

LS2 planning meeting

A.Tauro



Reminder about on-site activities

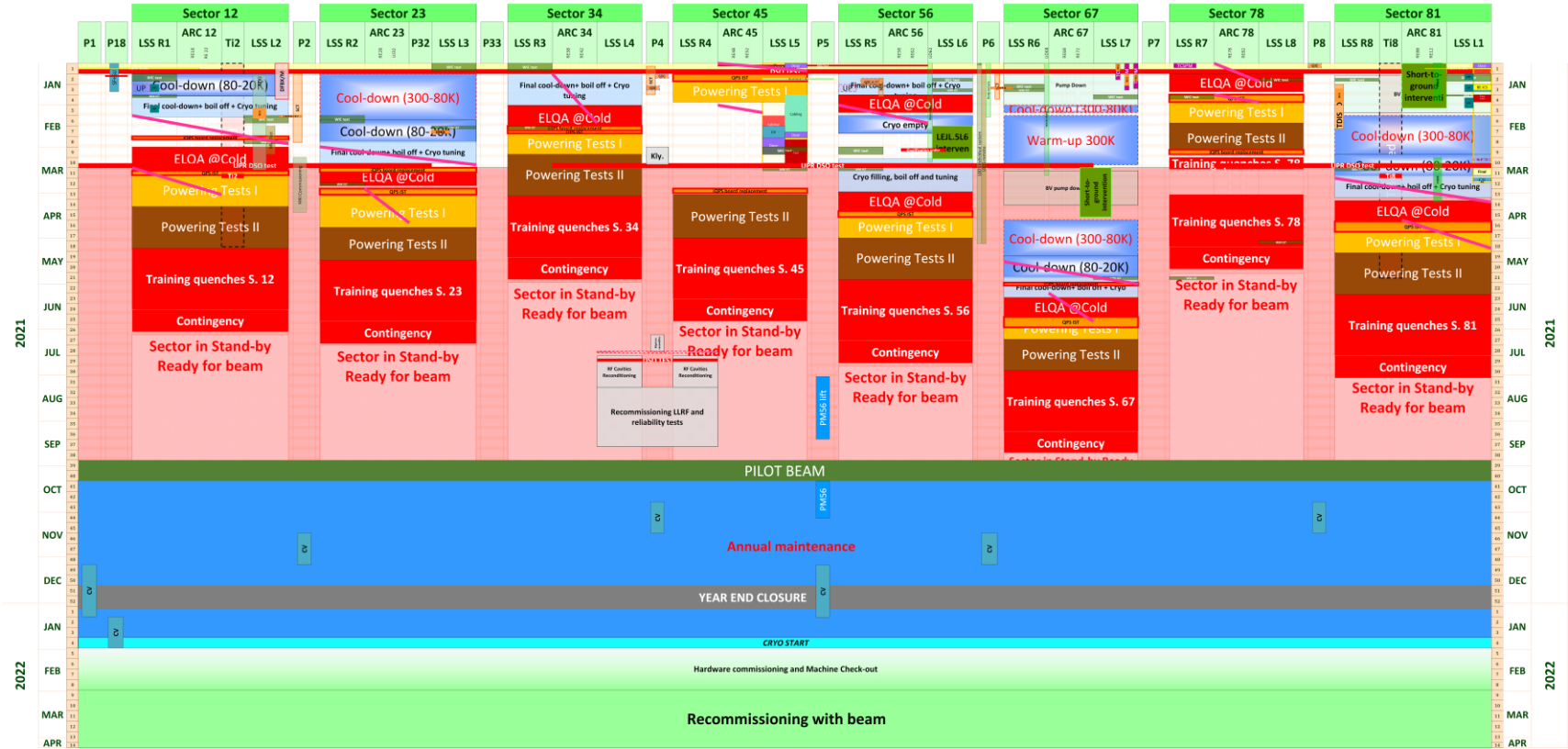
- In light of the stricter measures announced by CERN's Host States (France and Switzerland) to confront the escalating number of infections in their countries, CERN is adapting its framework for **on-site activities and telework**. The overarching objective remains to safeguard the health and safety of everybody on the CERN sites while enabling continued effective operation of the Laboratory, as far as feasible.
- Employed members of the personnel, associated members of the personnel for the purpose of training, and project associates, should refer to their CERN hierarchy for guidance regarding telework and the need of their presence on-site. **All other Users should not come onto the site unless agreed with the Technical Coordinator.**
- The return on site of all categories of personnel is supported by COVID-19-specific health and safety measures and recommendations, which are collated and regularly updated on this webpage: <https://hse.cern/covid-19-information>.
- Members of the personnel required to travel in France to carry out essential professional duties during **curfew hours** must carry an attestation provided by CERN. The document is available <https://cern.ch/cesaam>. This attestation is solely for professional purposes.
- **Persons experiencing some COVID-19 symptoms should refrain from coming on site**, evaluate their conditions via the [Tramed tool](#). If symptoms occur when already on-site, persons should stop their activity immediately and evaluate their conditions via the Tramed tool. For more details read section 1.4 of [this](#) document. Using Tramed allows the Medical Service to keep track of the evolution of cases among the CERN community.
- **Quarantine:** access to CERN sites is not allowed for 10 days after arrival from a country/area that features on at least one of the lists ([Switzerland](#) or [France](#)) of high risk countries and areas for COVID-19 infection → latest information [here](#)
- For any question, please contact ALICE-covid19-coordination@cern.ch.

Distribution ofproximeters

- CERN has decided to introduce the Proximeter device, a proximity sensing device designed to improve CERN's response to break chains of transmission of COVID-19. More information can be found here: <https://home.cern/news/news/cern/cern-introduces-proximity-detecting-device-personnel>
- **This device will be mandatory from March 1st 2021.**
- You can fetch your device at different locations. You can book a slot to collect your Proximeter here: <http://www.cern.ch/proximeter-dist>.
- A series of FAQs about the Proximeter has been published here: <https://hse.cern/content/faq-covid-19#proximeter>
- An **online course “COVID-19 - Proximeter & Contact Tracing”** is available via the Safety Training catalogue on CERN's Learning Hub. To enrol, click [here](#).
- The **exchange of Proximeters** (firmware update) has started on Monday 22 February, and you can book an appointment to replace yours here: <http://www.cern.ch/proximeter-dist>.



LHC planning



23.4.2021

LS2 planning meeting

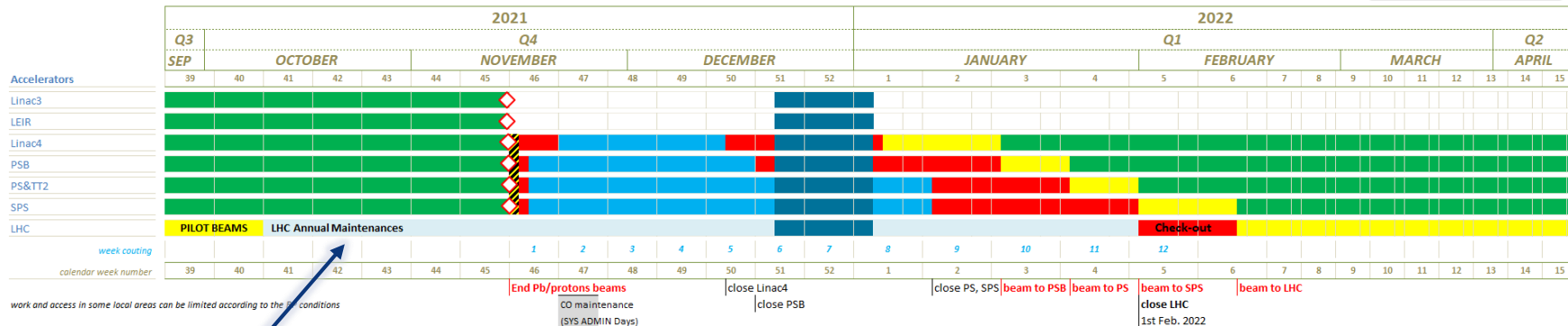
LHC status, pilot beam test

- Powering test and training quenches ongoing
- **LS2 schedule review** on June 7th
 - Reassess progress of experiments, in particular ATLAS and LHCb
 - Evaluate the impact of the VTRx issue
- Experiment caverns closed on February 1st 2022
- **Pilot beam test:** weeks 39-40 (possibility of a delay of up to 2 weeks will be discussed in June)
 - Only 1 week contingency from S67 completion
 - Providing stable beam with (preferably) 3 nominal bunches at 450 GeV
 - Will take 13-14 days including machine checkout
 - **TED shots** foreseen Sat-Sun 26 and 27 Jun (tbc) → ALICE closed Fri 25 Jun at 17:30
- **Services maintenance (EN, CV) from week 41 onwards → see next slide**

2021-22 YETS



EDGE No. 2439145 REV. 1.0 VALIDITY RELEASED
 REFERENCE ACC-PM-MS-0005



LHC annual maintenance right after pilot beam, during ALICE global commissioning period

CV maintenance P2: w47-48-49 2021 → **no magnets** (racks, CRs and cooling plants can be operated normally)

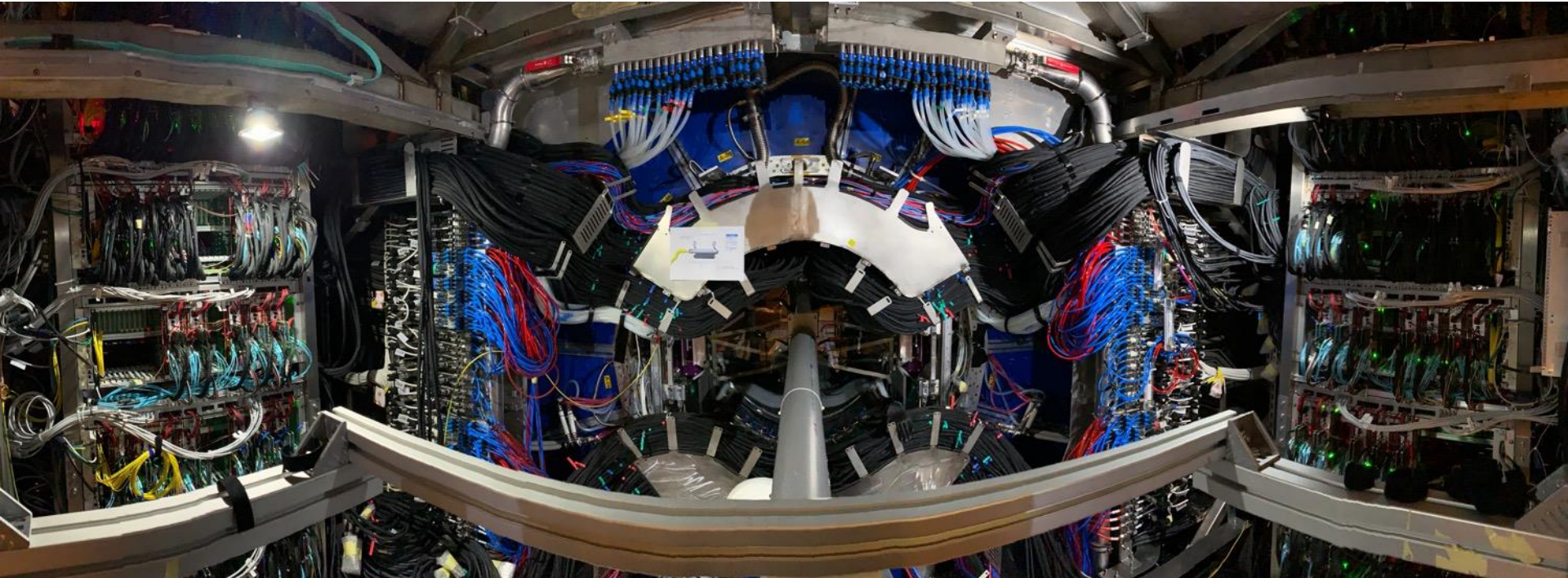
AUG test P2: 24 November 2021 (during CV maintenance period) → **switch-off Experiment**

Test secours (CERN wide): 30 November 2021

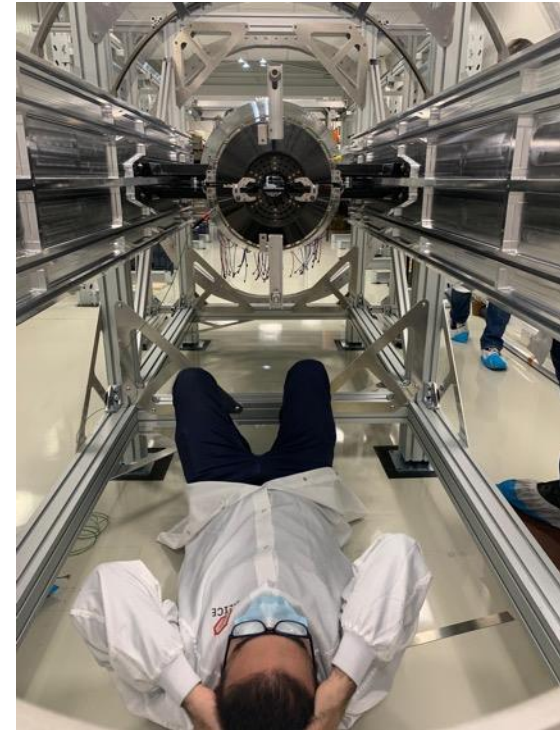
Safety test (P2): 23 December 2021



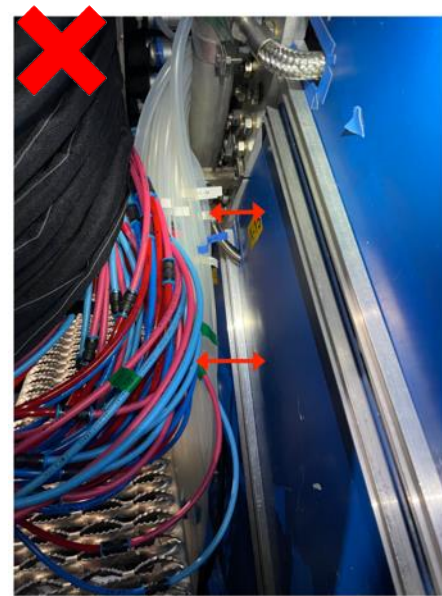
ITS-OB fully connected



ITS-IB: dry insertion test in b.167

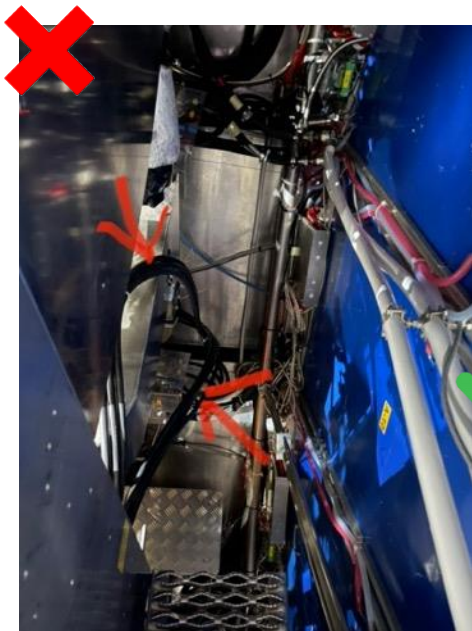


ITS/MFT air cooling



Installation of ITS and MFT silicon hoses done last week (IB lines will be done after IB installation)
Air cooling unit started yesterday (EN-CV) – check today at 12:00
Some lines to be better routed (too close to TPC)

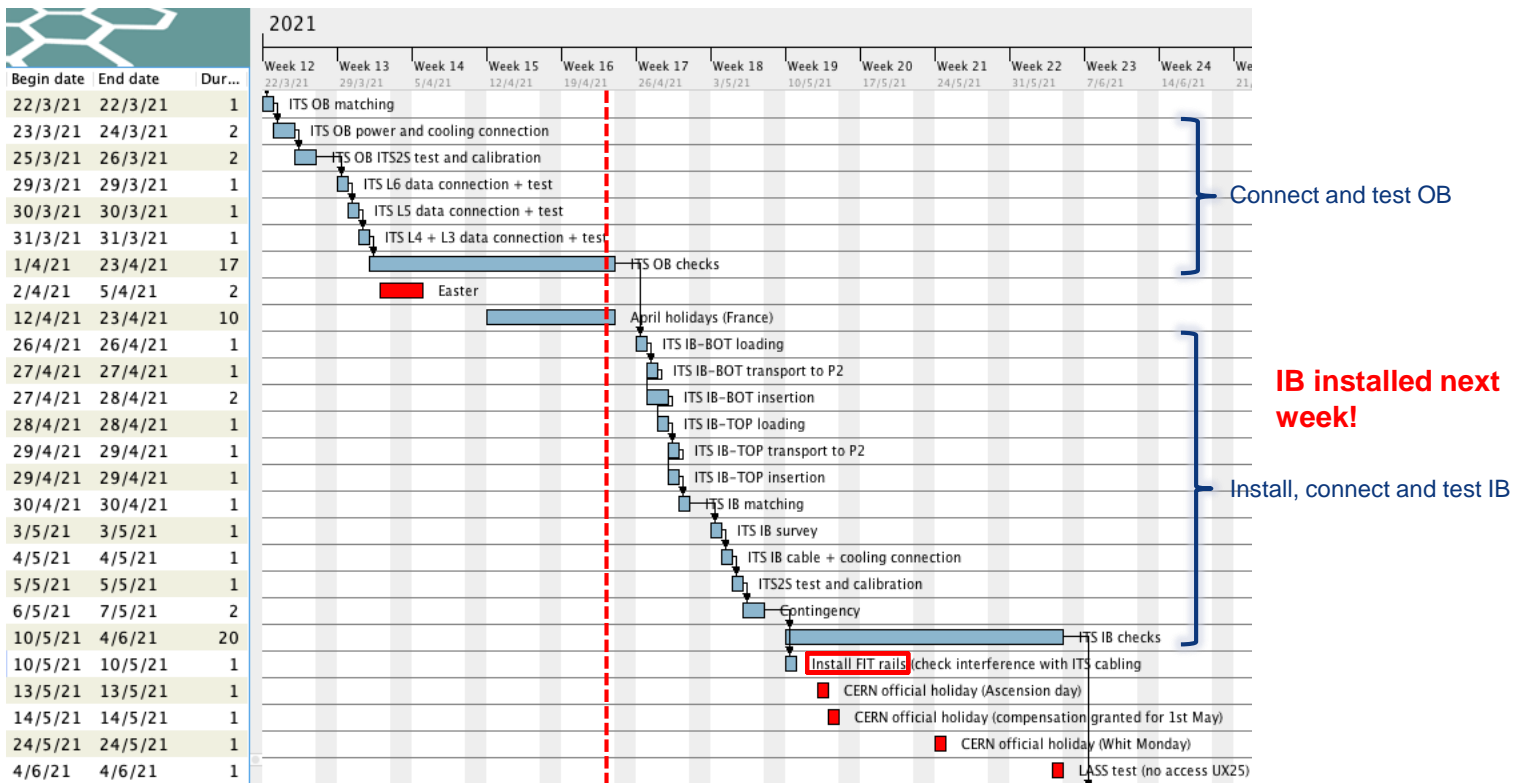
MFT PP2 cables re-routing



Power cables re-routed last Tuesday (too close to TPC)
→ thanks to Stefano and Charlotte!
Cooling hoses replaced last Friday

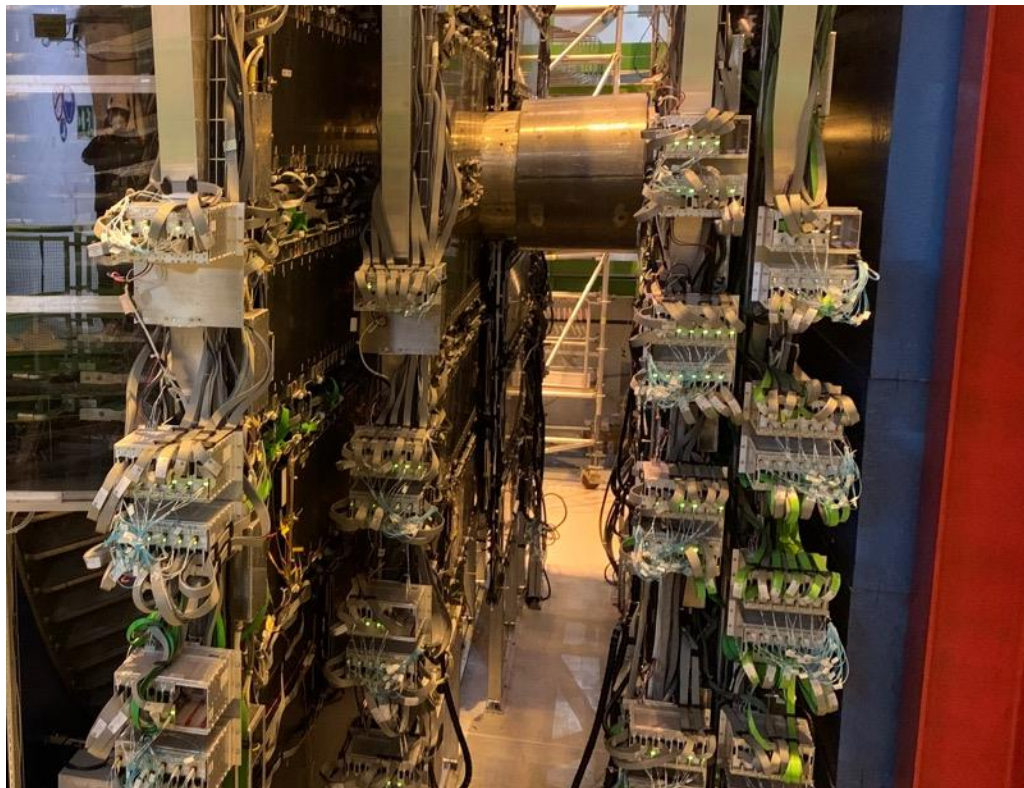
Some steel parts on the C-side
to be replaced

ITS IB installation schedule



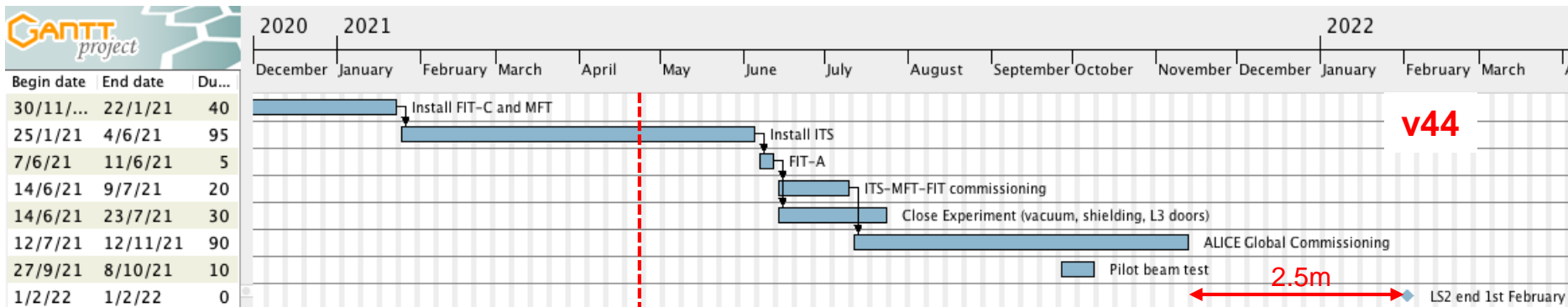
MCH status

- **Station 1:**
 - All quadrants installed in FASS
 - Low-voltage cabling completed on all quadrants
 - Powering tests of front-end boards started (only Q2 checked so far)
 - Planning for next steps (SOLAR board installation, flat cables connection, readout tests, etc...) will be discussed today
- **Stations 3/4/5:**
 - Gas leaks and high-voltage tests completed, all detectors OK except one at the bottom of CH7R
 - Detector grounding tests and noise measurements resumed
 - Damaged LV connector (one broken pin) to be repaired on CH7R

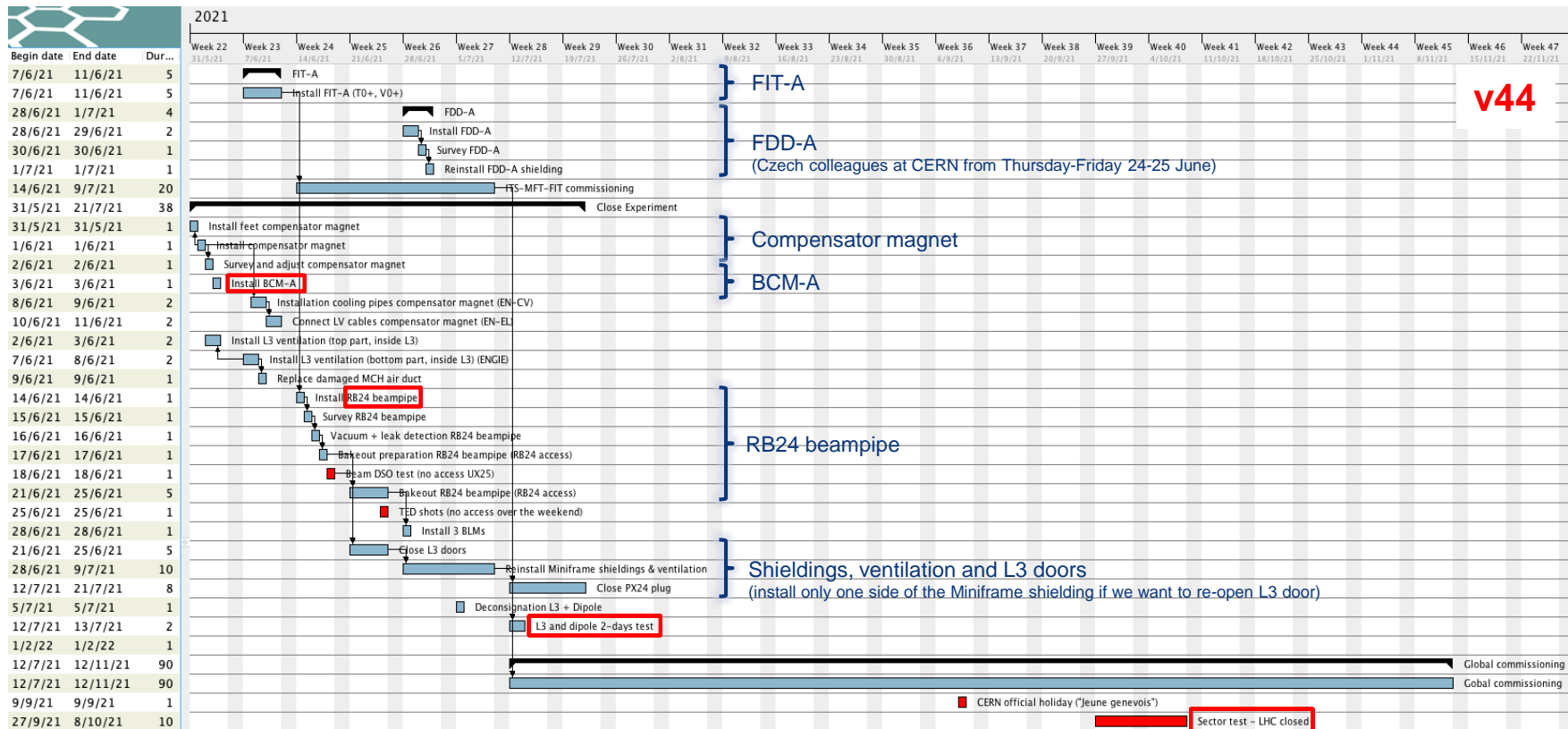


LS2 master schedule (v44)

- **Schedule v44:**
 - 18w global commissioning at the end
 - 2.5 months contingency with respect to LS2 end date
- **LS2 end date 1st February 2022**
- ALICE vacuum closed by June 2021 → OK to inject low intensity beam by last week September 2021 (w39-40)



ALICE completion, L3 closure & global commissioning



v44

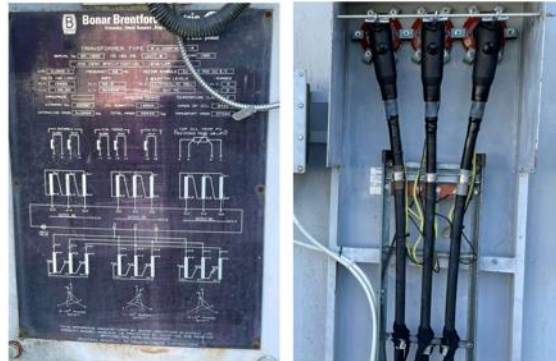
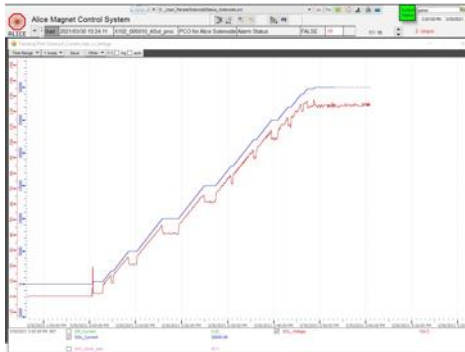


LS2 milestones

Activity	v44
Install central beampipe	16 Sep – 12 Oct
Move TPC to IP	13 – 16 Oct
Install Miniframe	16 Nov
MFT & FIT-C installation and checks	30 Nov – 22 Jan 2021
FDD-C installation	22 – 25 Feb
ITS installation and checks	25 Jan – 4 Jun OB: 16 Mar – 23 Apr IB: 26 Apr – 4 Jun
FIT-A installation	7 – 11 Jun
FDD-A installation	28 – 29 Jun
ITS & MFT commissioning time	1 month (4w)
ALICE global commissioning time	4 months (18w)
End of LS2 – stop UX25 access (contingency)	1 Feb 2022 (2.5 months)

Magnets re-commissioning

- L3 ramped-up on Tuesday 30 March at 14:00
- Magnet current @ 30kA for 2h
- Wrong 18kV cabling of the transformers → fixed by SY-EPC on Monday 29 March
- The new L3 Power Converter cooling plant works well
- **48h combined L3 + Dipole test on 12-13 July**



Services

- **FIT signal cables (BE-EA):**
 - Connectors on FIT-A **signal cables** installed last week (~150 cables)
 - T0+ cable length: 32.2m max → **on time for LM trigger (32m max)**
 - 25 V0+ cables are ~2m too long → **meeting next Monday 9:00 with Philippe + FIT team**
- **FIT control optical fibers (EN-EL):**
 - Installation (CR3-C34) foreseen next week (27-28 April)
- **Cooling:**
 - **TPC:** fixing leaks
 - **PHOS:** new SRU cooling lines installed and connected
- **Rack turbines replacement:**
 - We currently have 79 out of 80 turbines.
 - 17 units already installed. Installation of the remaining units ongoing. Installation without cutting the power, just ~10 minutes without ventilation in each rack.



LHC sector test 2021

- **SPS extraction and transfer line DSO test → done**
 - Fri 19 Mar (reserve Sat 20 Mar) → No access UX25 (ALICE closed Thu 18 Mar 18:30)
- **LASS test**
 - Fri 4 Jun → No access to UX25 (ALICE closed Thu 3 Jun evening)
 - We will install 2 PX24 32t beams in the shaft (remove PX24 ventilation duct)
- **Beam DSO test**
 - Fri 18 Jun → No access to UX25 (ALICE closed Thu 17 Jun evening)
- **TED shots**
 - Sat-Sun 26 and 27 Jun (tbc) → ALICE closed Fri 25 Jun at 17:30
- **Sector test (beam through ALICE)**
 - Weeks w39-40 → LHC closed

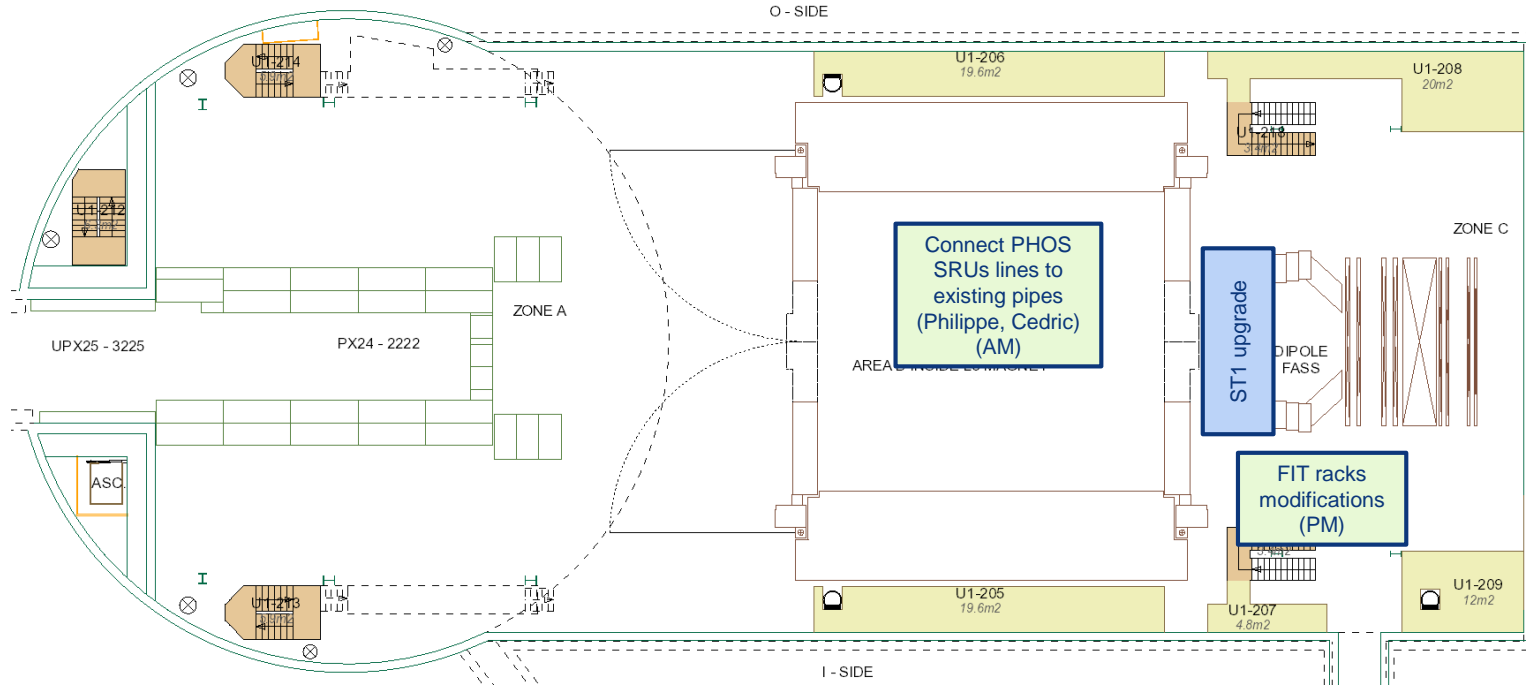
Day-by-day sequence w15 2021



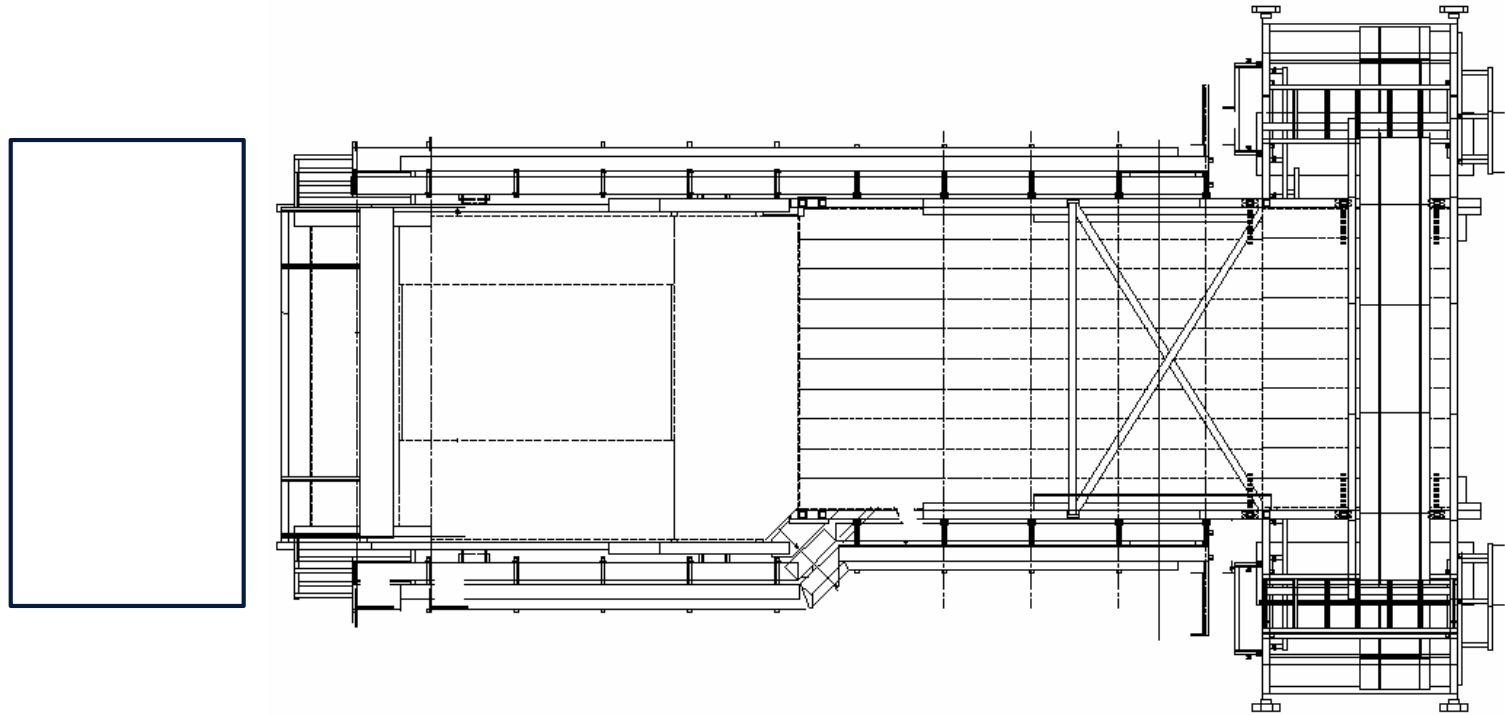
UX25 activities w15 – Mon 12 Apr 2021

Maintenance cavern lift (no access to UX25 from 6:00 AM to 8:00 AM)

MW4



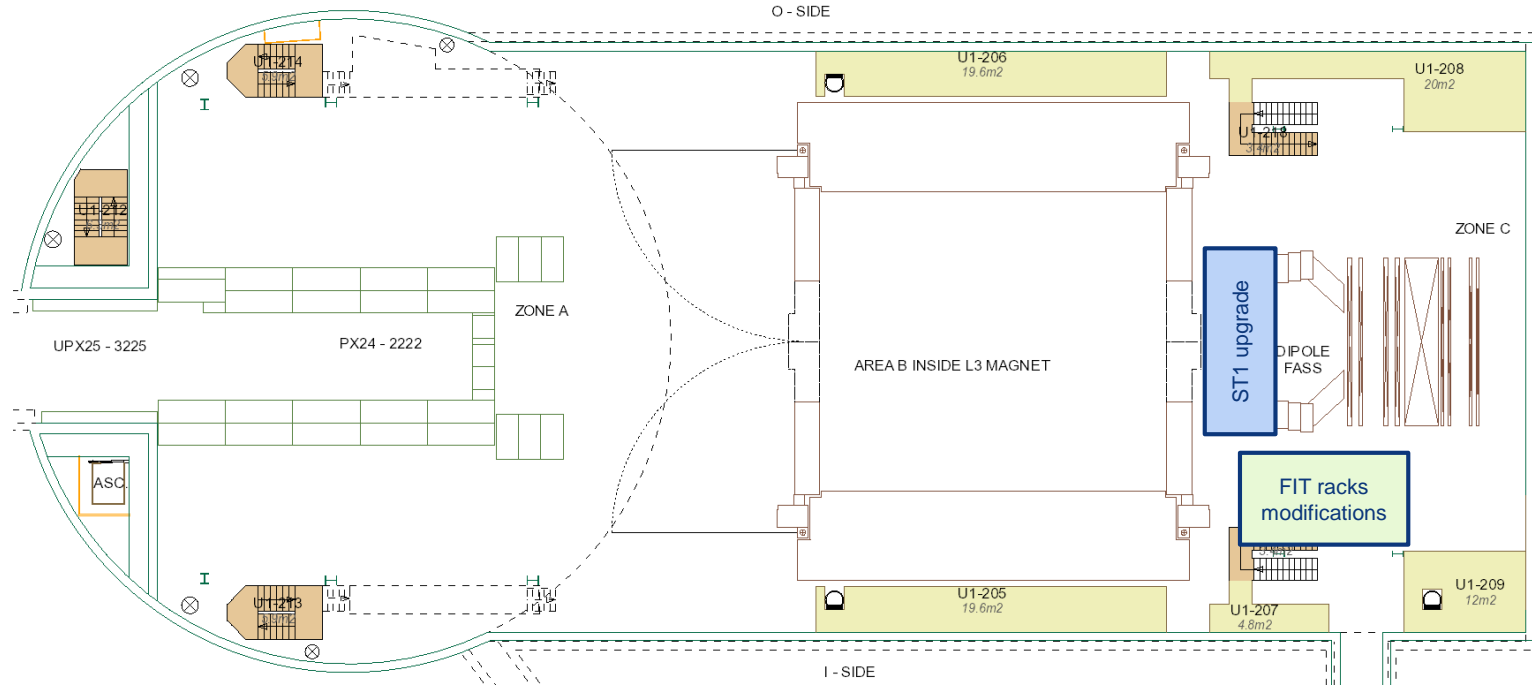
Miniframe activities w15 – Mon 12 Apr 2021



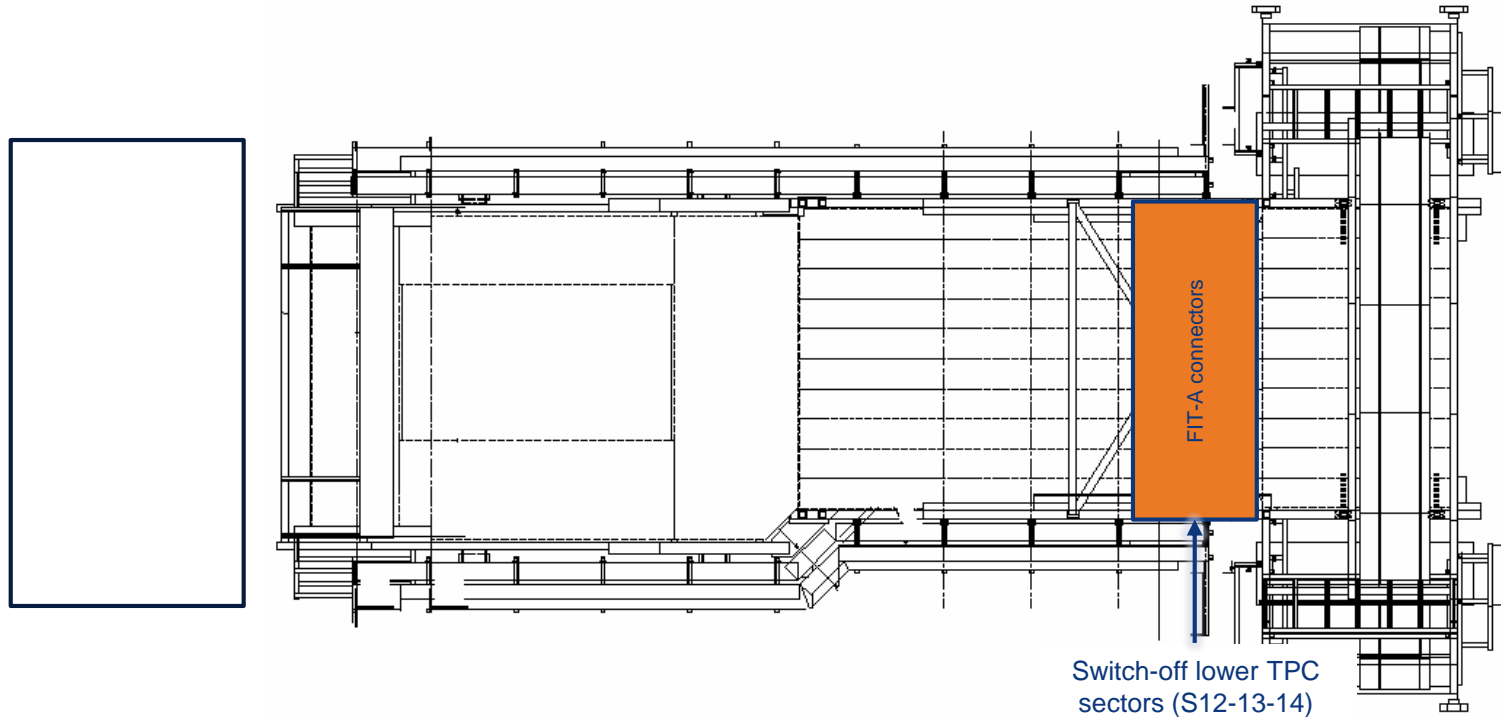
UX25 activities w15 – Tue 13 Apr 2021

Cleaning cavern (Topnet): 13:00 to 15:00

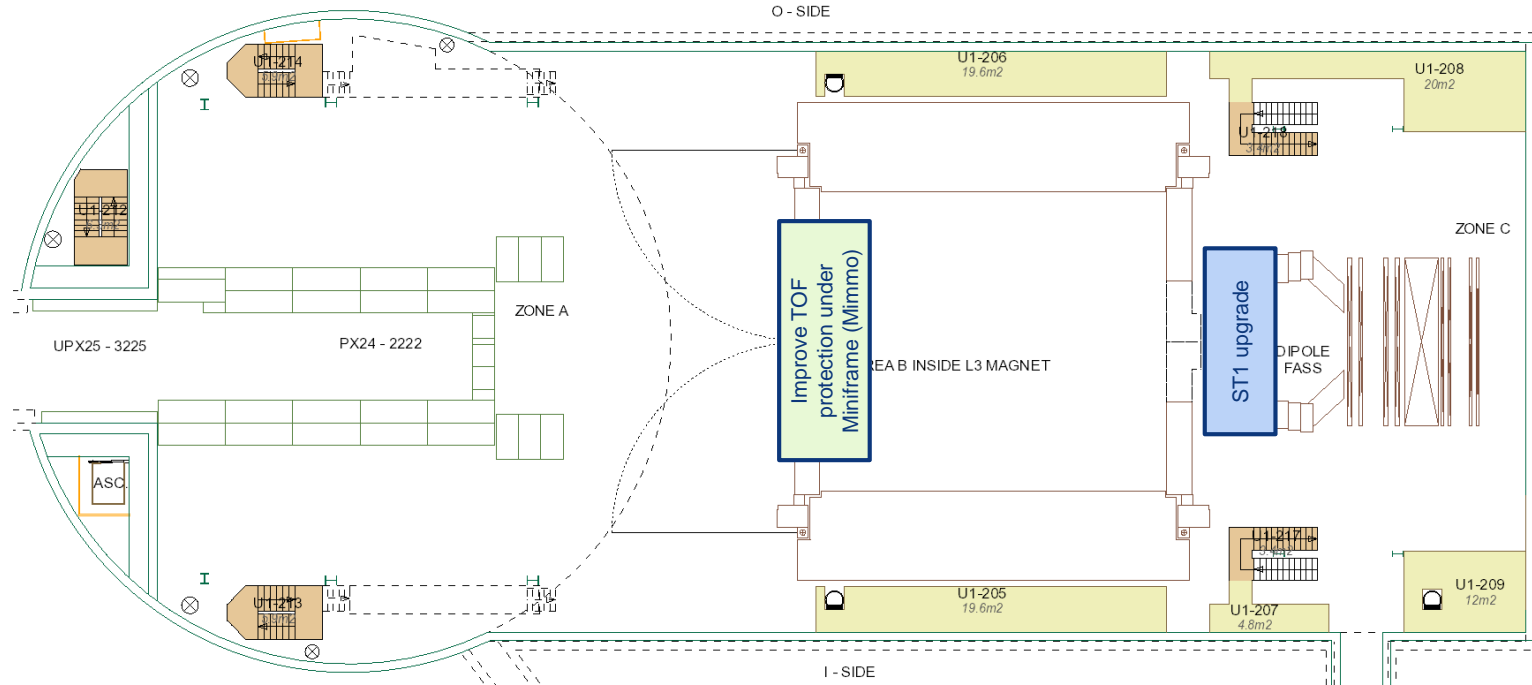
CR0 maintenance (Stulz) (whole week)



Miniframe activities w15 – Tue 13 Apr 2021

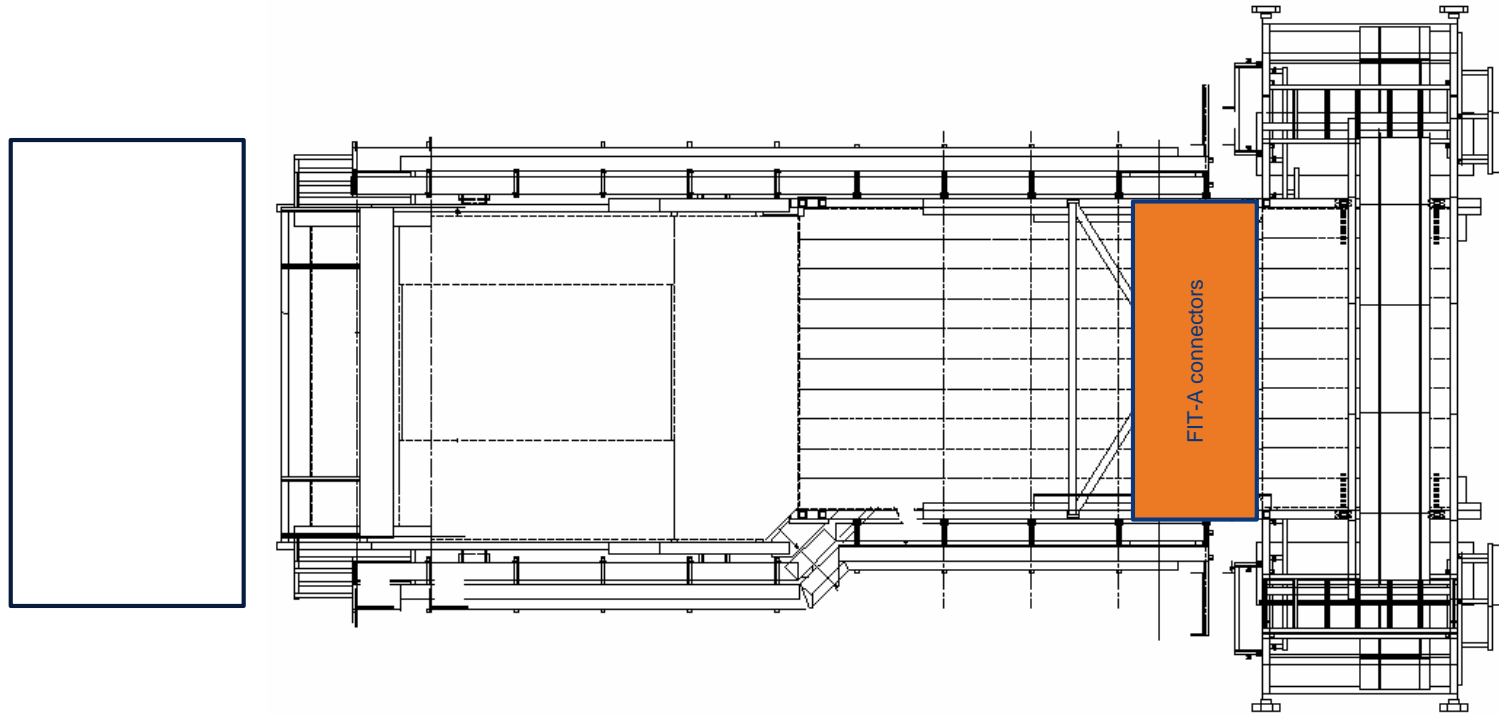


UX25 activities w15 – Wed 14 Apr 2021

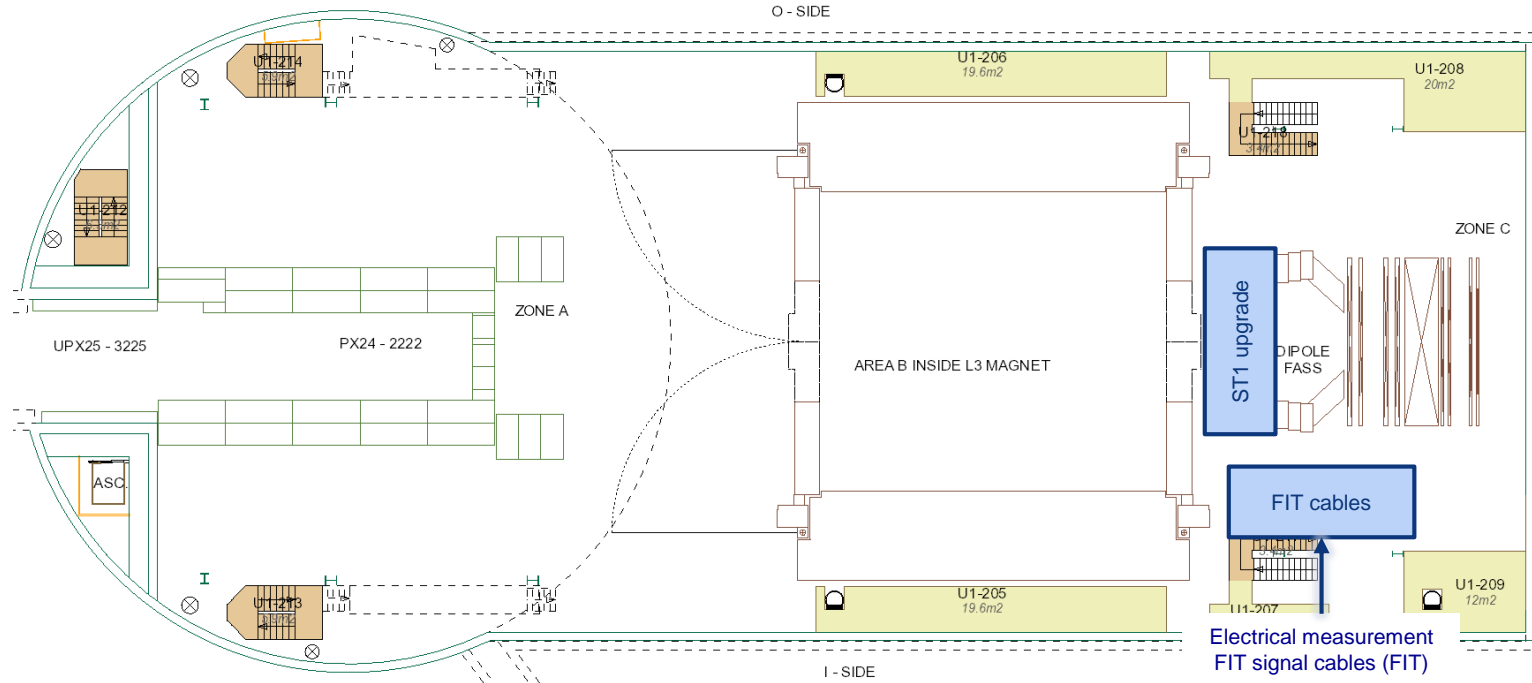


Miniframe activities w15 – Wed 14 Apr 2021

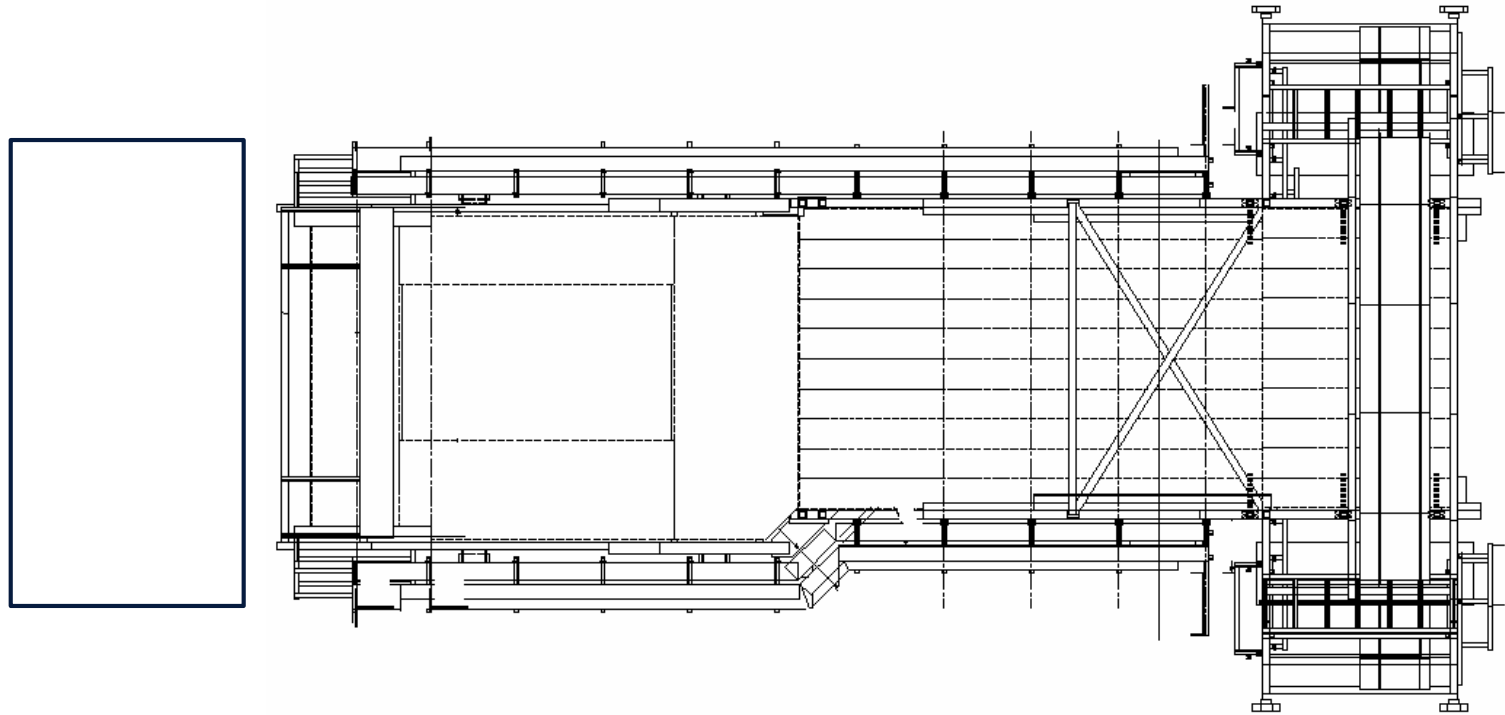
Startup ITS/MFT air ventilation (EN-CV) at 13:30



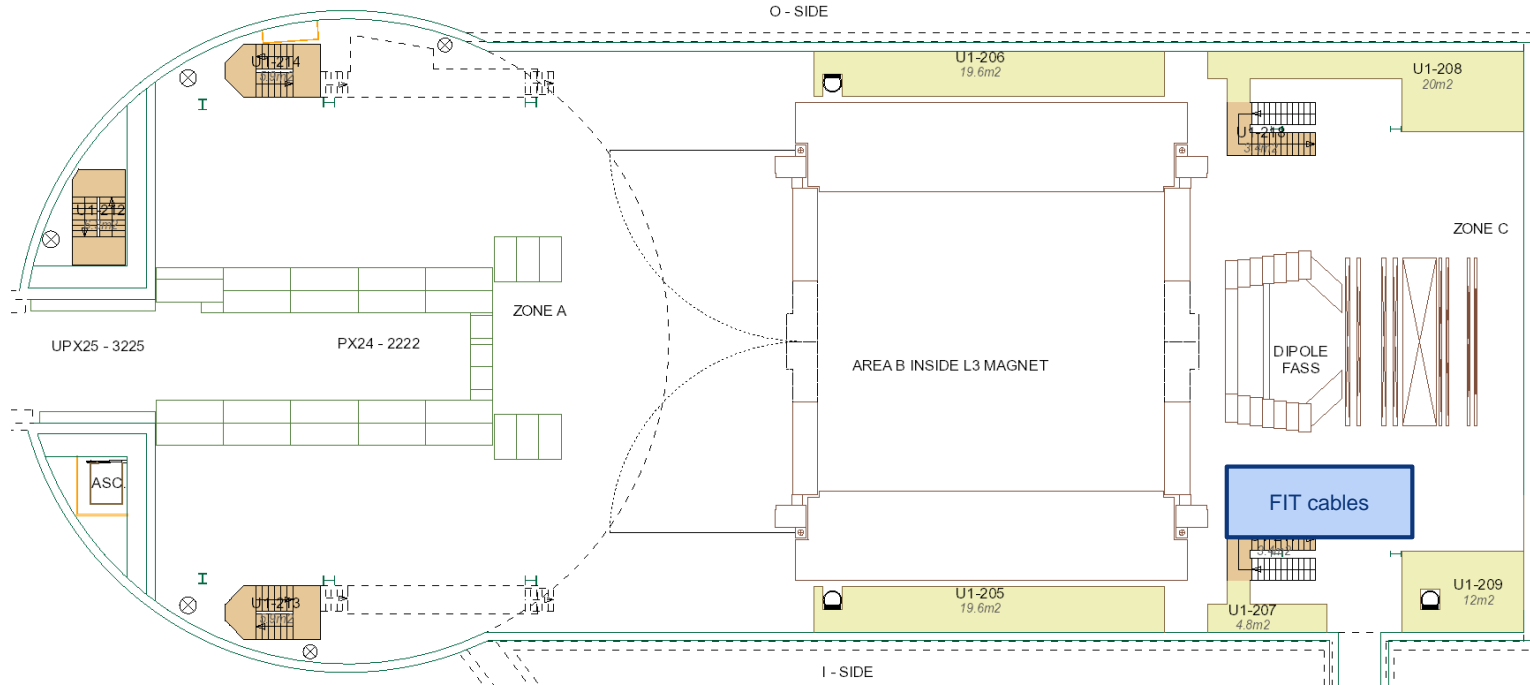
UX25 activities w15 – Thu 15 Apr 2021



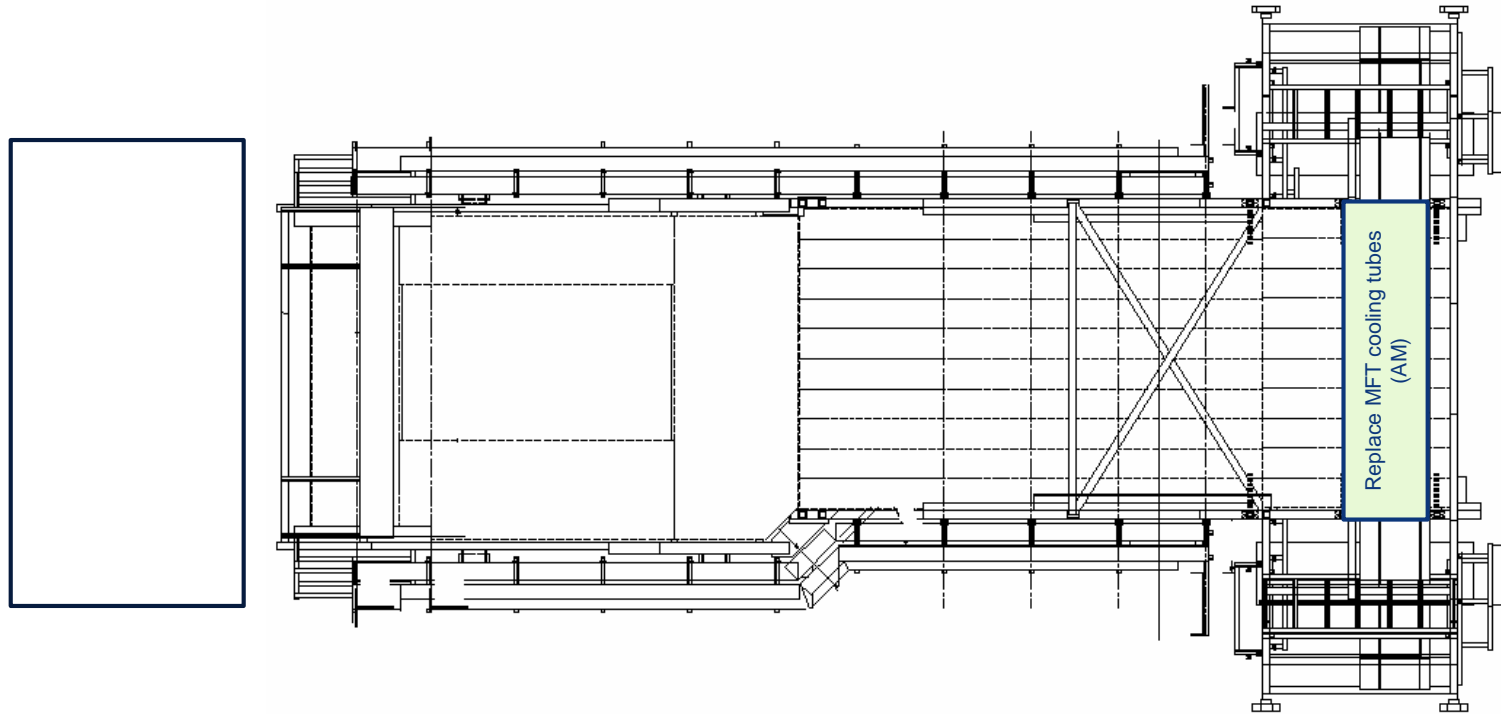
Miniframe activities w15 – Thu 15 Apr 2021



UX25 activities w15 – Fri 16 Apr 2021



Miniframe activities w15 – Fri 16 Apr 2021

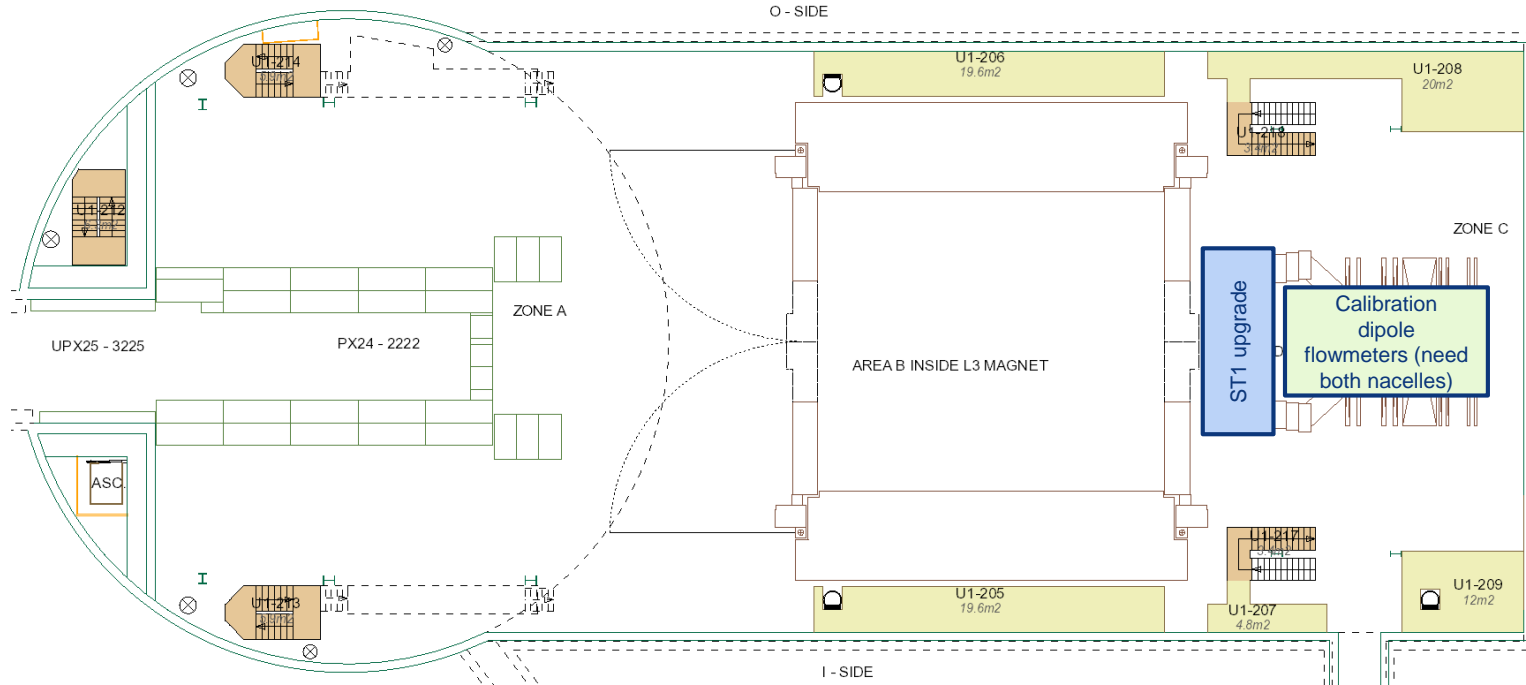


Day-by-day sequence w16 2021

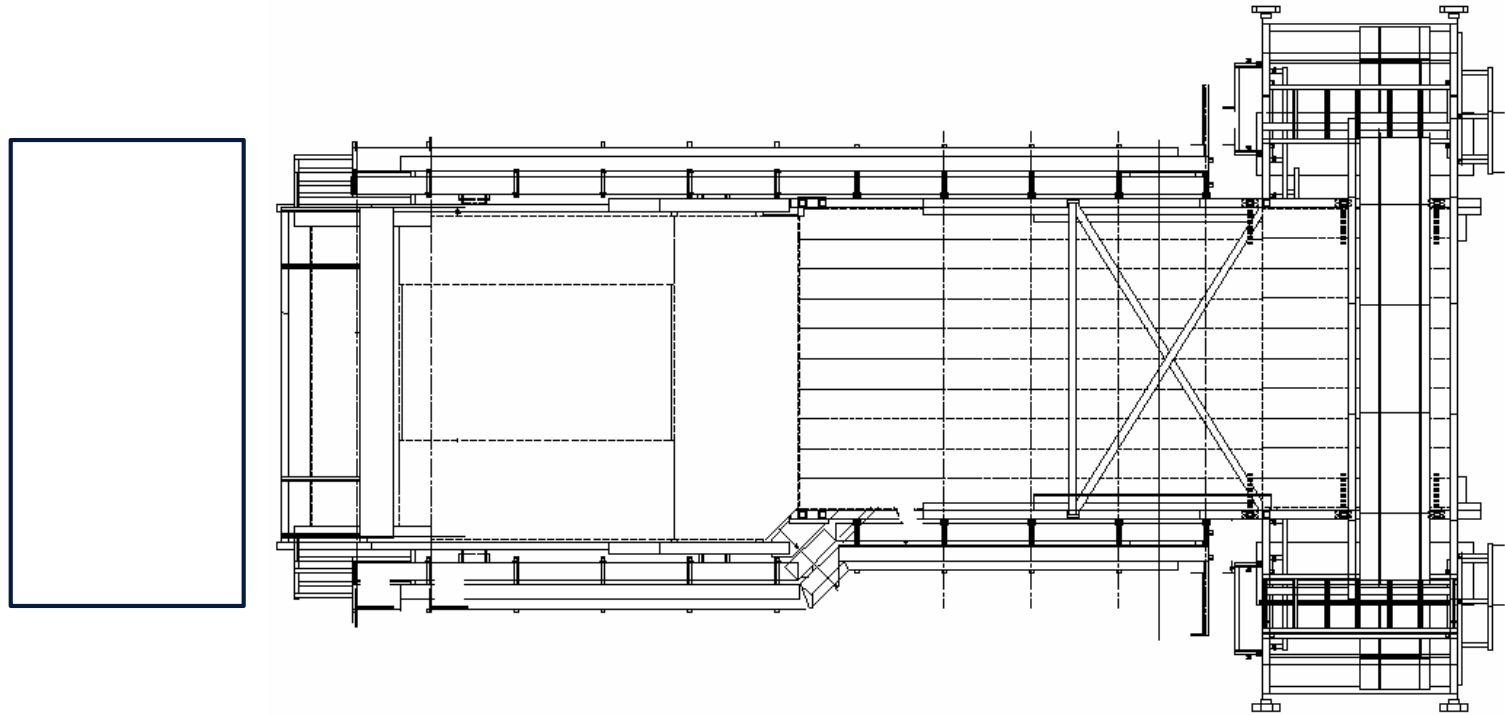


UX25 activities w16 – Mon 19 Apr 2021

Arrival of ITS-IB HW from Meyrin

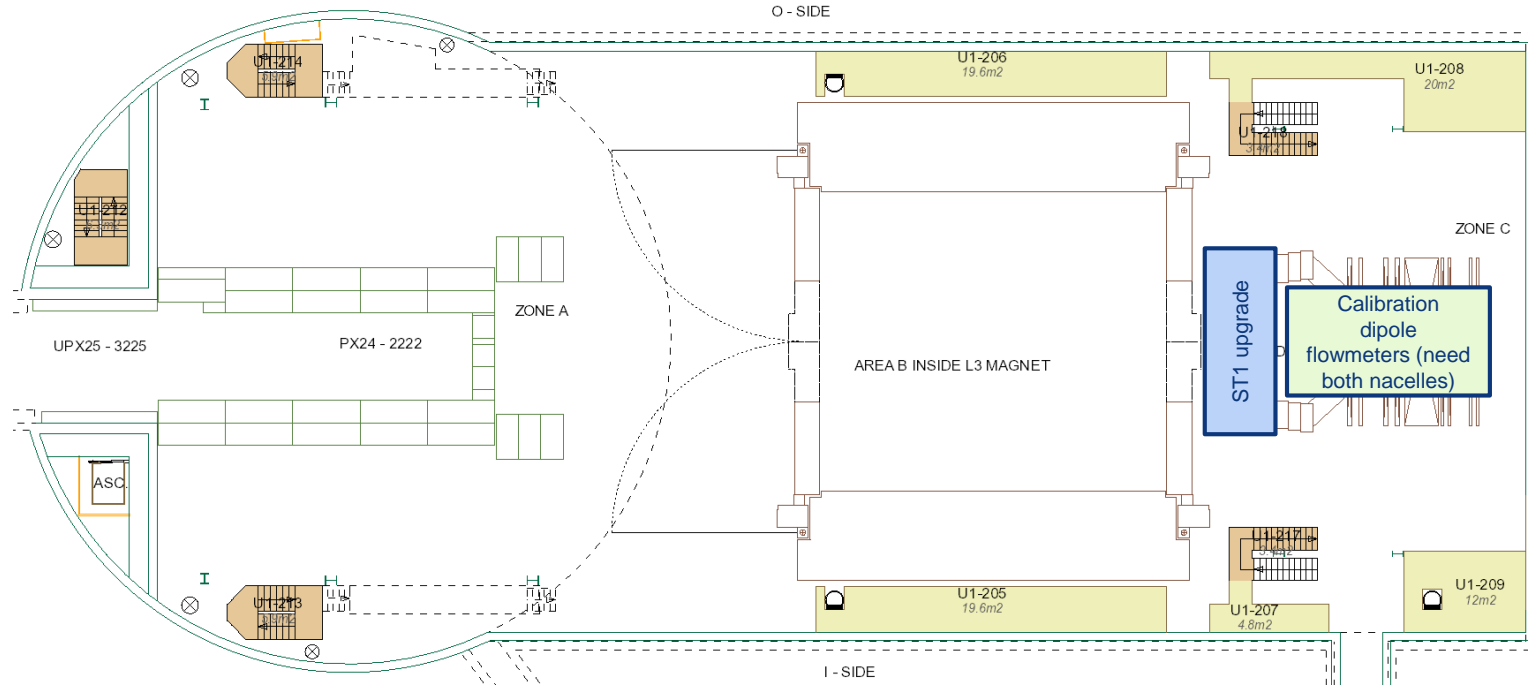


Miniframe activities w16 – Mon 19 Apr 2021

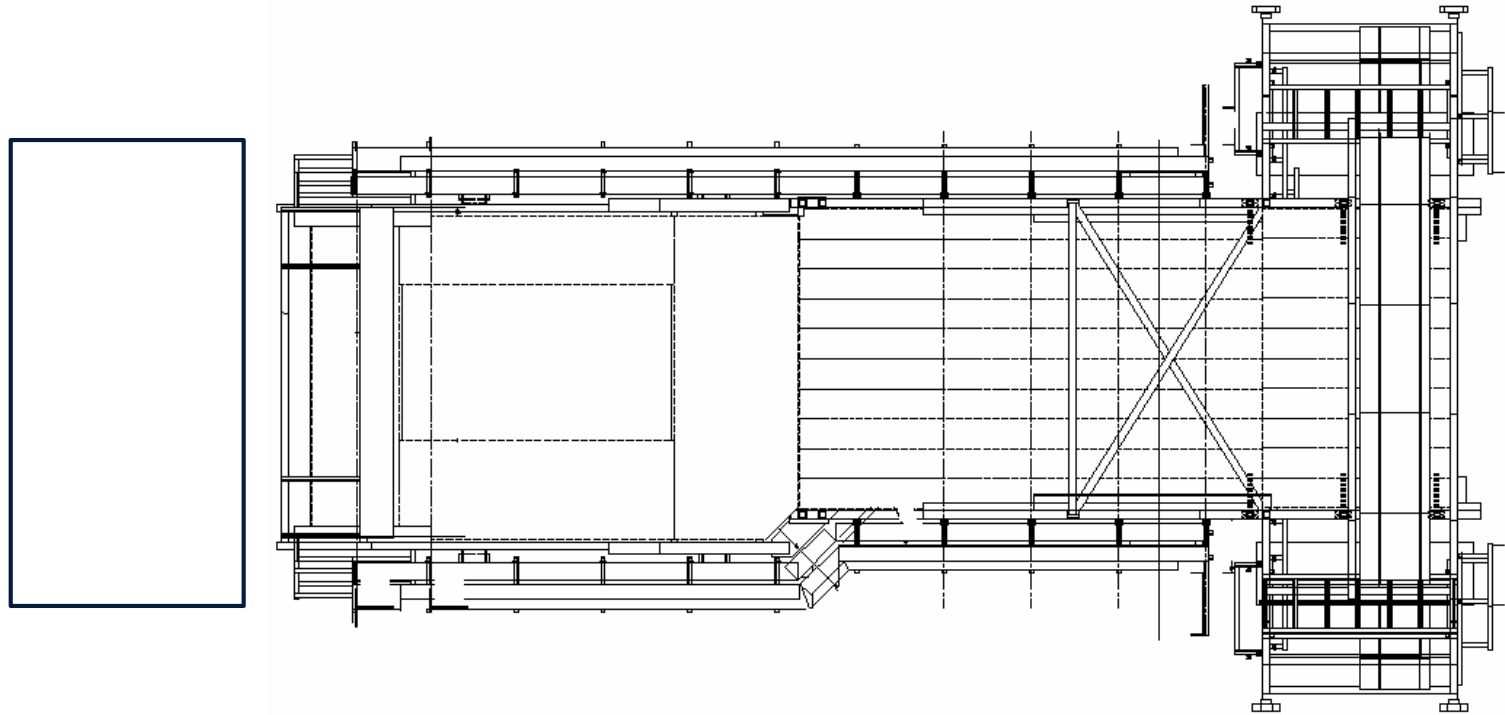


UX25 activities w16 – Tue 20 Apr 2021

Cleaning cavern (Topnet): 13:00 to 15:00

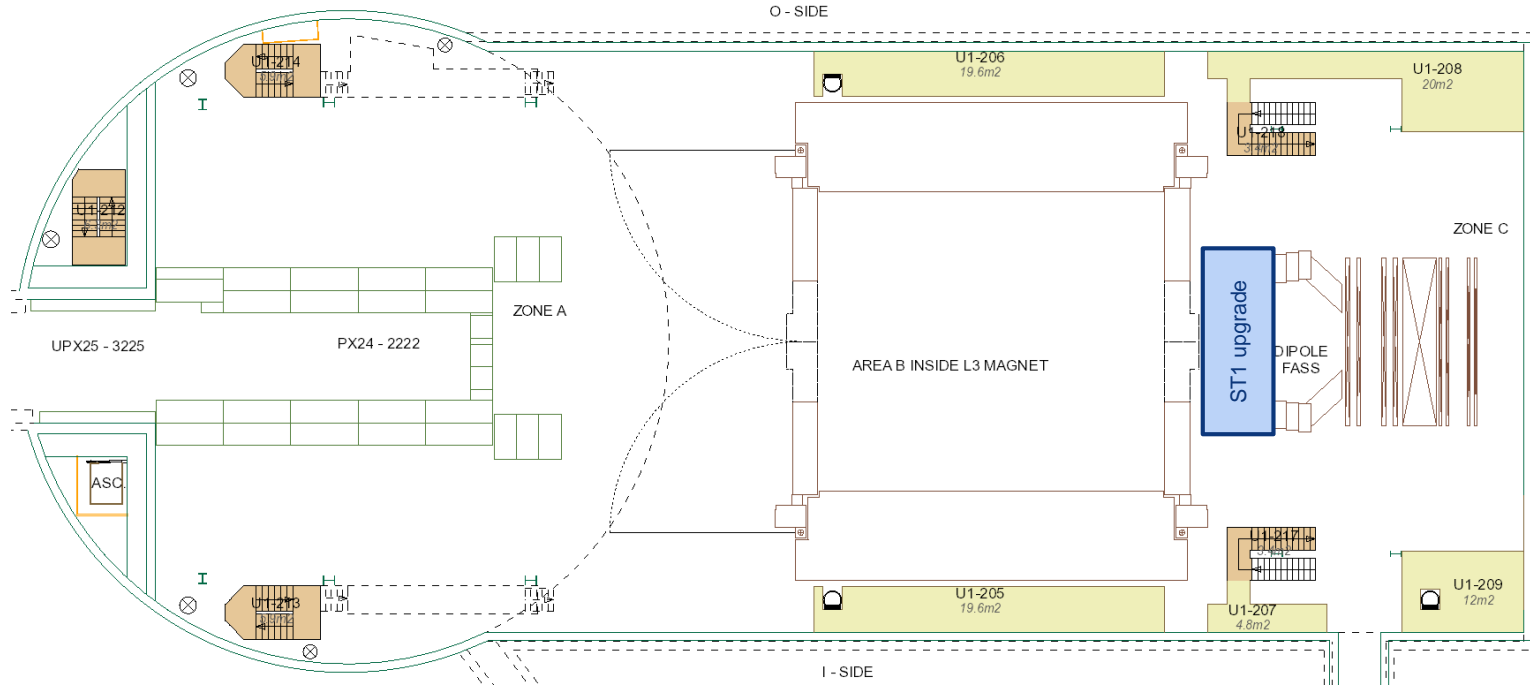


Miniframe activities w16 – Tue 20 Apr 2021

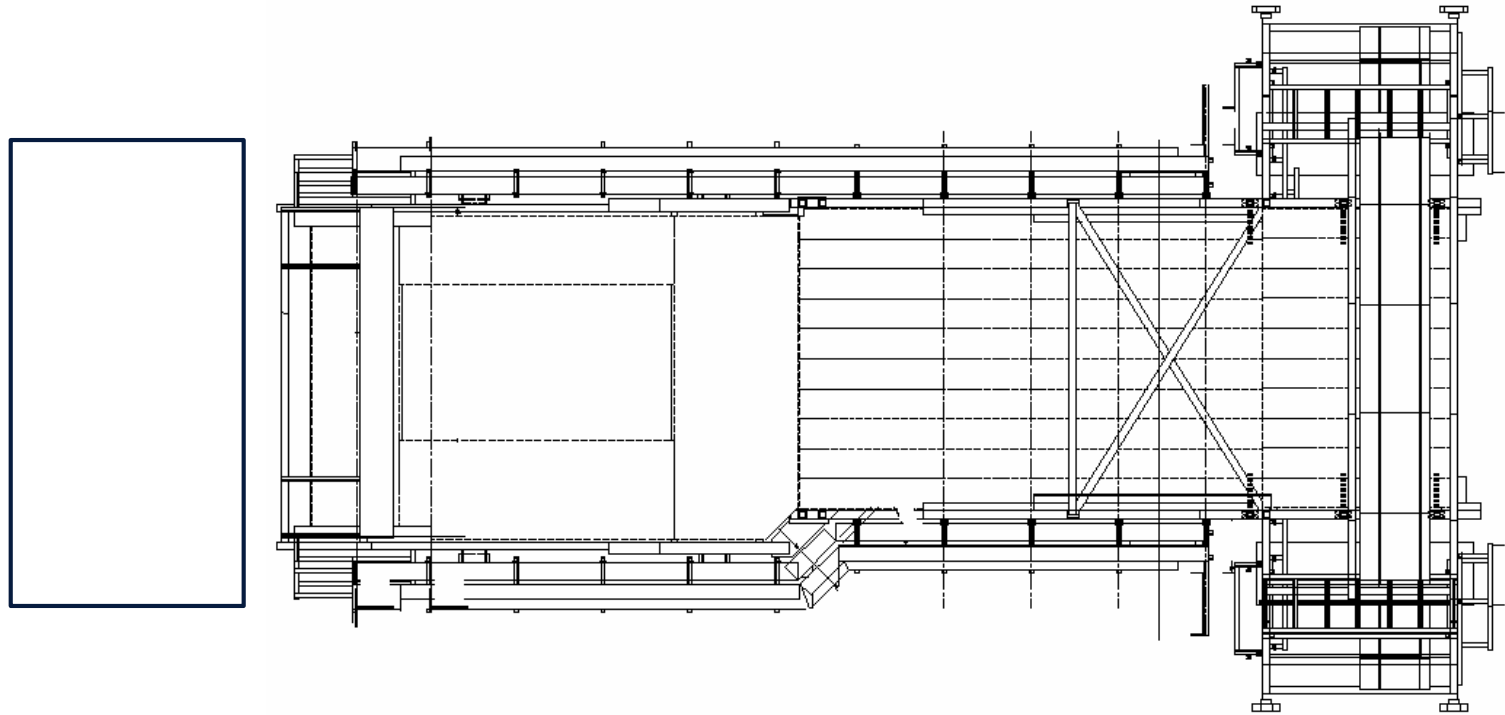


UX25 activities w16 – Wed 21 Apr 2021

Inspection P2 lifting equipment (HSE)

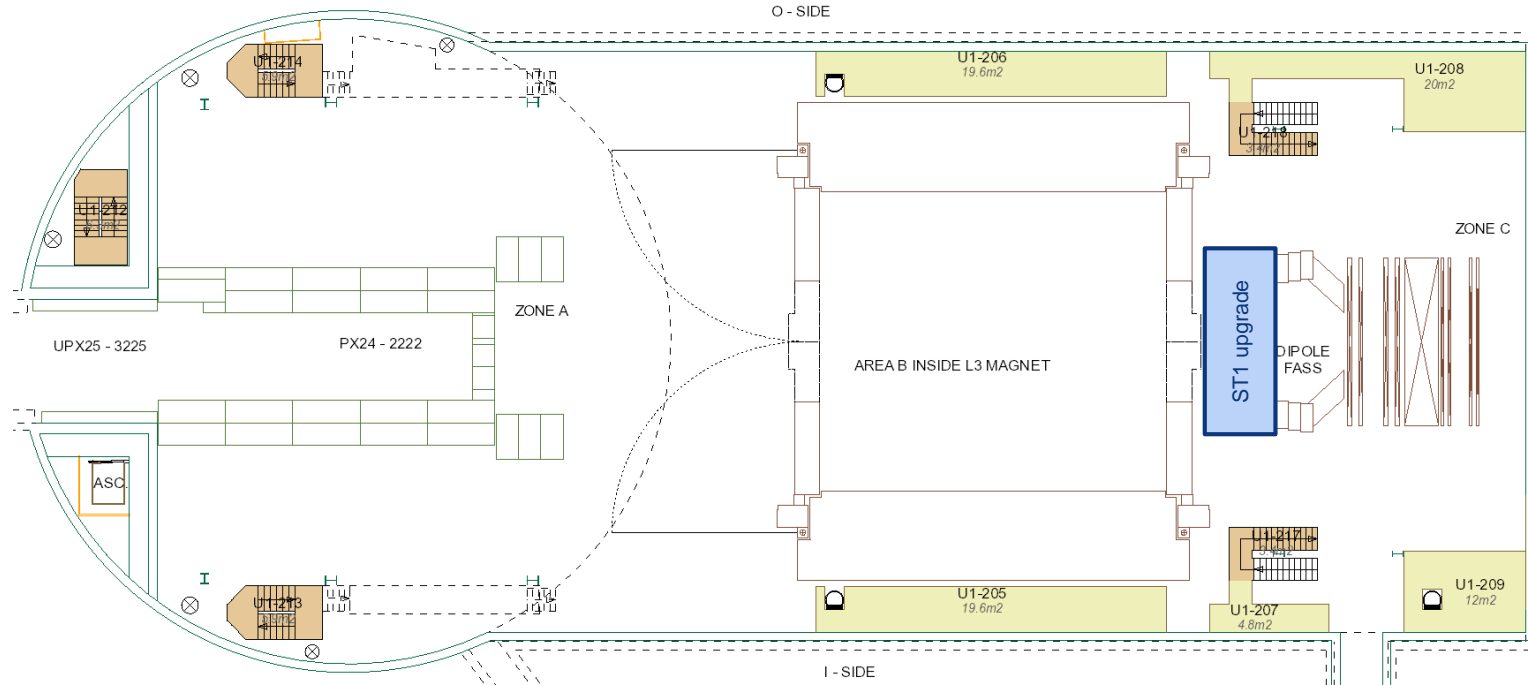


Miniframe activities w16 – Wed 21 Apr 2021

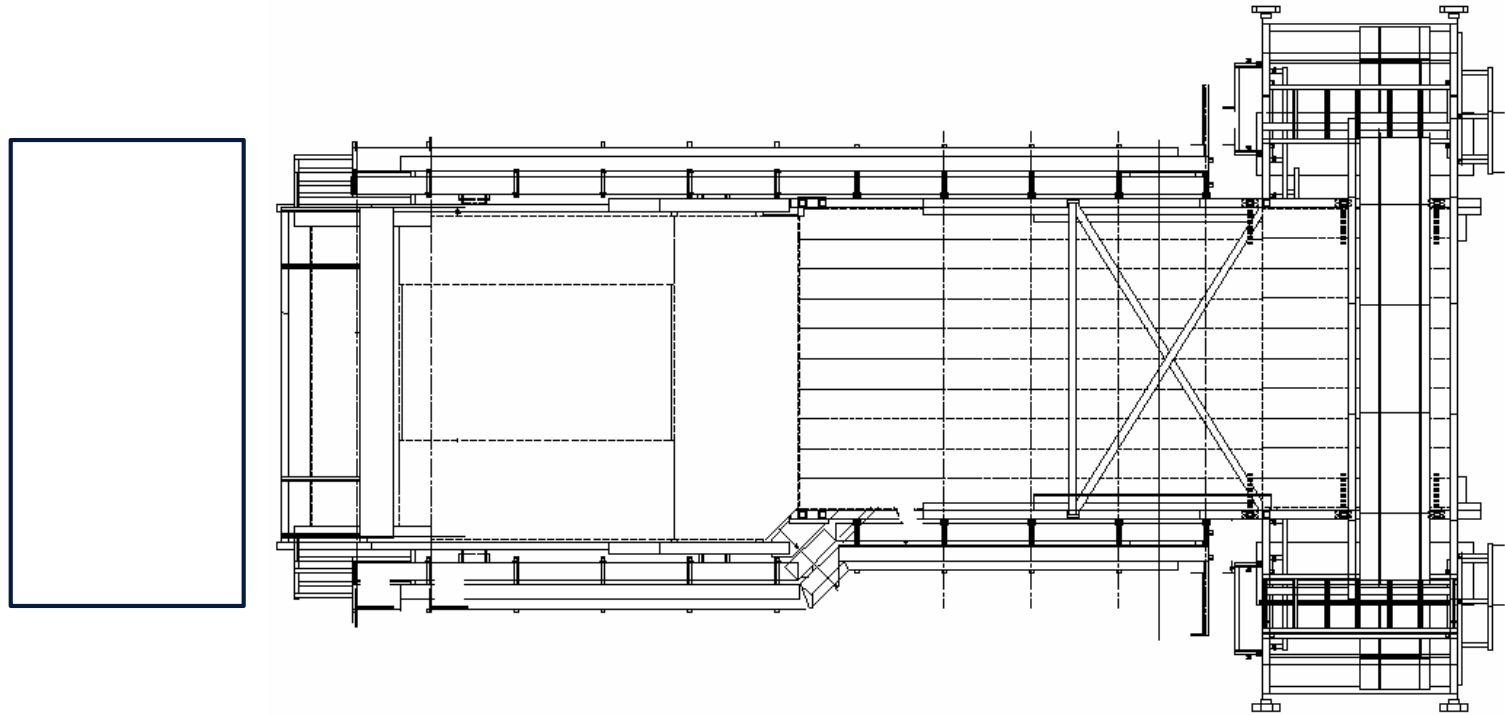


UX25 activities w16 – Thu 22 Apr 2021

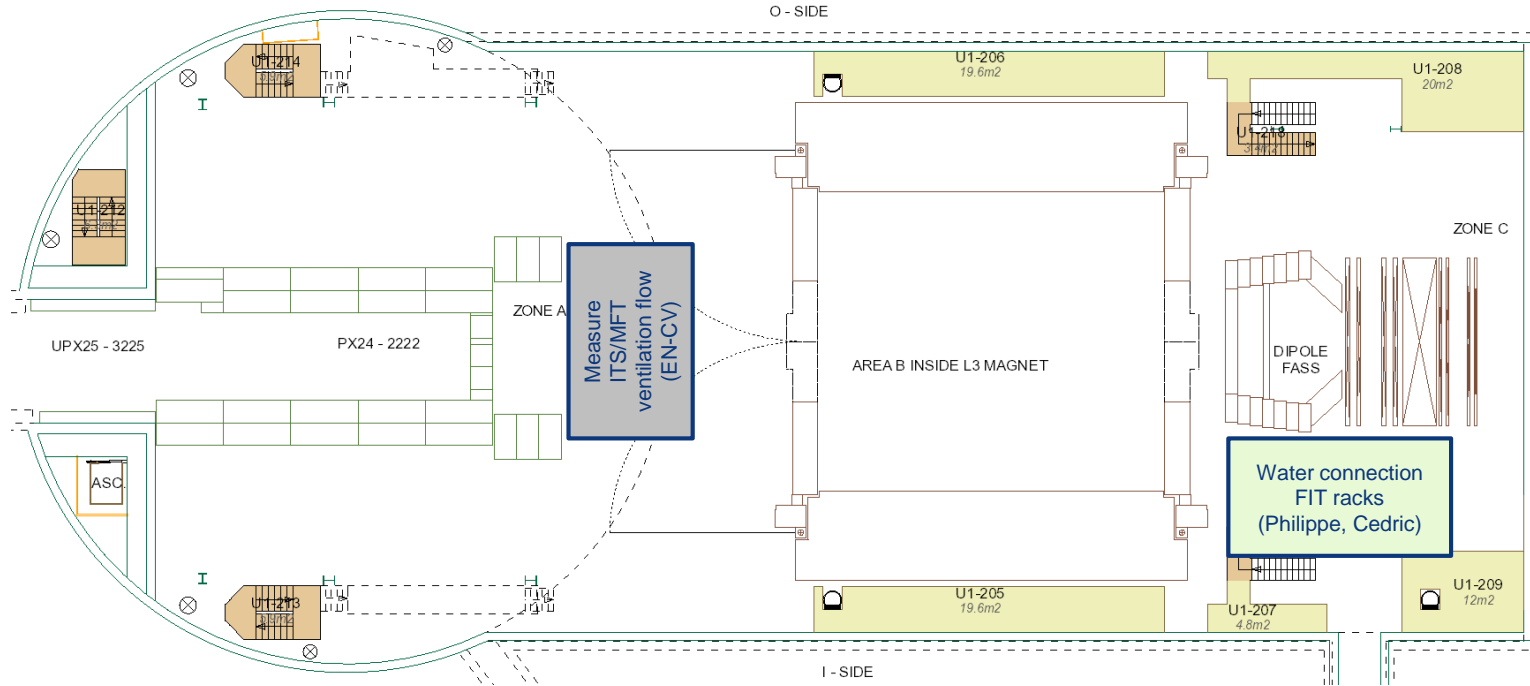
Inspection P2 lifting equipment (HSE)



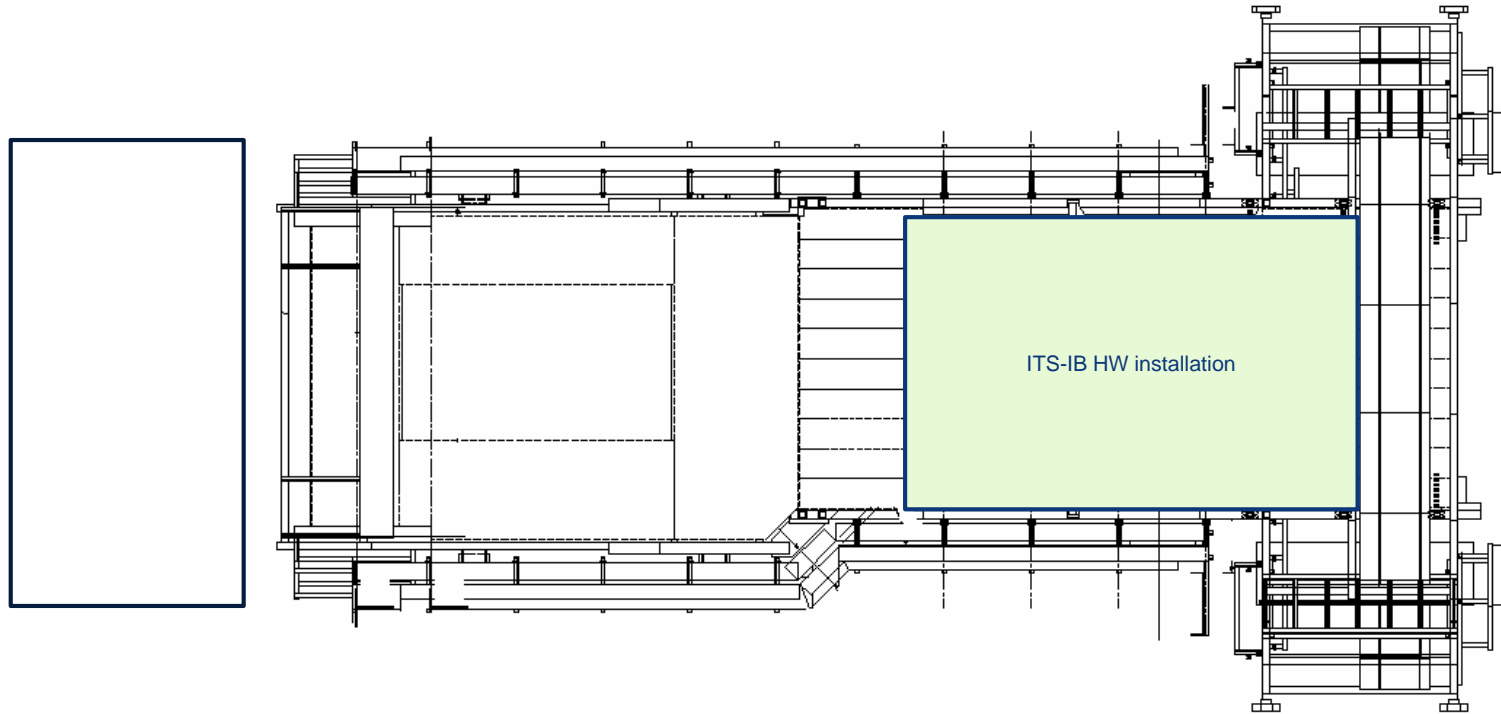
Miniframe activities w16 – Thu 22 Apr 2021



UX25 activities w16 – Fri 23 Apr 2021



Miniframe activities w16 – Fri 23 Apr 2021



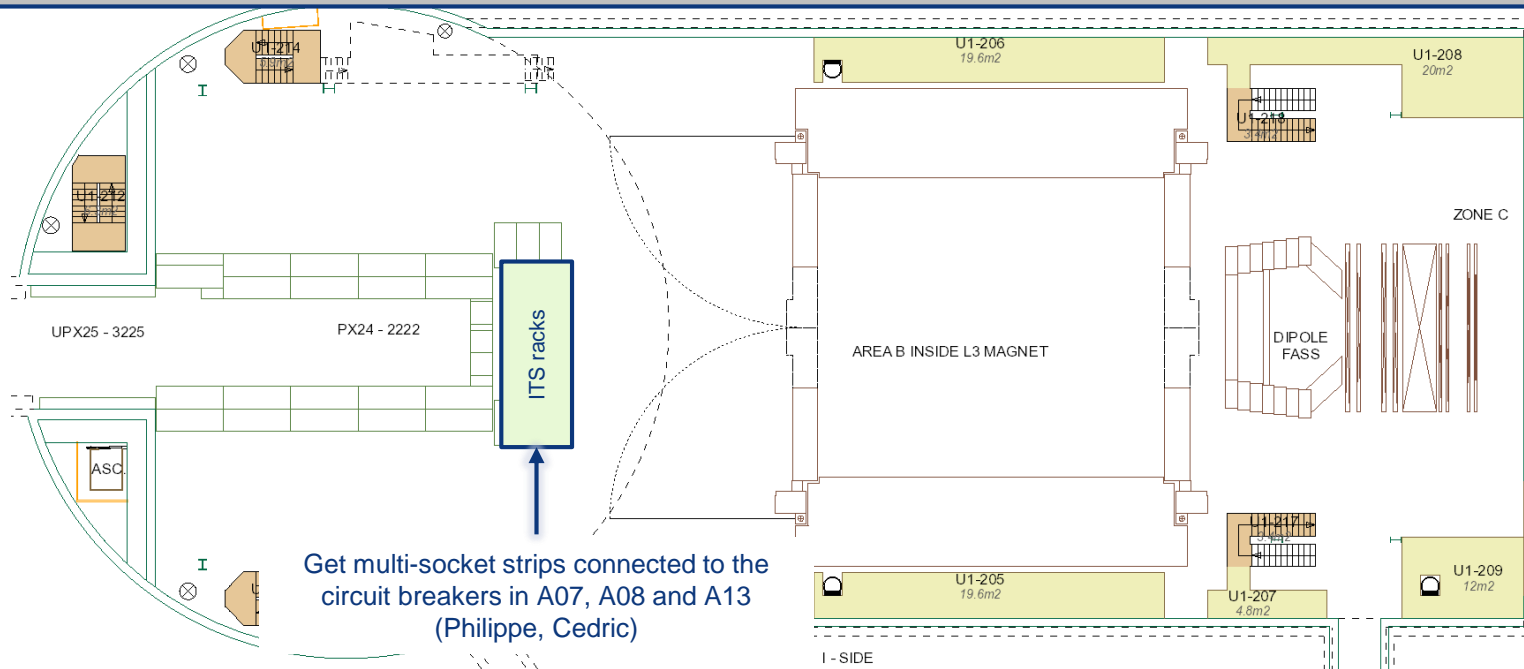
Day-by-day sequence w17 2021



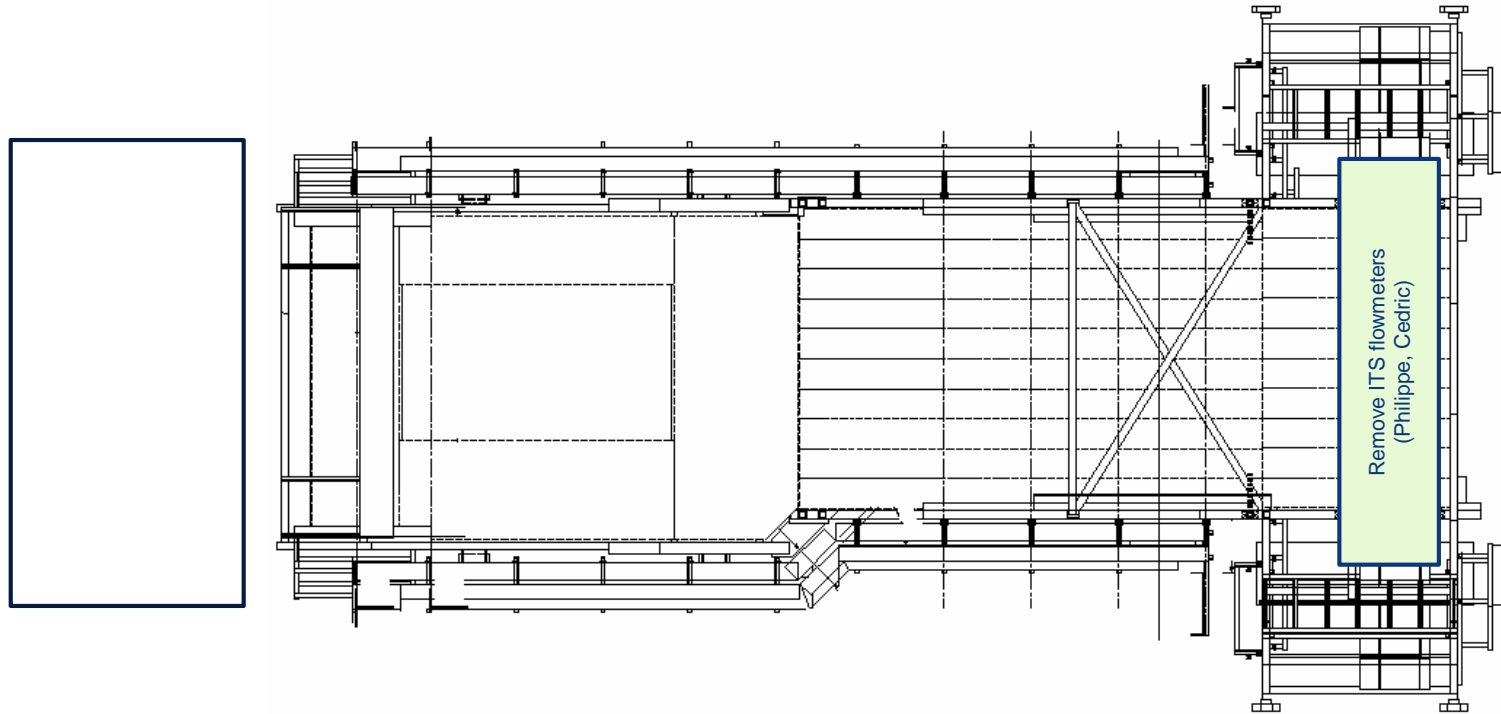
UX25 activities w17 – Mon 26 Apr 2021

Load ITS IB-BOT onto truck in b.167

Replace electrical cabinet of the HMPID cooling system (replace the PLC to switch to UNICOS)
→ HMPID cooling system stop (26-30 April) (EN-CV)



Miniframe activities w17 – Mon 26 Apr 2021



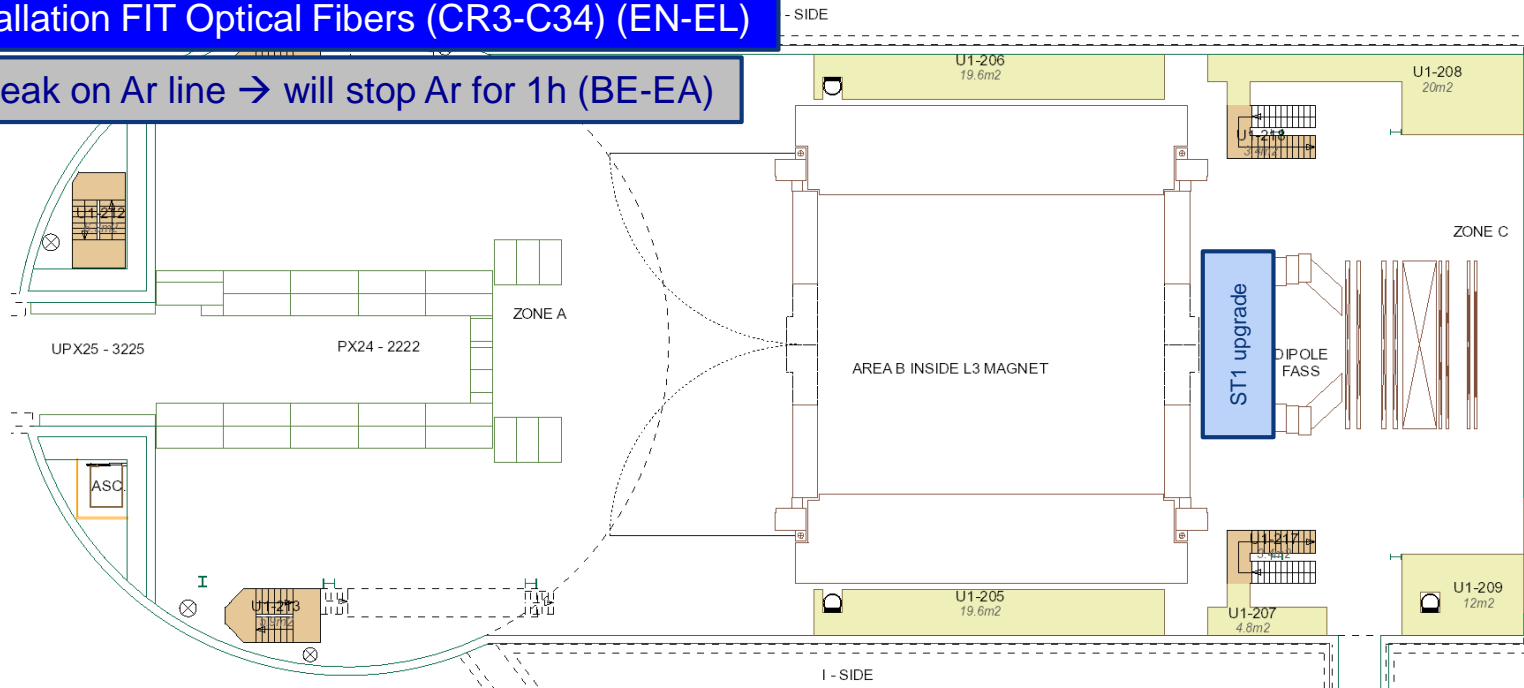
UX25 activities w17 – Tue 27 Apr 2021

Cleaning cavern (Topnet): 13:00 to 15:00

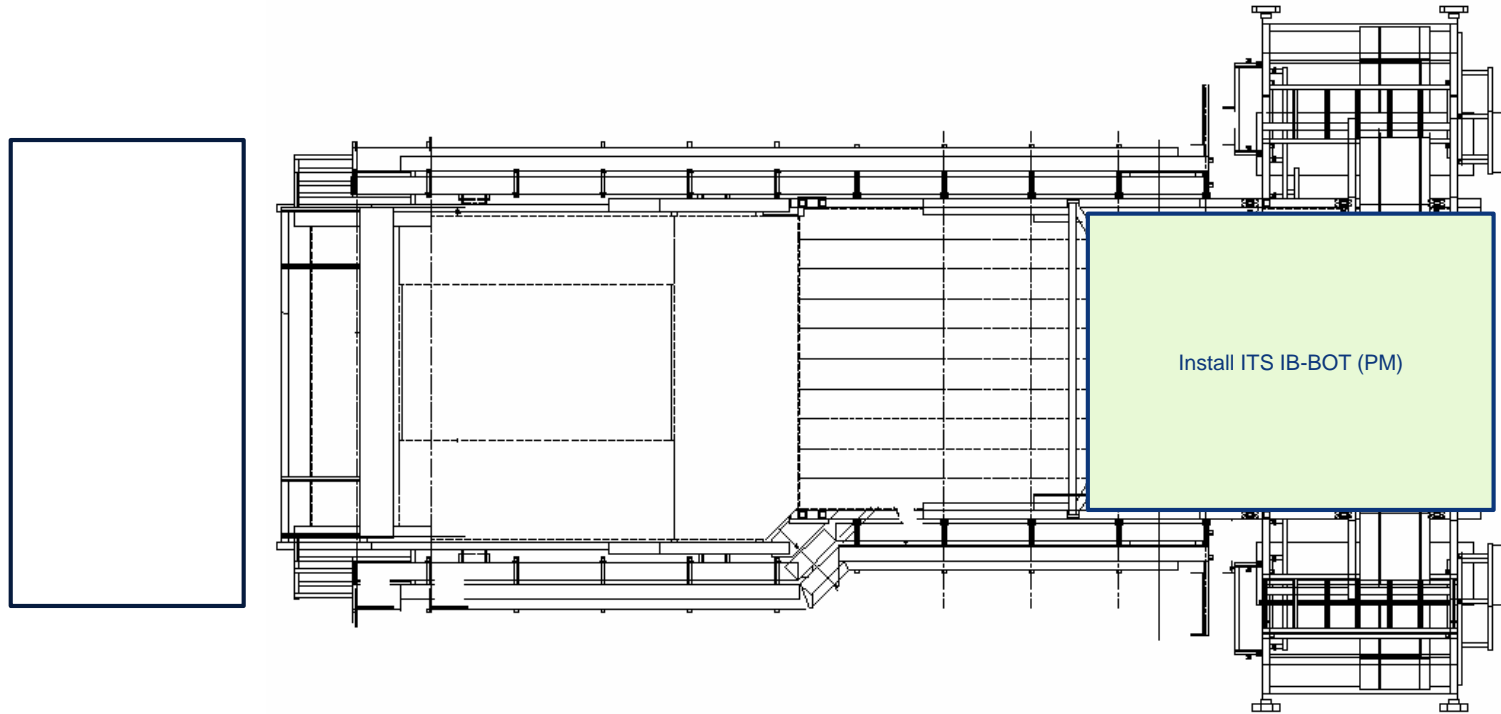
Transport ITS IB-BOT to P2 (4:00 AM)

Installation FIT Optical Fibers (CR3-C34) (EN-EL)

Fix leak on Ar line → will stop Ar for 1h (BE-EA)



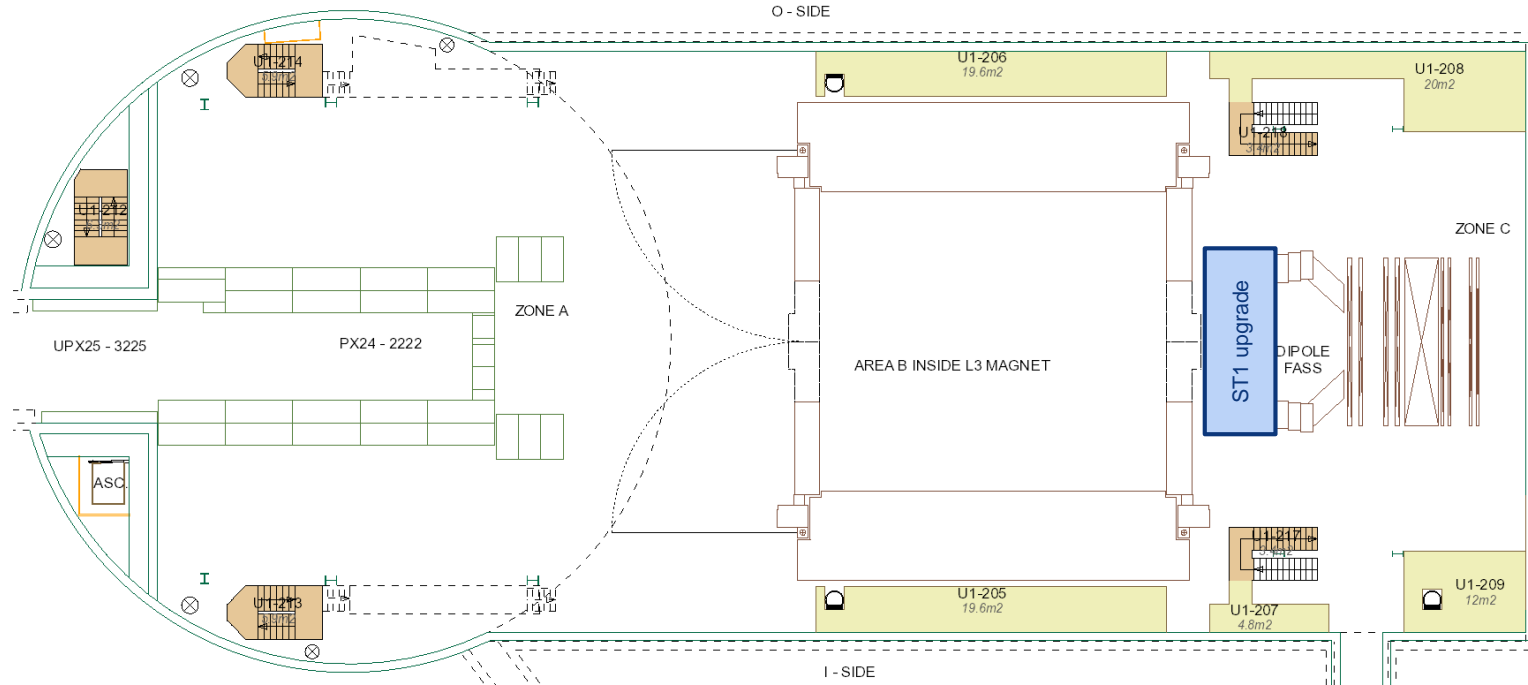
Miniframe activities w17 – Tue 27 Apr 2021



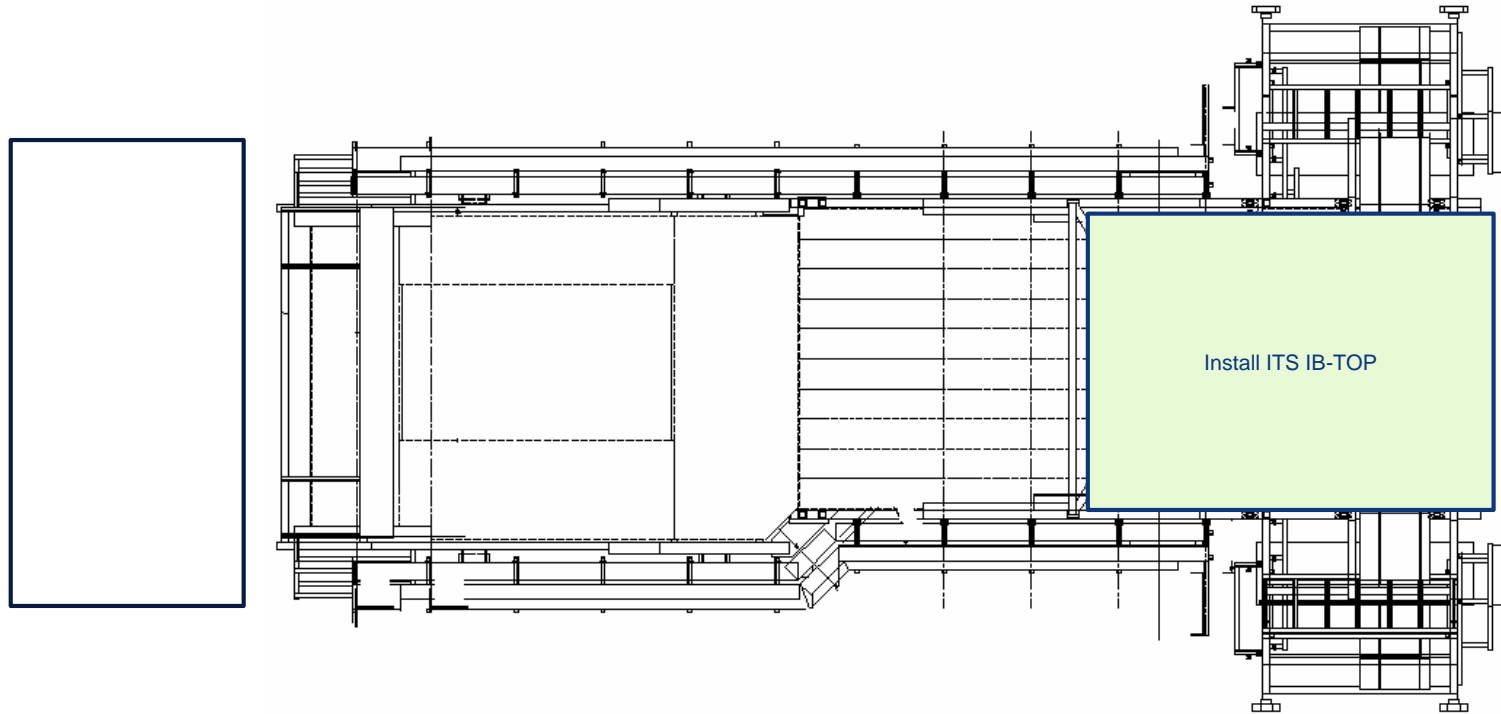
UX25 activities w17 – Wed 28 Apr 2021

Load ITS IB-TOP onto truck in b.167

Installation FIT Optical Fibers (CR3-C34) (EN-EL)



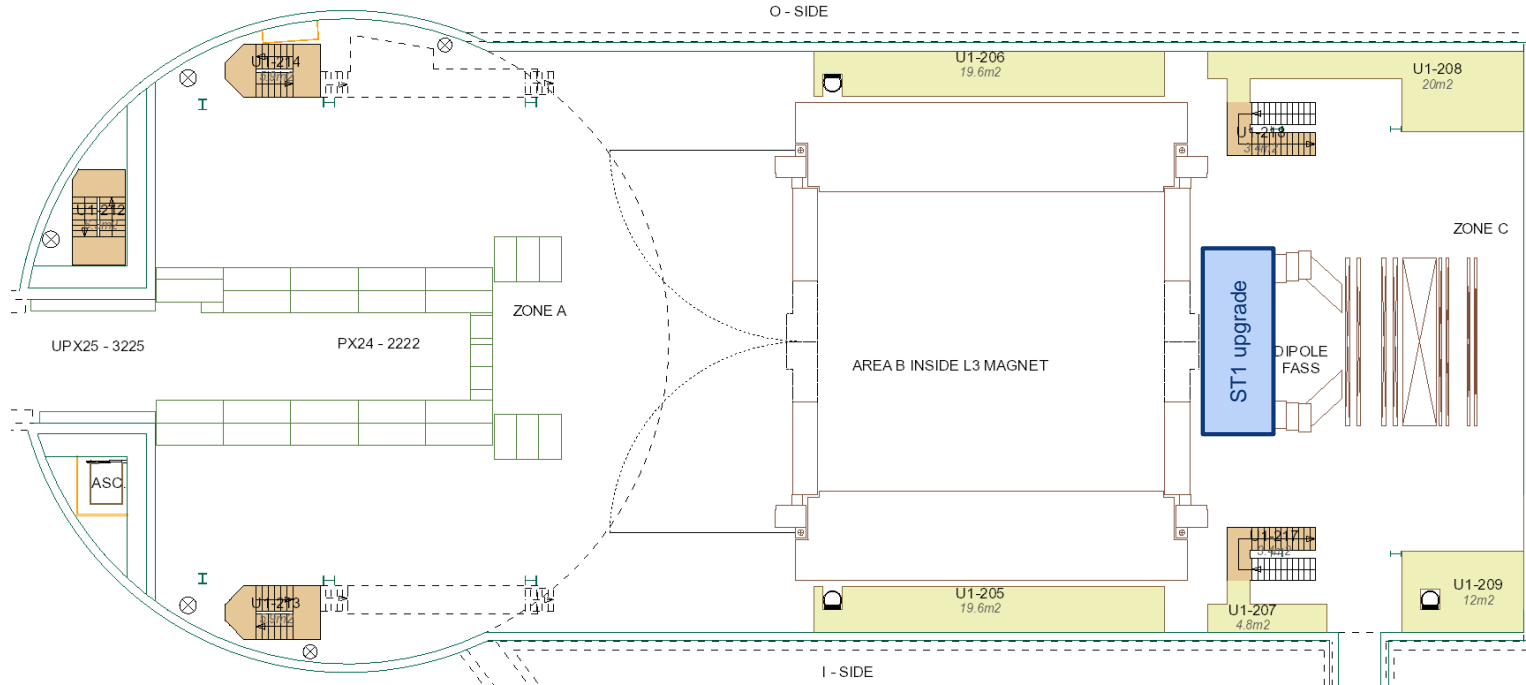
Miniframe activities w17 – Wed 28 Apr 2021



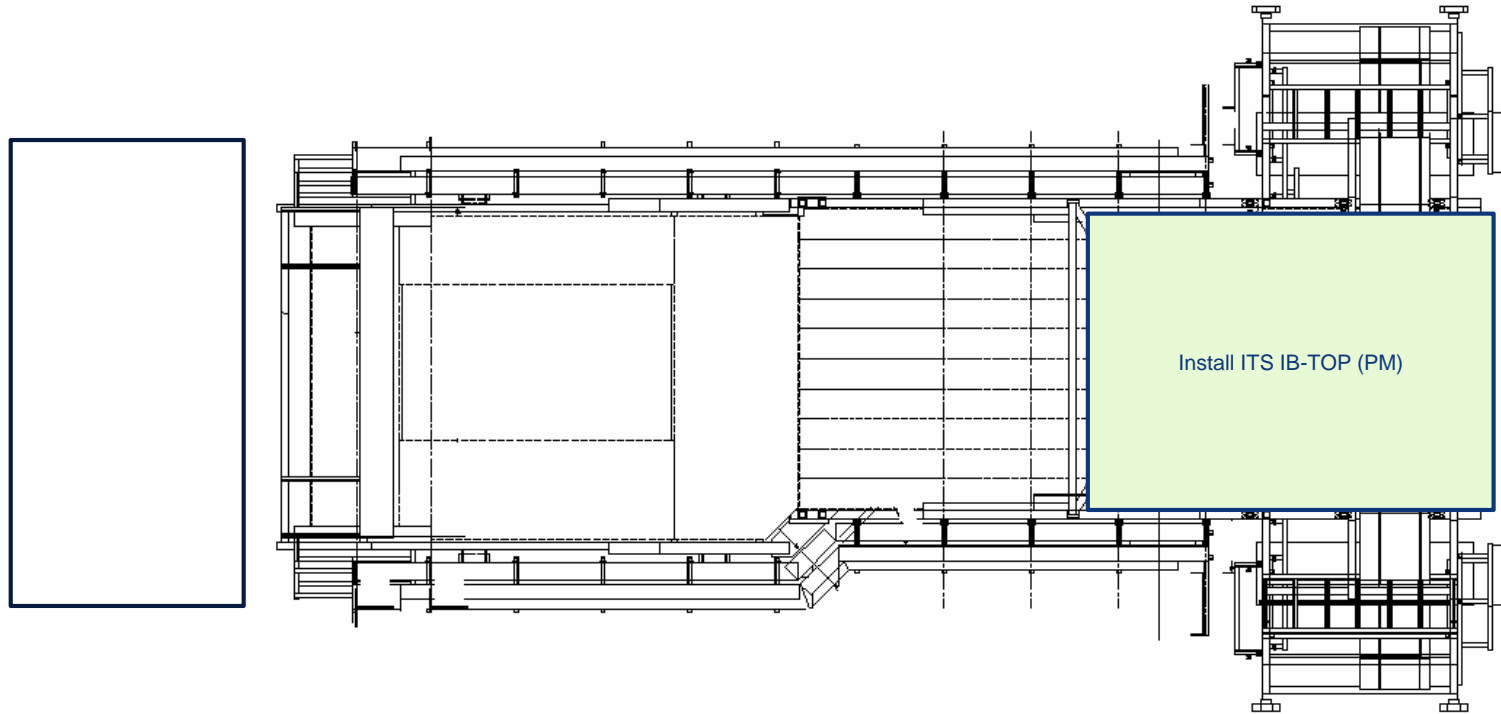
UX25 activities w17 – Thu 29 Apr 2021

Transport ITS IB-TOP to P2 (4:00 AM)

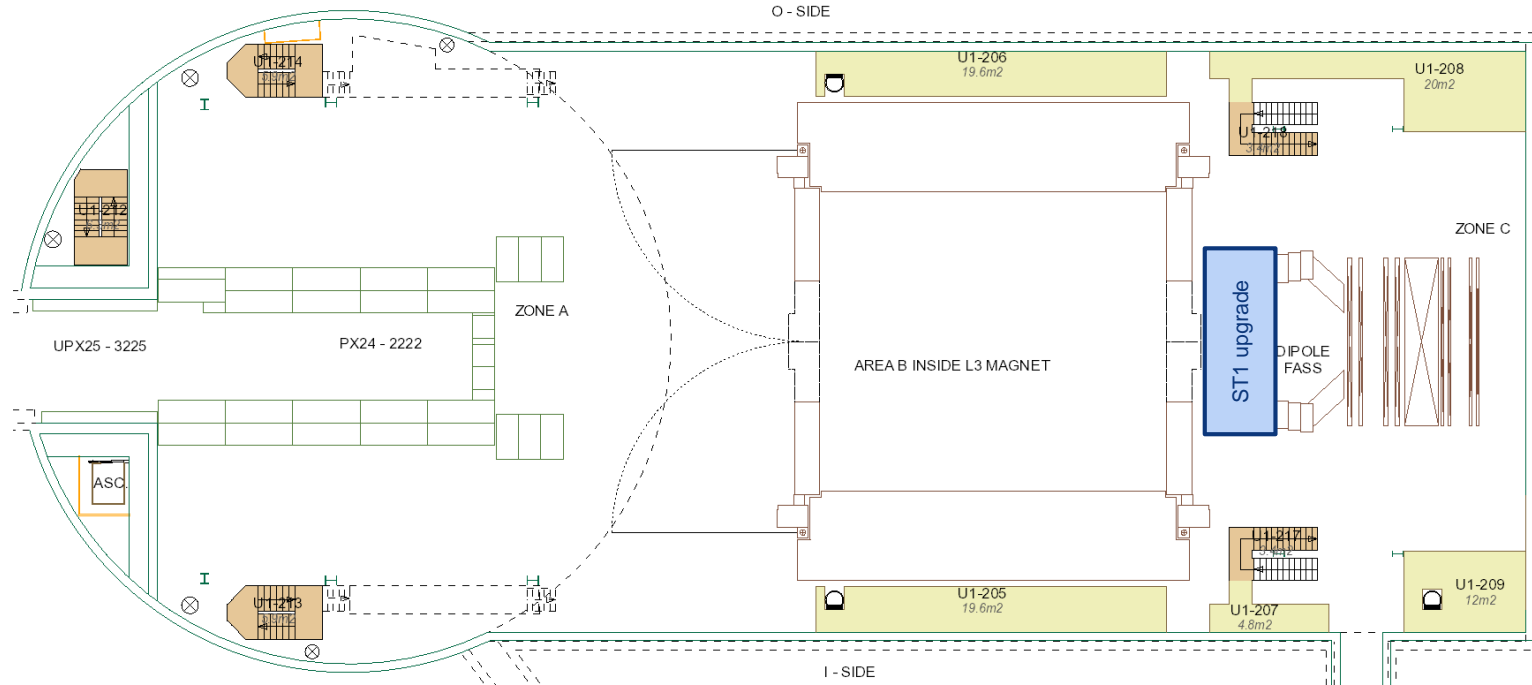
Installation FIT Optical Fibers (CR3-C34) (EN-EL)



Miniframe activities w17 – Thu 29 Apr 2021



UX25 activities w17 – Fri 30 Apr 2021



Miniframe activities w17 – Fri 30 Apr 2021

