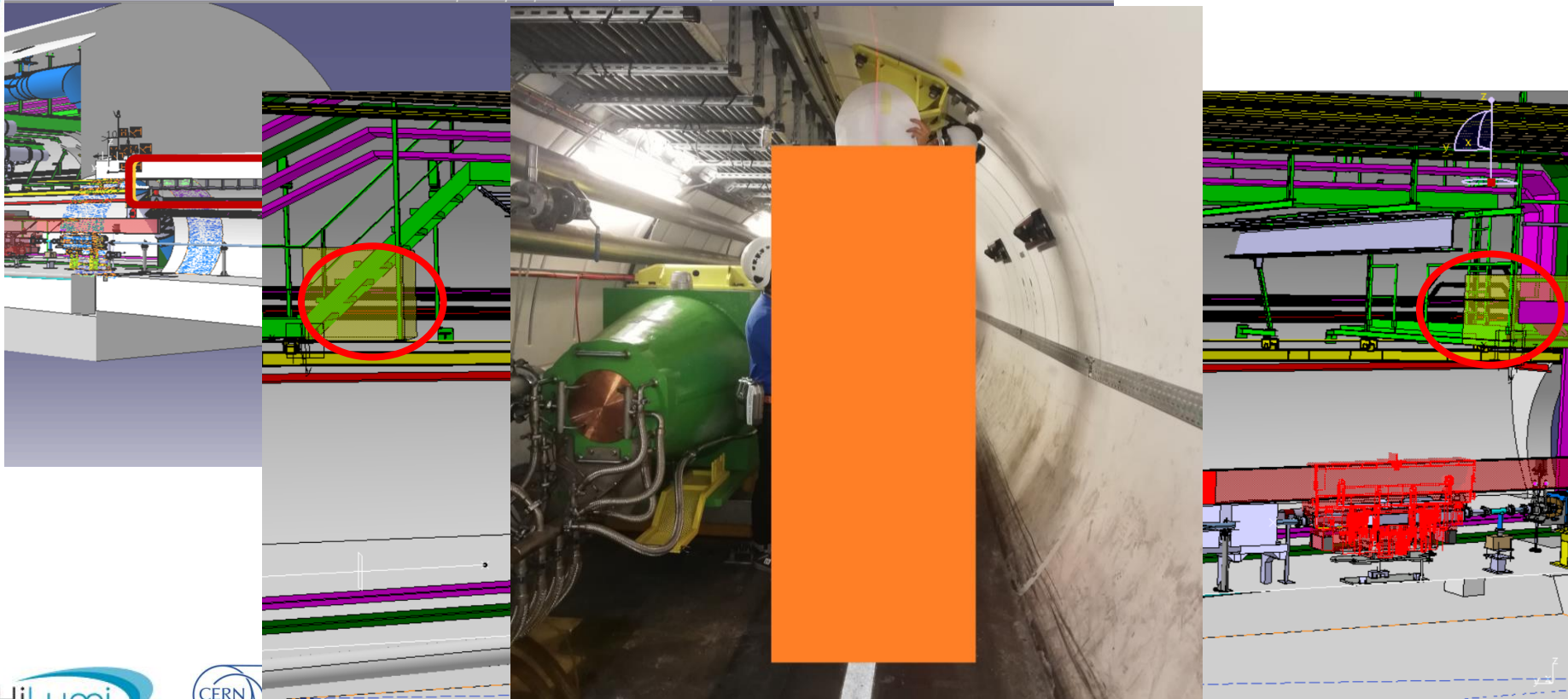


List of Hi Lumi magnets

Magnets	Qty	Weight (t)	Length (mm)	Height (mm)	LHC Check	Ti2 Check	UJ22 Check	PX46/PX04 Check	Shifts
Q1	4	21	11502	1389	OK	OK	OK	Not needed	PM2
G2A	4	19	10795	1389	OK	OK	OK	Not needed	PM2
G2B	4	19	10795	1674.5	OK	NO	OK	NO	PX04
Q3	4	21	11110	1389	OK	OK	OK	Not needed	PM2
Connector P	4	16	7664	1674.5	OK	NO	OK	OK	PX06/PX04
D1	4	16	9600	1674.5	OK	NO	OK	NO	PX04
D2	4	30	15043	1812	OK	OK	OK	Not needed	PM2
Q4 - P1***	2	15	10106	1686	OK	NO	OK	NO	PX04
Q4 - P5***	2	15	10106	1500	OK	OK	OK	Not needed	PM2
Q5 - P1	2	12	9508	1780	OK	NO	OK	NO	PX04
Q5 - P5	2	12	9508	1500	OK	NO	OK	NO	PM2
Q10	4	11	8897	1080	OK	OK	OK	Not needed	PM2
T11 type A	2	13	7511	1220	OK	OK	OK	Not needed	PM2
T11 type B	2	13	7517	1220	OK	OK	OK	Not needed	PM2
OC HL type A - P1	1	3.9	6100	1674.5	OK	OK	OK	Not needed	PM15
OC HL type B - P1	1	3.9	6100	1674.5	OK	OK	OK	Not needed	PM15
OC HL type A - P5	1	3.9	6100	1674.5	OK	OK	OK	Not needed	PM15
OC HL type B - P5	1	3.9	6100	1674.5	OK	OK	OK	Not needed	PM15

* D2, ... conditions listed in EDMS 2400429 are properly fulfilled. Namely, the jumper is not oriented ... (see slide 5).
 ** UJ22 needs to be modified, as previously discussed, to allow this operation (see slide 7).
 *** Q4 3 ... levels need to be provided as soon as possible.
 NOTE: New HL-LHC magnets, fed by GXL, in point 5 and point 1 have been considered having a jumper of the same height, in accordance with: <https://cds.cern.ch/document/2278362/1>.

Previous assumptions on the MCEW Version 0.9

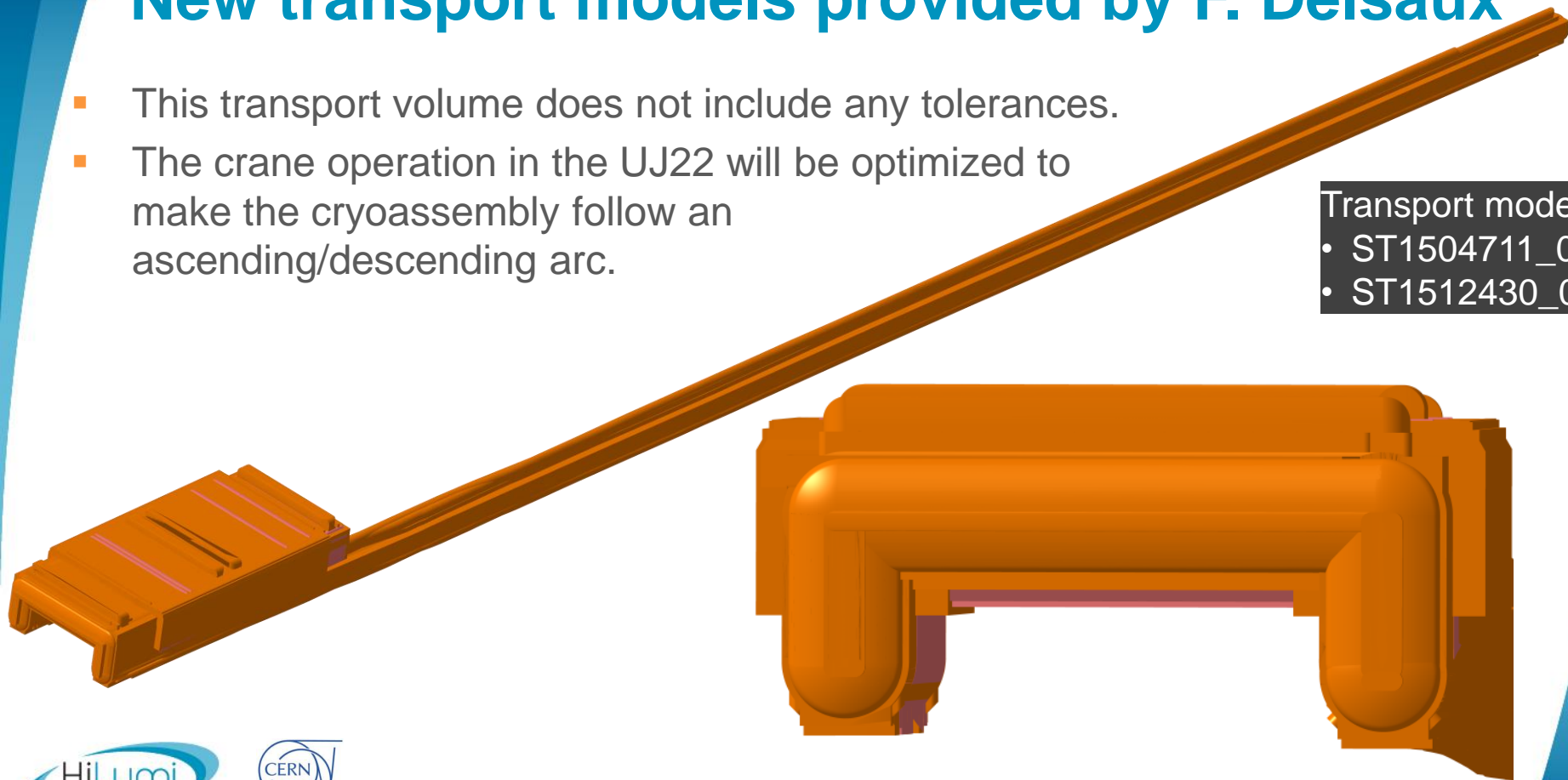


New transport models provided by F. Delsaux

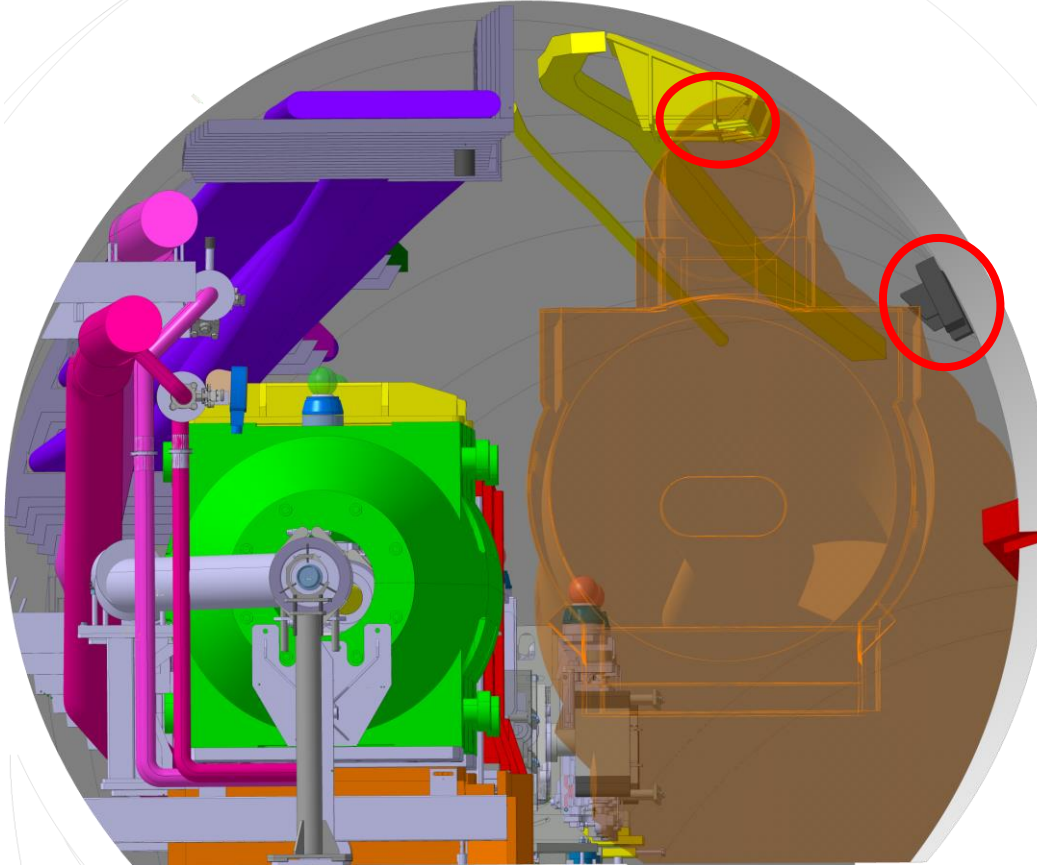
- This transport volume does not include any tolerances.
- The crane operation in the UJ22 will be optimized to make the cryoassembly follow an ascending/descending arc.

Transport models:

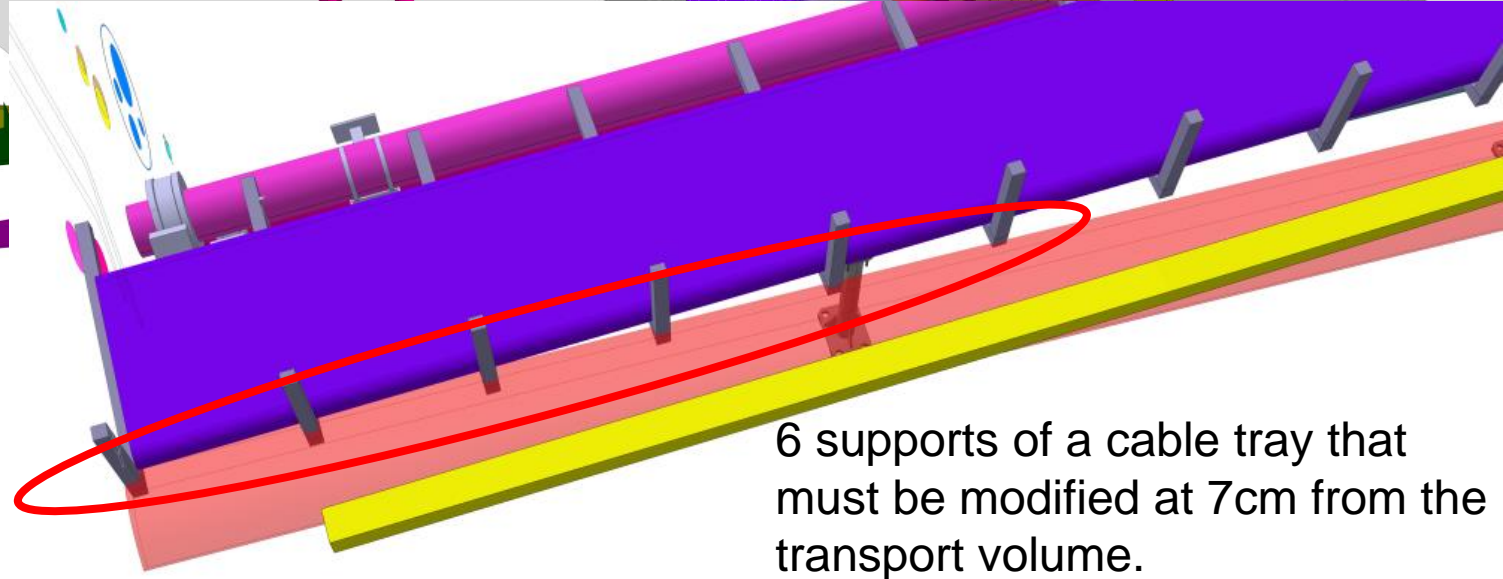
- ST1504711_01
- ST1512430_01



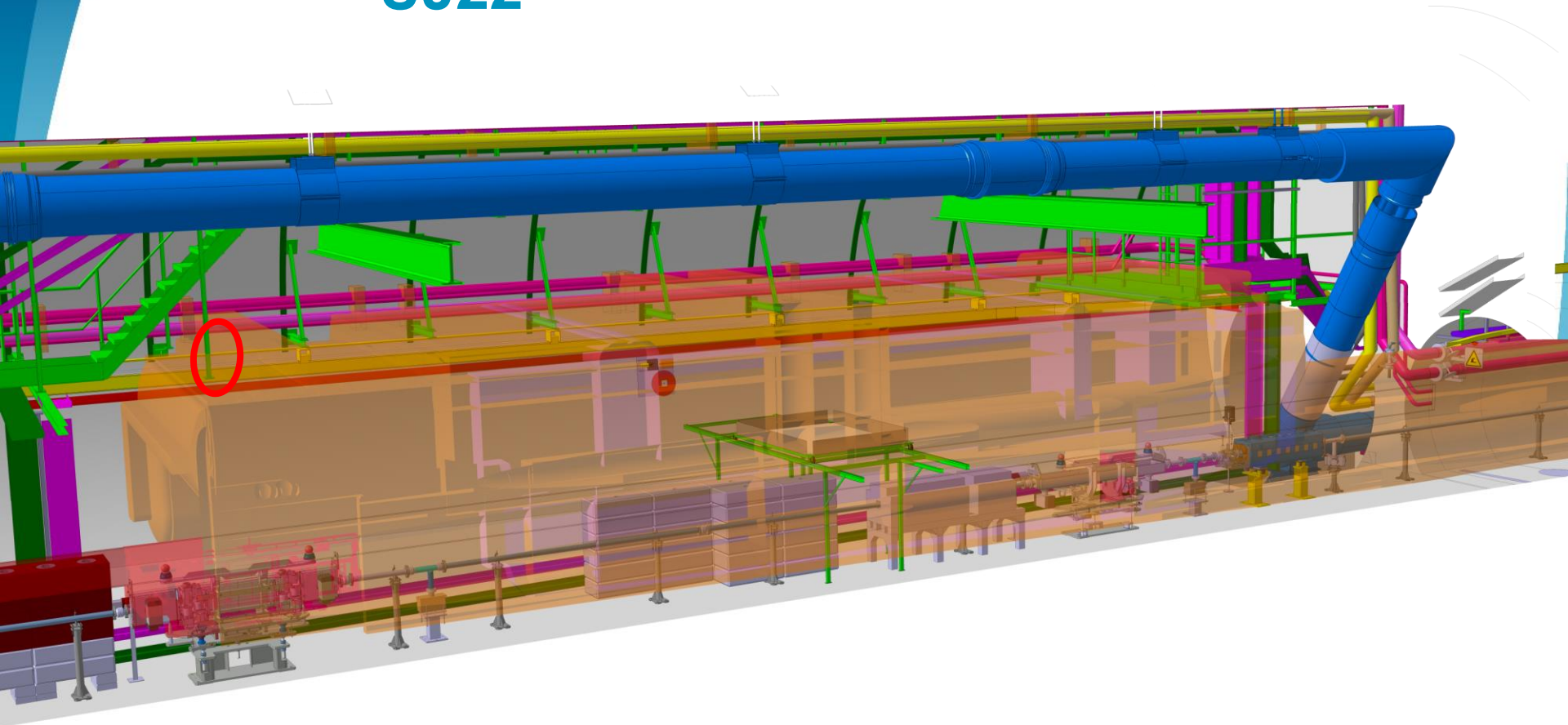
TED area in TI2



Interface UJ22 - TI2



UJ22



Conclusion

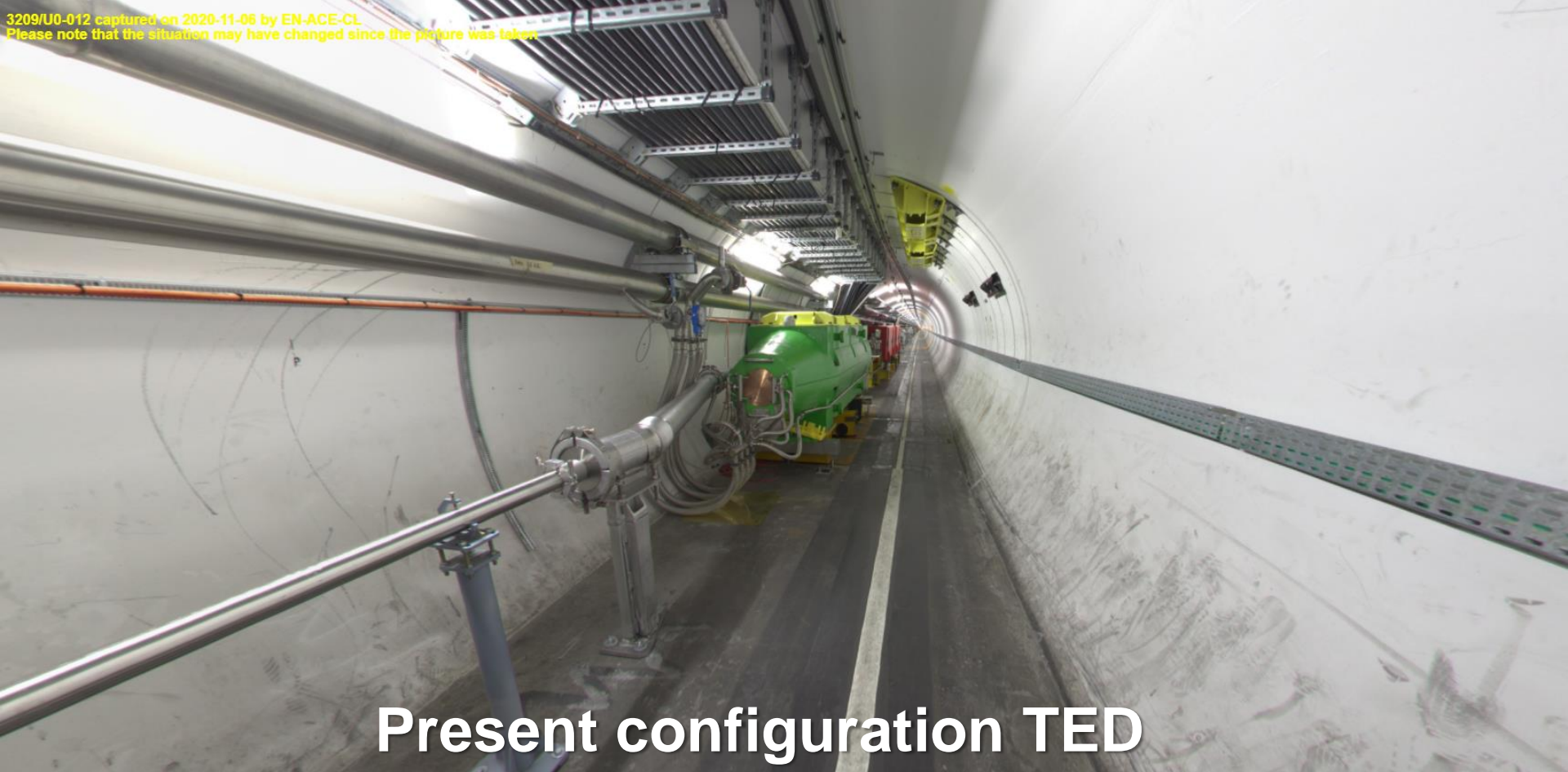
- The amount of work for the SCE team was significantly reduced.
- It is asked that all the models that were updated according to the scans and checked by me are set to “Valid for Integration”.
- The MCEW6 ([EDMS 2609399](#)) document will trace the full extent of works necessary to allow the transport of D2 to happen:
 - TED lifting structures (yellow and black)
 - 6 supports of a cable tray to be modified
 - Vertical beam below the stairs



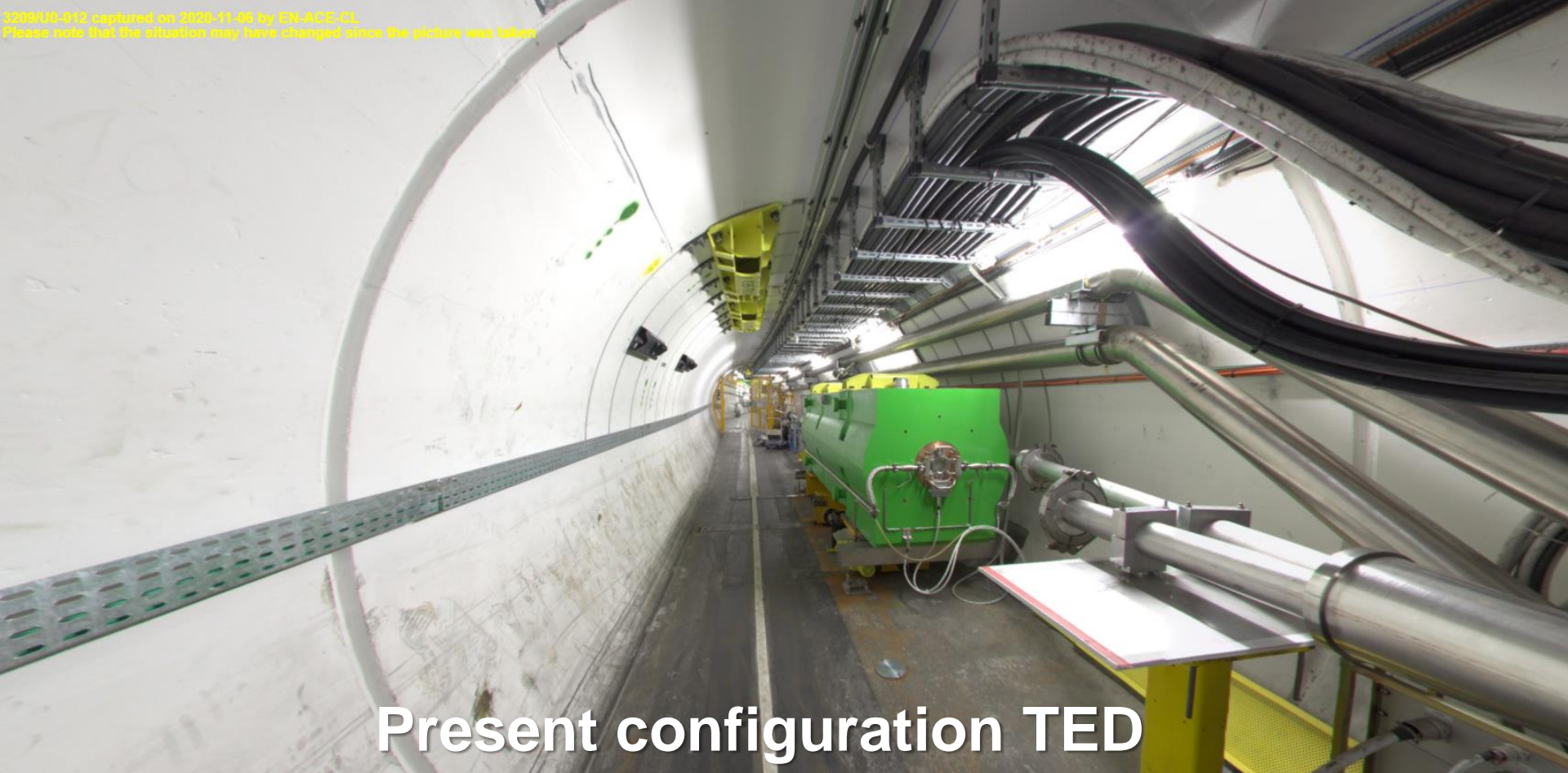
Thank you for your time.



“Strive not to be a success, but rather to be of value.” – Albert Einstein



Present configuration TED



Present configuration TED

Wall pocket to fit the support beams

