

# LS2 planning meeting

A.Tauro



# COVID-19 updates

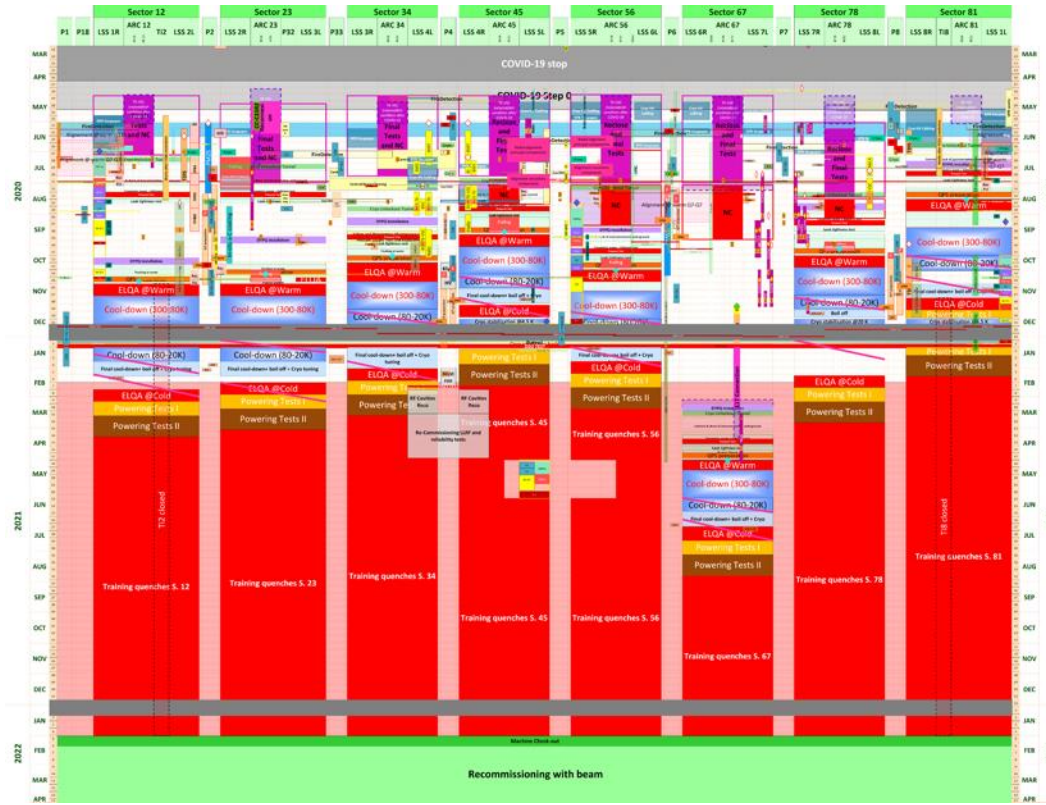
- In light of the stricter measures announced by CERN's Host States (France and Switzerland) to confront the escalating number of infections in their countries, CERN is adapting its framework for **on-site activities and telework**. The overarching objective remains to safeguard the health and safety of everybody on the CERN sites while enabling continued effective operation of the Laboratory, as far as feasible.
- 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>
- If you suspect that you may have come into contact with the virus, use the **Tramed tool** to evaluate your situation. Using Tramed allows the Medical Service to keep track of the evolution of cases among the CERN community.
- **Curfew in France:** Due to the evolution of the pandemic in France, **the French authorities have changed the hours of curfew to run daily from 6.00 p.m. to 6.00 a.m. across the country, starting from Saturday 16 January, for 15 days minimum**. More information can be found [here](#). 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.
- **Case declaration:** members of CERN personnel who have either tested positive for COVID-19 or are suspected cases (i.e. having possible COVID-19 symptoms but are untested or tested negative) are requested to inform the Medical Service (Tel: + 41 22 766 7777 or [medical.service@cern.ch](mailto:medical.service@cern.ch)) urgently. The same applies if any household members show symptoms associated with COVID-19.
- **The duration during which suspected or confirmed COVID-19 cases need to isolate and during which access to the CERN sites is prohibited, will be reduced as of Monday 18 January, unless the CERN Medical Service decides otherwise, to the following:**
  - Persons with COVID-19 symptoms who have tested negative for COVID-19 shall self-isolate and not come on to the CERN site for the duration of the symptoms plus two days without symptoms;
  - Confirmed COVID-19 cases shall self-isolate and not come on the CERN site for at least 12 days from the date of the first symptoms, with the last two days being symptom-free.
- **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 refer to [Covid19.helpline@cern.ch](mailto:Covid19.helpline@cern.ch) or [ALICE-covid19-coordination@cern.ch](mailto: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 has two functions:
  - warn people that the social distance of 2 meters has been violated for more than 30 seconds;
  - store such event in a database that might be used, in case of need, by the medical service to ensure efficient contact tracing.
- This device will be mandatory from March 1<sup>st</sup> 2021.**
- The distribution of these devices has already started, you can fetch your device at different locations. You can book a slot to collect your Proximeter here: <http://www.cern.ch/proximeter-dist>.
- For those at P2, the distribution will be done in 3294 R-002 every Tuesday in January and February.**



	Mon	Tue	Wed	Thur	Fri
B55	X	X	X	X	X
R1	X				
R2		X		X	
R3			X		X
LHC1			X		
LHC2		X			
LHC5	X				X
LHC8				X	



# ITS Installation Status and Plans

## Status

- CAEN system
  - Communication test between CR-4 and A-side racks successful
  - Control and service/bulk power cables 90% done, waiting for mains connection
- Deinstallation, preparation and testing of detector data cables: **done**; power cables ongoing (w/ help of 4 COMSA technicians):
- Power cables between PP-A and PP-1 (activity mainly at the A-side racks): 90% ok, rest under investigation
- Optical fibre preparation started
- 4/16 electronics sub-racks ready for deinstallation

## Plans for next week

- CAEN system: continue cabling (A-side / CR-4), verify hardware thresholds
- Fibre installation at CR-1
- Testing of ITS2S connections to CR-4
- Continuation of detector cable deinstallation, preparation and testing (@167)
- Readout Unit and Power Board deinstallation towards the end of the week (@167)

# Installation ITS cooling plant



CP and cabinets in place. Cabling & mechanical assembly started. Pipework next week (Rampower)

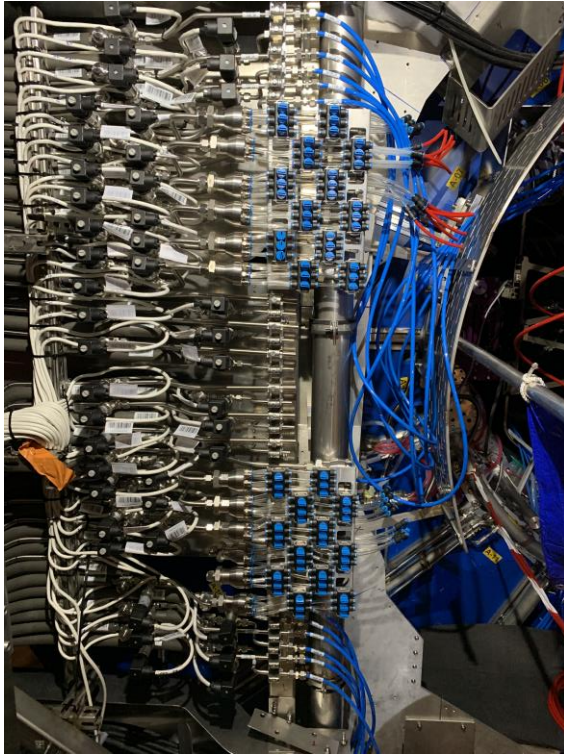




# ITS & MFT ventilation



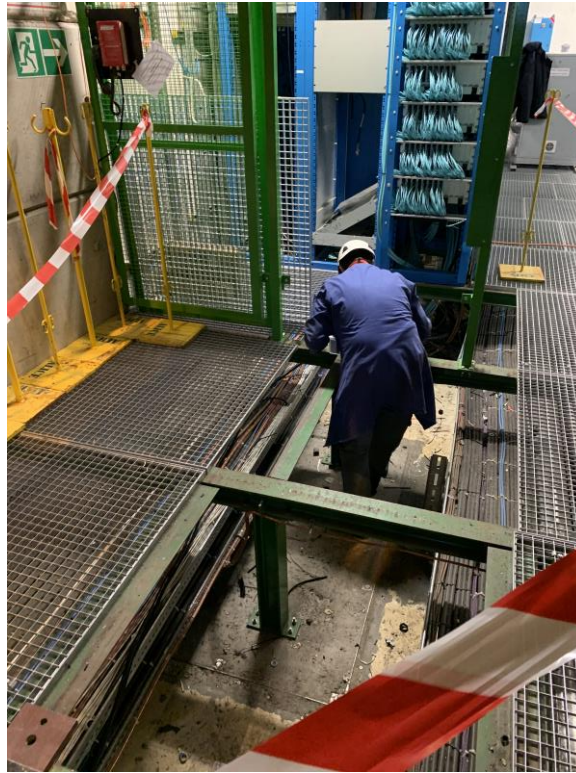
# ITS cooling manifolds



O-side done, will take the whole next week to complete



# TPC laser optical fibers



# FIT-C status

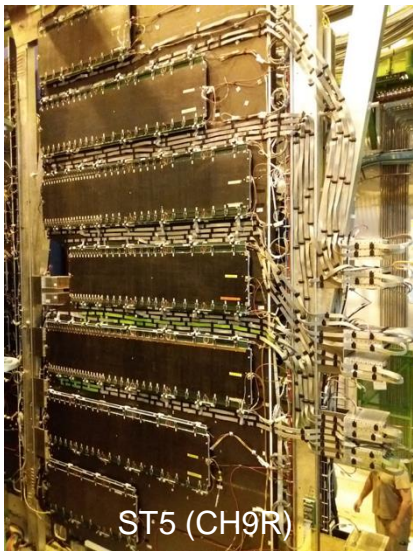
## FT0-C commissioning plans

- .We plan to participate in the Solenoid test in February
- .Measure response of several of FT0-C sensors in B-field with full-chain electronics and data readout through DCS (no resources to prepare)
- .List of items to accomplish in the **next two weeks (needed manpower is at CERN)**
- .Prepare two Wiener crates in the lab (mechanical and cooling tests with PMs & TCMs)
- .Prepare rack C34
  - adjust of side air channels
  - old data fibers from C34 to CR4 end in a wrong place in CR4 (need to extend them or route new fibers)
- .List of items to accomplish **later, but before the test (manpower uncertain)**
- .Install Wiener crates with a set of PMs+TCM
- .Connect FEE with DCS server in CR4 and commission the DCS (in a limited scope)

## Logistics (may affect feasibility of FT0-C participation in the February test)

- .Travelling restrictions from Moscow
- .2 experts currently present at CERN will return to Moscow on 31.01
- .another 2 experts will have to travel from Moscow to CERN before the test – in mid-February
- .Availability of clean room → under investigation (synergy with FT0-A assembly)
- .Is there another solenoid/dipole test scheduled in 2021?

# MCH status



ST5 (CH9R)



Grounding points



Electronics installation



- Remaining work on **ST5**:
  - Remove detectors from support panels
  - Install new electronics and SOLAR boards
  - Ground support panel (holes)
  - Route cables and optical fibers
  
- **2 technicians (COMSA) are helping since Dec 1<sup>st</sup>. They are booked until end February.**
  
- CH9R readout commissioning started
- CH10R:
  - All detectors dismantled and new readout installed
  - All modifications to support panel done
  - Half of the detectors re-installed on support
  - Completion expected by end of next week
- CH09L: 25/01 to 12/02
- CH10L: 15/02 to 05/03
  
- **MCH CRU UL validated today with FLP team. Preparation of MW1 ongoing.**

}

**Completion by end February**

# ST1 installation status 1/2

- Quadrants were ready for installation in october 202, then...
- Resumed operations in mid-december 2020 (visit/access)
- 4 quadrants at point 2 on 6/1/2021
  - Mechanical installation 11-15/1
  - **Chamber 1 installed** (next slide)
- Planning attempt (modified yesterday)
  - 4 quadrants (chamber 2) will arrive 27/1
  - Chamber installation 1-5/2
  - Cabling starts 8/2





# ST1 installation status 2/2

Chamber 1 (4 quadrants)  
installation is completed.

Next Chamber 2...

Cabling not started yet.





# Installation 33 EPN servers

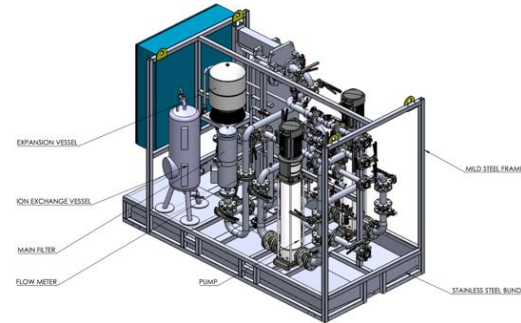


Last batch (20 servers) still to be delivered

# L3 doors & Magnet test



- In December we have **closed the magnet doors** to verify that there is no mechanical interference with the Miniframe
- ~~The new cooling plant (EN-CV) for the L3 power converter will be hopefully ready by end January (w5)~~ → **cooling plant seems (again) delayed, we have to make a new plan for the L3 magnet powering test**
- Magnet test planning:
  - ~~w7: 15-19/2~~ → close and bolt both L3 doors, search inside L3
  - **w8: Mon 22/2** → ramp-up L3
  - ~~w8: Tue 23/2 - Thu 25/2~~ → open both doors

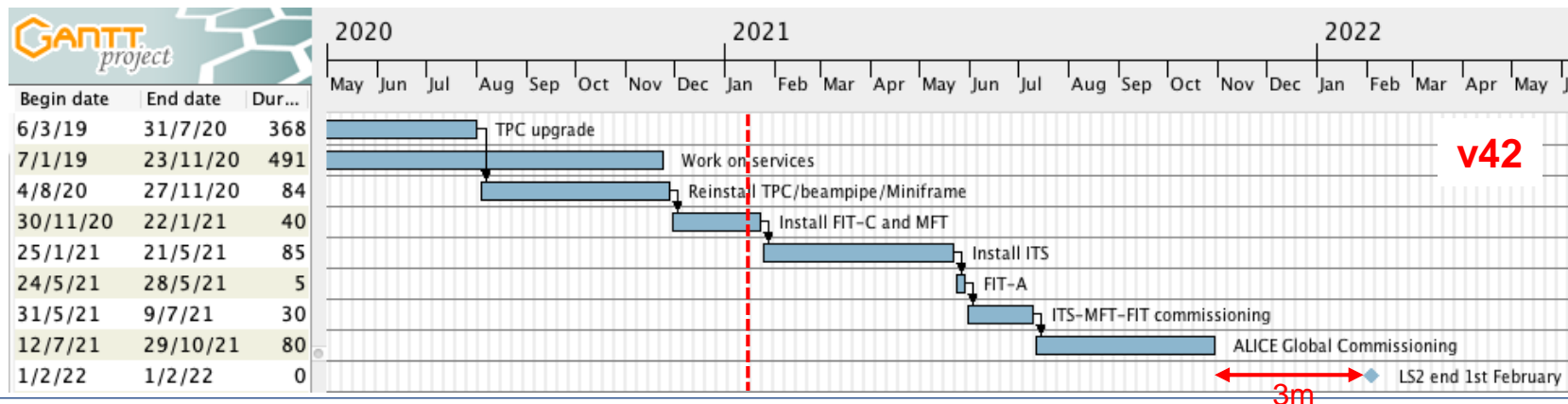


# Removal b.6952

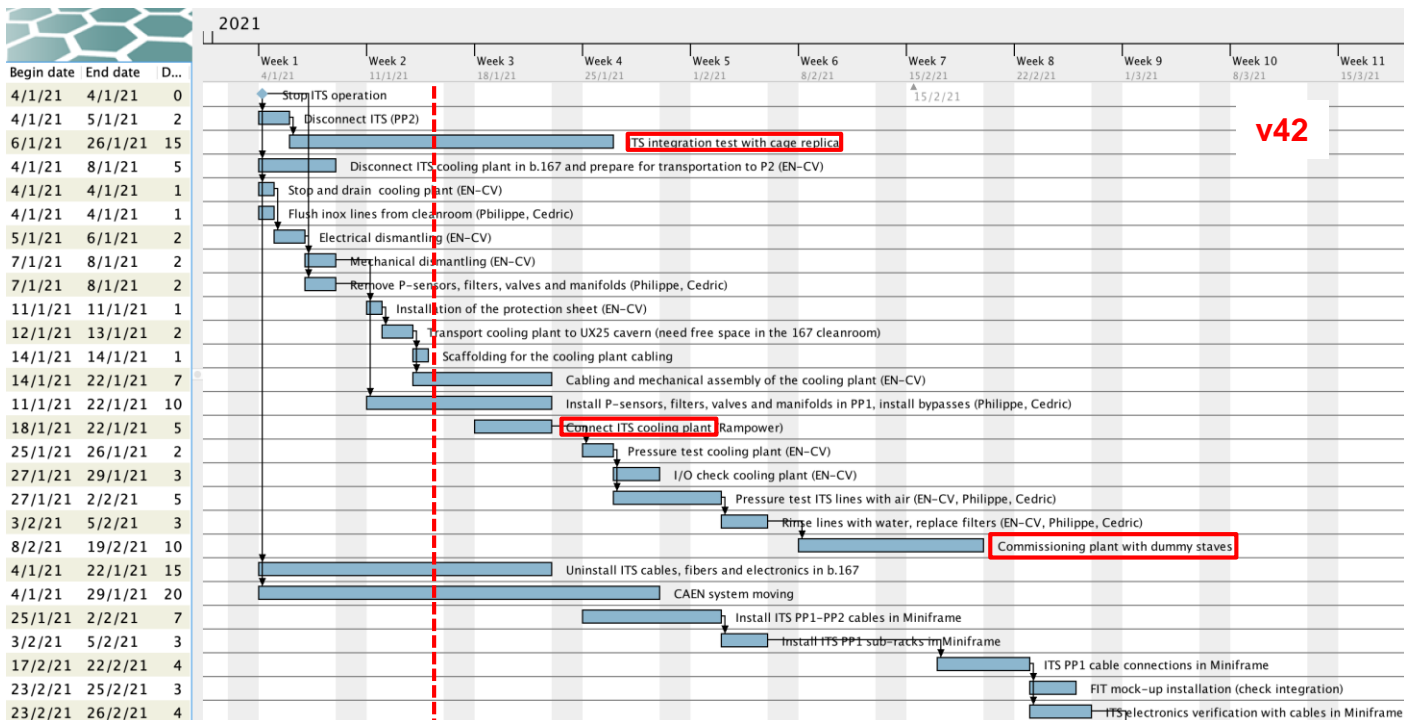


# Current master schedule (v42)

- **Schedule v42:**
  - Stop ITS operation on Mon Jan 4<sup>th</sup> 2021
  - Stop MFT operation on Mon Nov 12<sup>th</sup>
  - 16w global commissioning at the end
- **LS2 end date 1<sup>st</sup> February 2022**
- ALICE vacuum closed by June 2021 → OK to inject low intensity beam by last week September 2021 (w39-40)
- This plan foresees **3 months contingency** with respect to the LS2 end date



# Detailed ITS moving plan (Jan & Feb 2021)



v42

Jan 4<sup>th</sup> : stop ITS operation in b.167

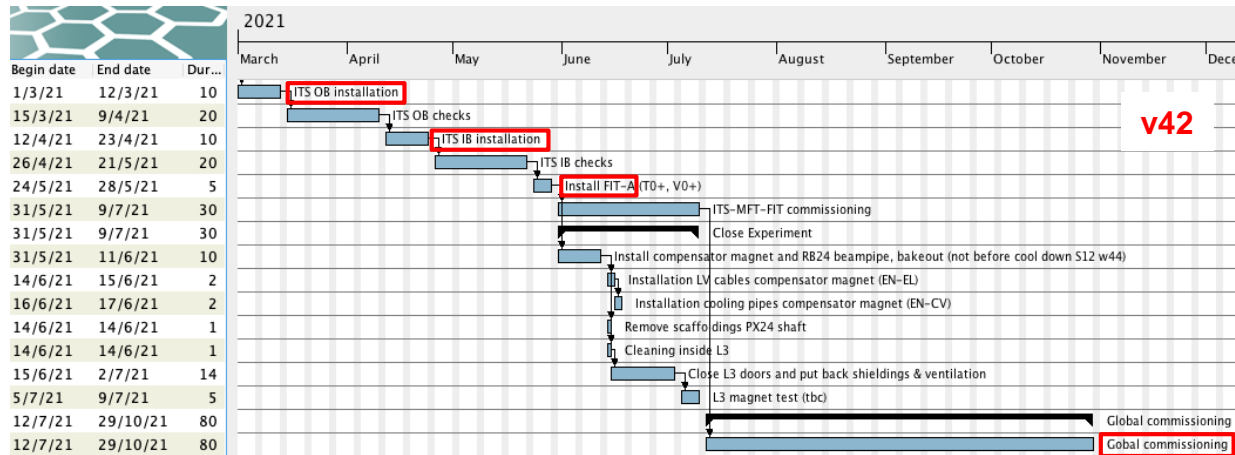
Jan 4<sup>th</sup> – 13<sup>th</sup>: transfer ITS cooling plant from b.167 to P2

Jan 14<sup>th</sup> – Feb 19<sup>th</sup>: connect and test ITS cooling plant

Jan 4<sup>th</sup> – Feb 26<sup>th</sup>: transfer cables, fibers and electronics to P2



# ITS & FIT-A installation, close Experiment, global commissioning



v42

Mar 1<sup>st</sup> – May 21<sup>st</sup>: ITS installation

May 24<sup>th</sup> – 28<sup>th</sup>: FIT-A installation

May 31<sup>st</sup> – Jul 9<sup>th</sup>: ITS-MFT-FIT commissioning & close Experiment

Jul 12<sup>th</sup> – Oct 29<sup>th</sup>: global commissioning

# Key dates

Activity	v42
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 Disconnect MFT 12 Nov
ITS installation and checks	25 Jan – 21 May Disconnect ITS 4 Jan
FDD (A&C) installation	8 Feb – 5 Mar
FIT-A installation	24 – 28 May
ITS & MFT commissioning time	1 ½ months (6w)
ALICE global commissioning time	3.5 months (16w)
<b>End of LS2 – stop UX25 access (contingency)</b>	1 Feb 2022 (3 months)

# Services status

- **Cables (EN-EA):**

- Cut and put connectors on **FIT-A** signal cables in Miniframe: ~~18-21 Jan~~ → Mar
- Complete **FDD-A** connectors: 22 Jan
- 10 BCM cables C-side (CR4-UX25): end-January
- 8 RJ45 cables EN-CV (CR4-UX25): end-January

- **Optical fibers (EN-EL):**

- Installation 3 **FDD** optical cables → January/February (date tbc)

- **Cooling:**

- **MFT**: water circulating inside crates and detector
- **TPC**: still a few leaks on the A-side
- Connection of **ITS** and inox pipes to ITS cooling plant (Rampower) → w3

- **Rack turbines replacement:**

- 80 units in total. 40 units already delivered to SX2, rest early next year
- Replacement without cutting the power in the rack

# EN-EL interventions

- **12-year maintenance diesel generator**
  - **Foreseen for next week (week 3)**
  - With the diesel out of order we still have a safety backup (the 20kV Pays de Gex). So in case of loss of normal power there will be an automatic switch to this network. However if this would happen there will be no backup anymore and we should do a 'gentle' evacuation of the cavern. If this would happen EN-EL will call André to organize this.
- **Short preventive maintenance on UPS**
  - **Week 4** (preventively change a card, without power interruption but no battery backup during 45 mins/UPS)

# Racks status

- Racks currently powered on:
  - HMPID: I01, I02
  - PHOS-CPV: A16, A17
  - CTP: C21, C22, C24, C25, C26, C27 (CTP) (and VME crates on)
  - MCH: C08, C09, C10, C11, C36, C37, C38, C39
  - TOF: O03, O04, O05, O30, O31, O32, I03, I04, I05, I30, I31, I32
  - TRD: O06, O08, O26-29, I06, I08, I26-29, C16-19, C29
  - TPC: O25, I25
  - Dcal, EMcal: A14, O12
  - MFT: I24a, I24b and A15
  - ITS: A03
- Detectors can be powered, compatible with current activities inside L3



# LHC sector test 2021

- **SPS extraction and transfer line DSO test**
  - Fri 19 Mar (reserve Sat 20 Mar) → **No access UX25** (ALICE closed Thu 18 Mar evening)
- **LASS test**
  - Fri 4 Jun → **No access to UX25** (ALICE closed Thu 3 Jun evening)
- **Beam DSO test**
  - Fri 18 Jun → **No access to UX25** (ALICE closed Thu 17 Jun evening)
- **Sector test (beam through ALICE)**
  - Last week Sept (weekend w39-40) → **LHC closed**

# Day-by-day sequence w2 2021

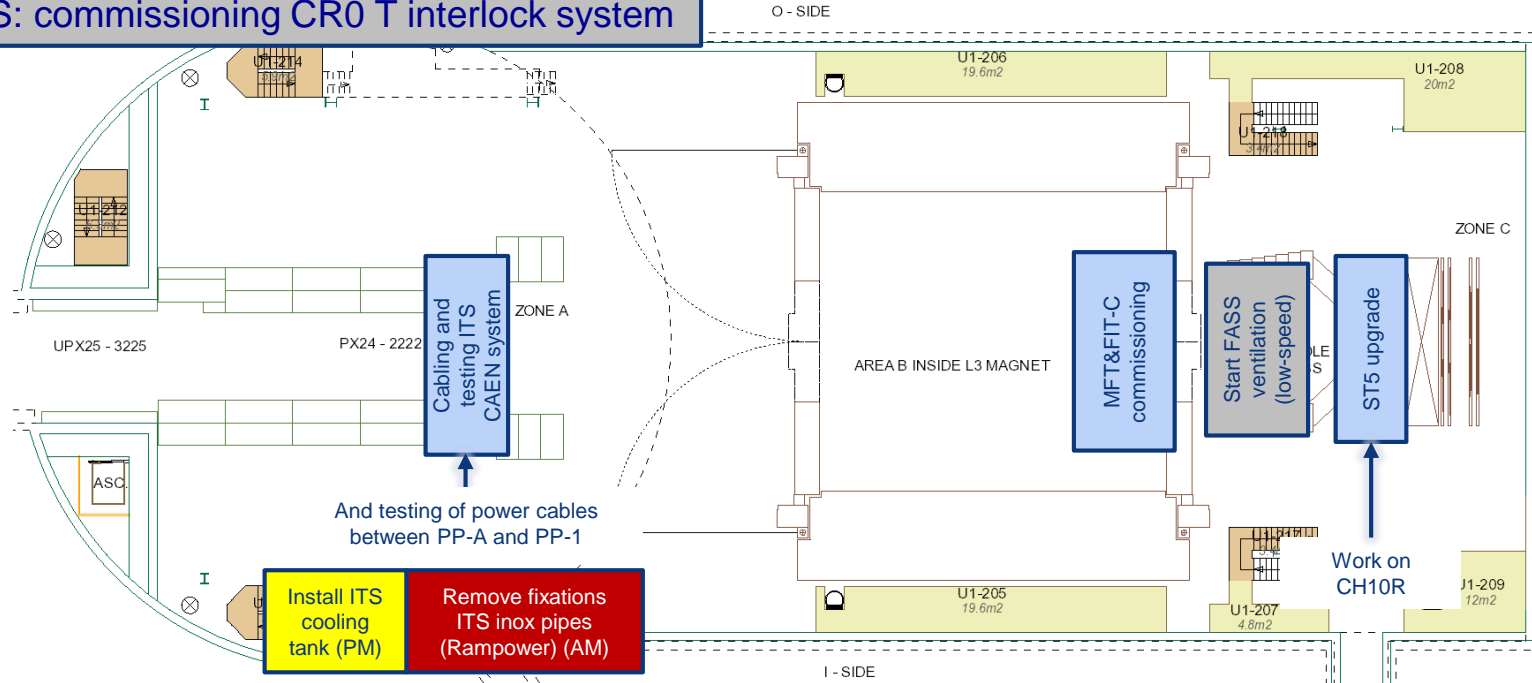


# UX25 activities w2 – Mon 11 Jan 2021

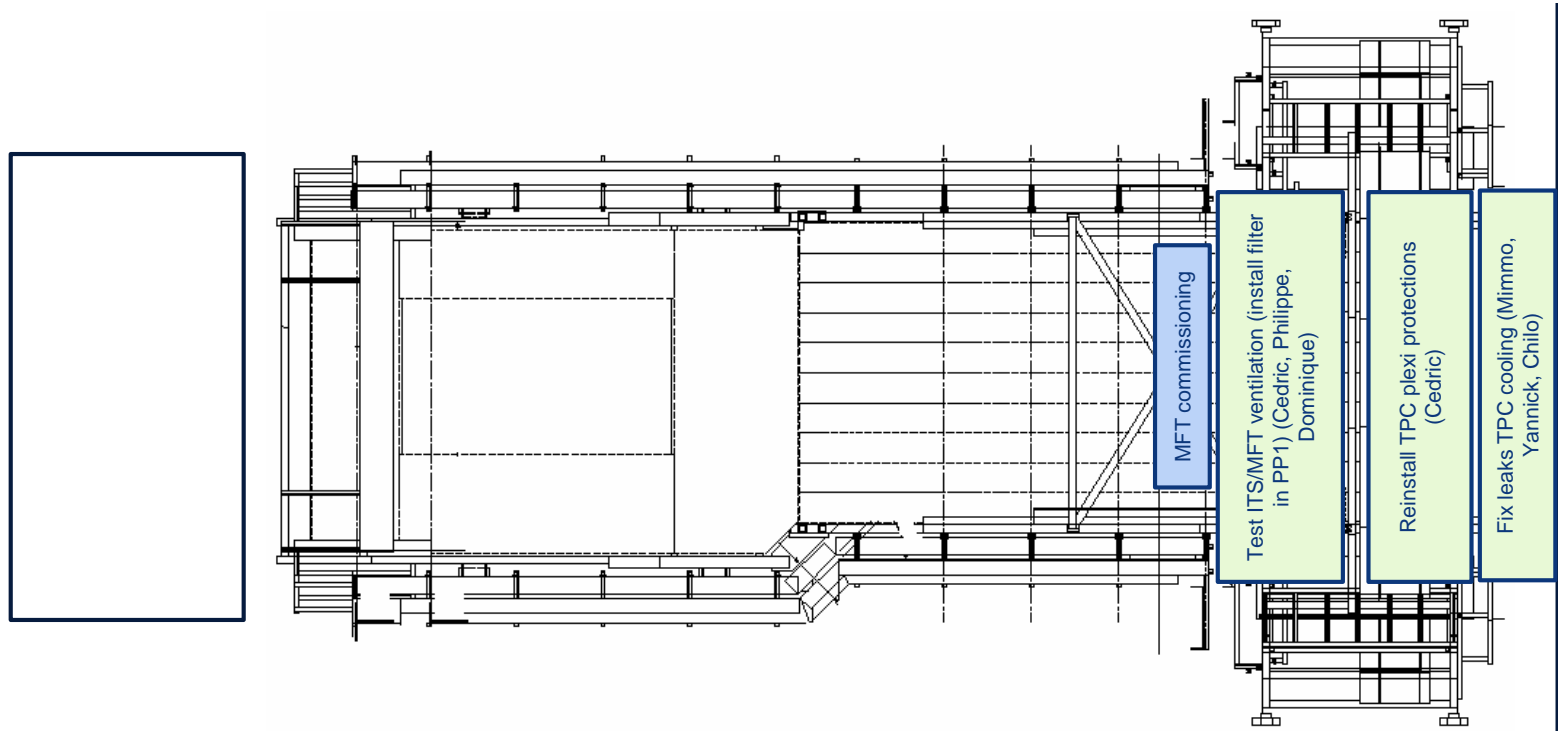
ITS integration test with cage replica in b.167 (whole week)

Transport ITS cooling plant from b167 to SX2

DCS: commissioning CR0 T interlock system

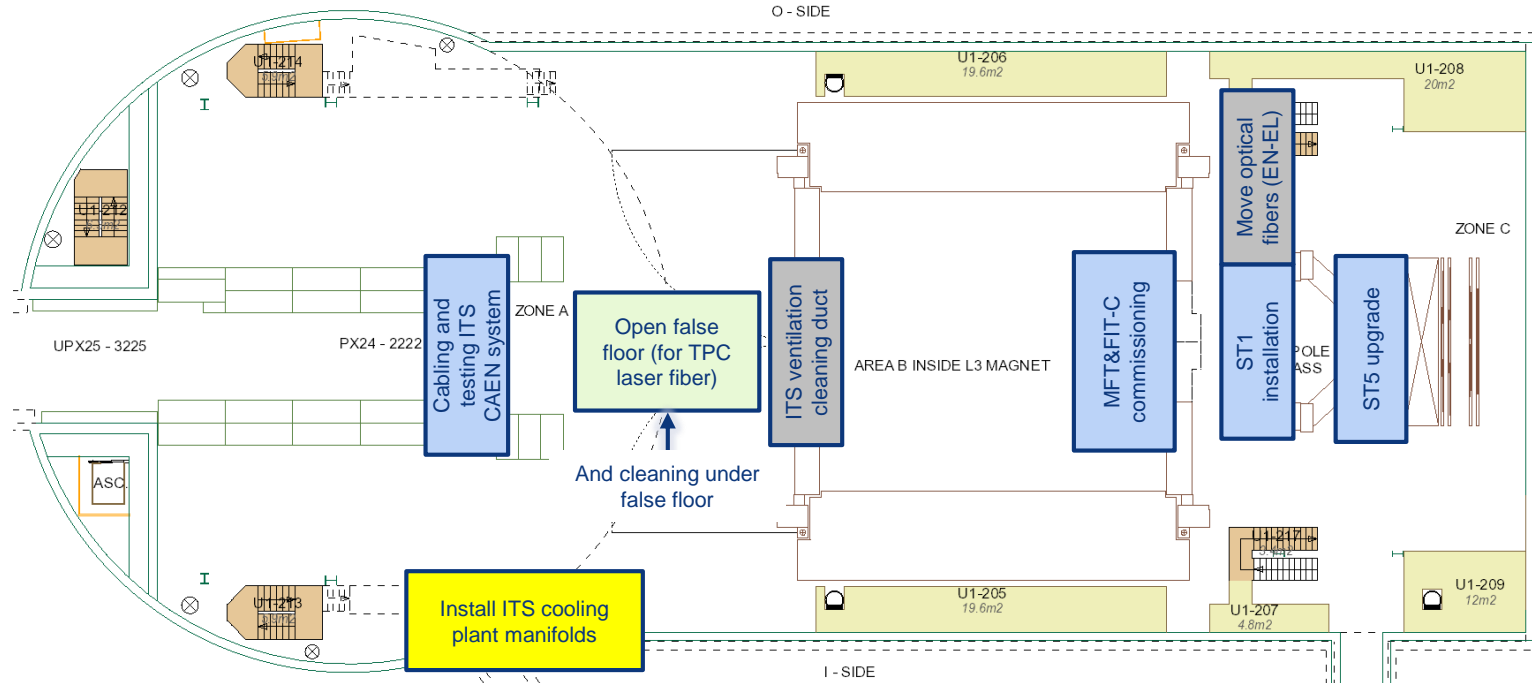


# Miniframe activities w2 – Mon 11 Jan 2021

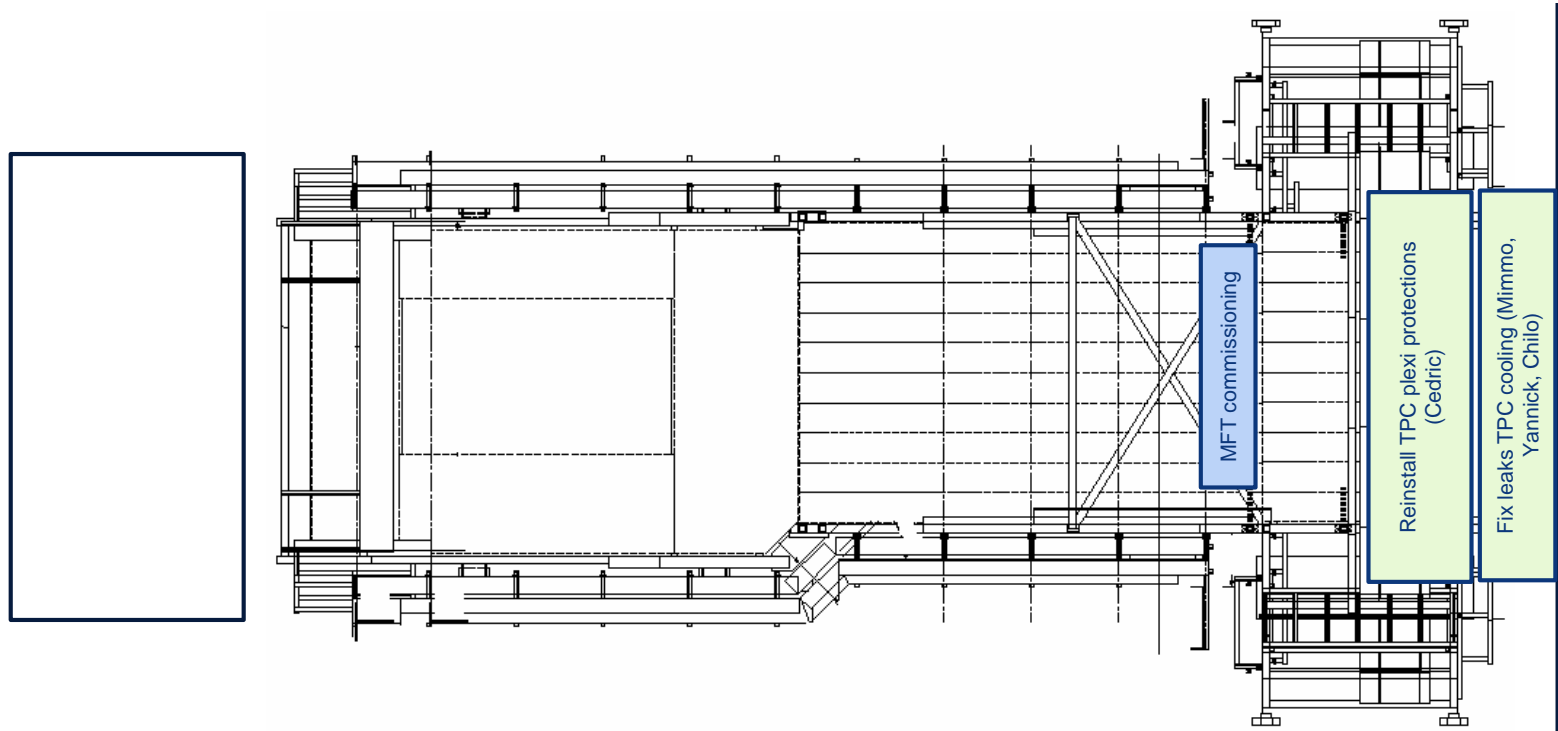


# UX25 activities w2 – Tue 12 Jan 2021

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



# Miniframe activities w2 – Tue 12 Jan 2021

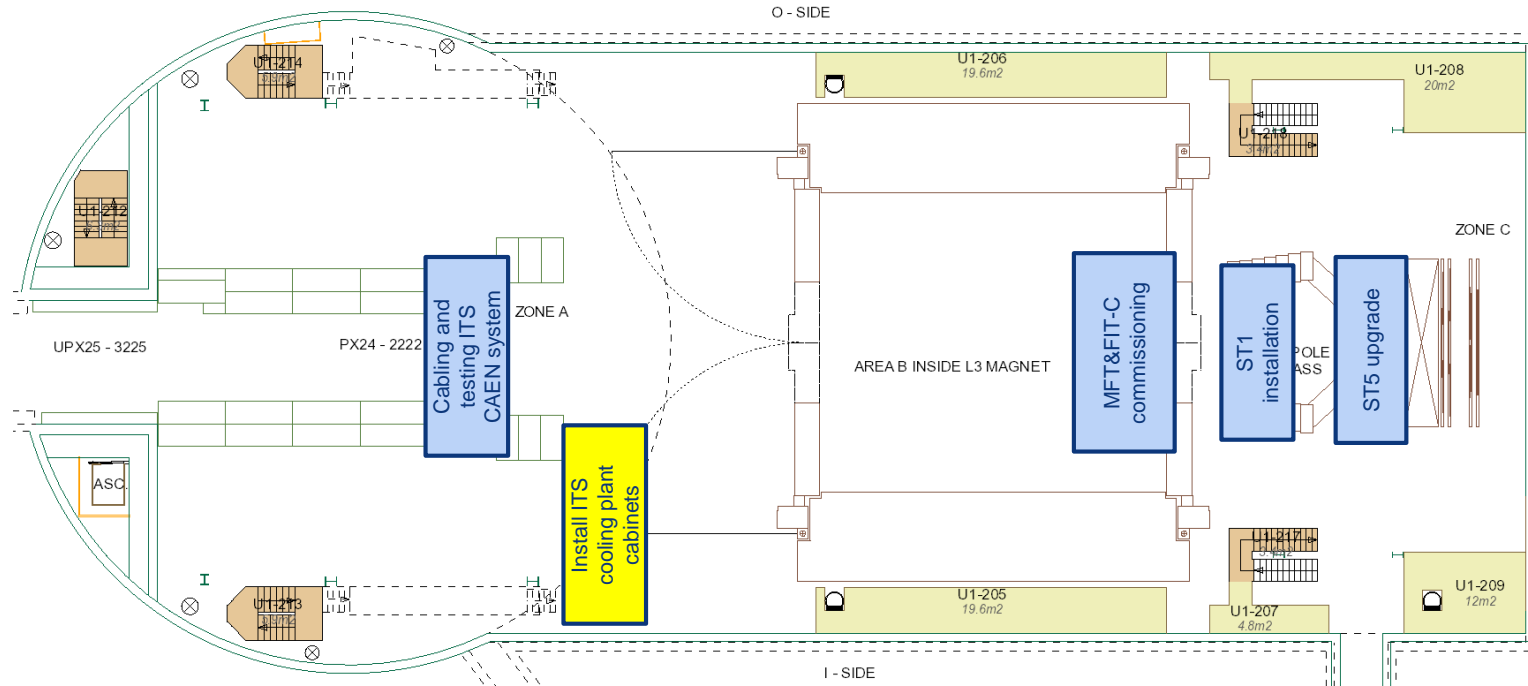




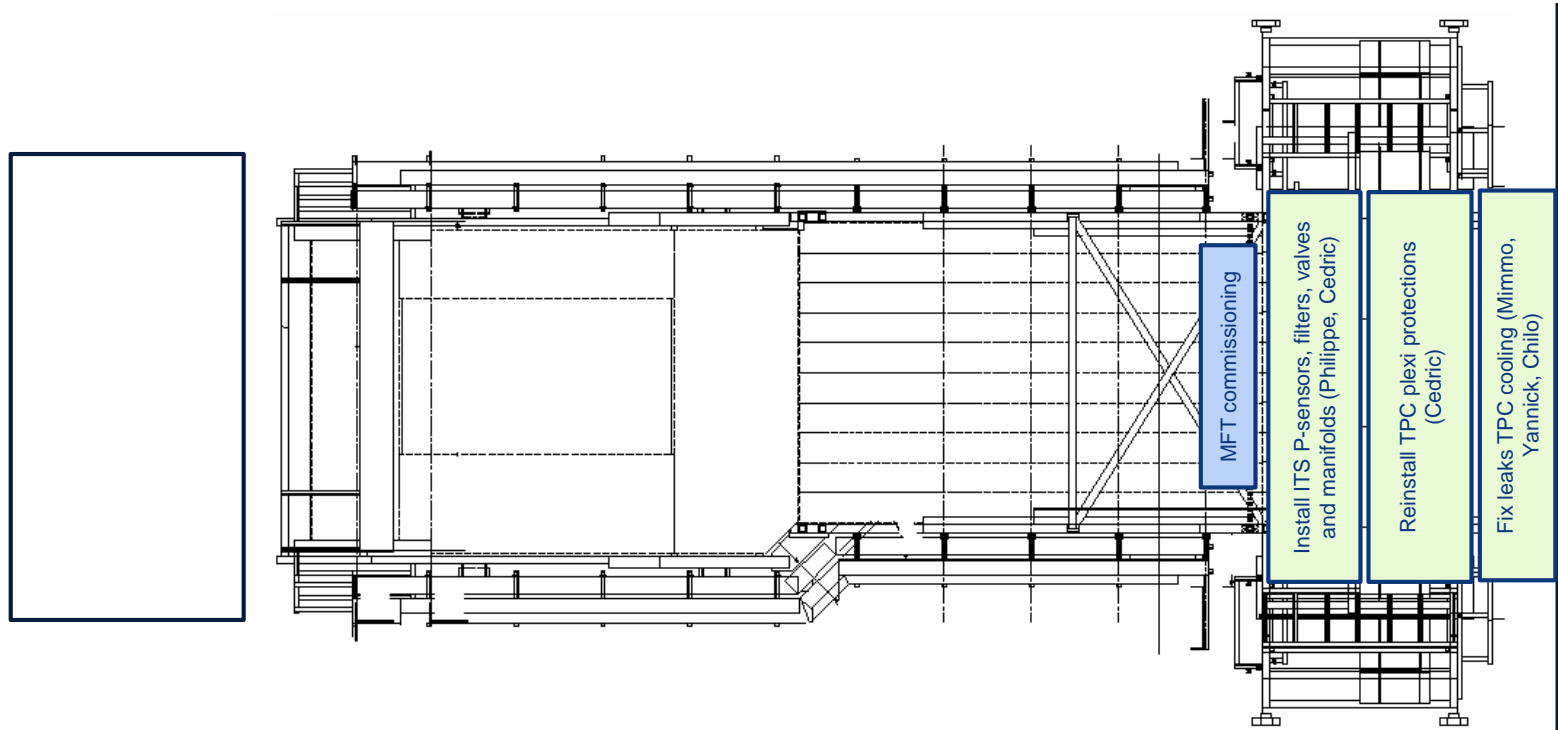
# UX25 activities w2 – Wed 13 Jan 2021

Remove tent b.6952 (Spaciotempo)

Delivery 33 EPNs, 11 pallets



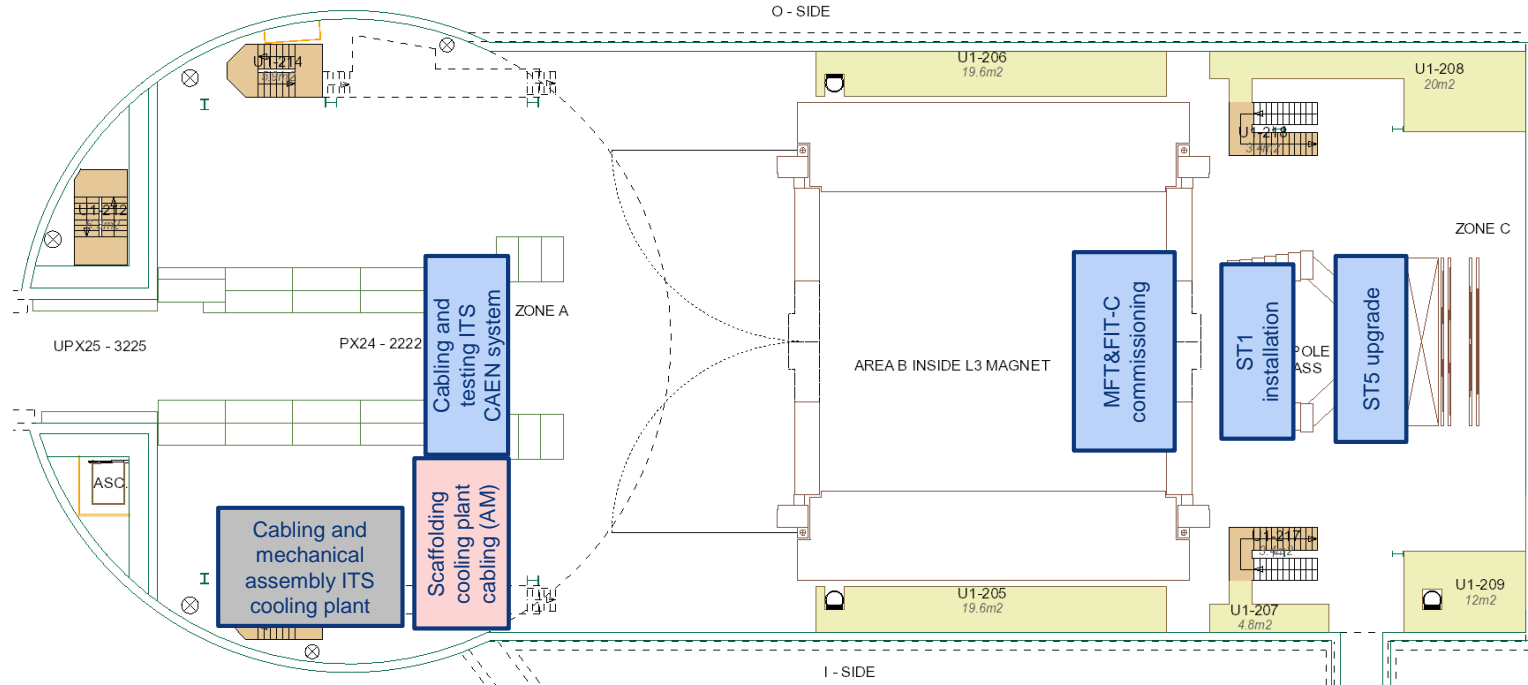
# Miniframe activities w2 – Wed 13 Jan 2021



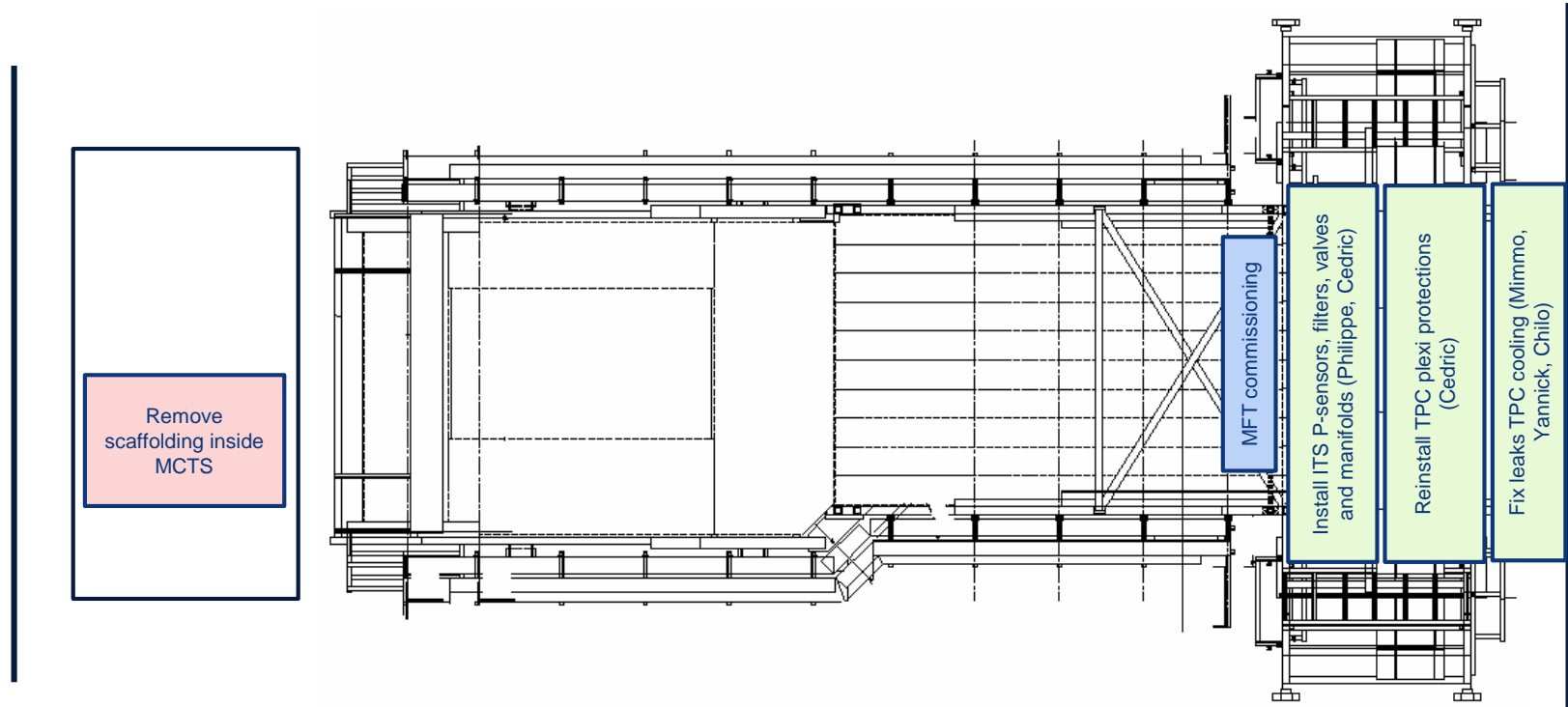
# UX25 activities w2 – Thu 14 Jan 2021

DCS: move CR0 monitoring system to IT2

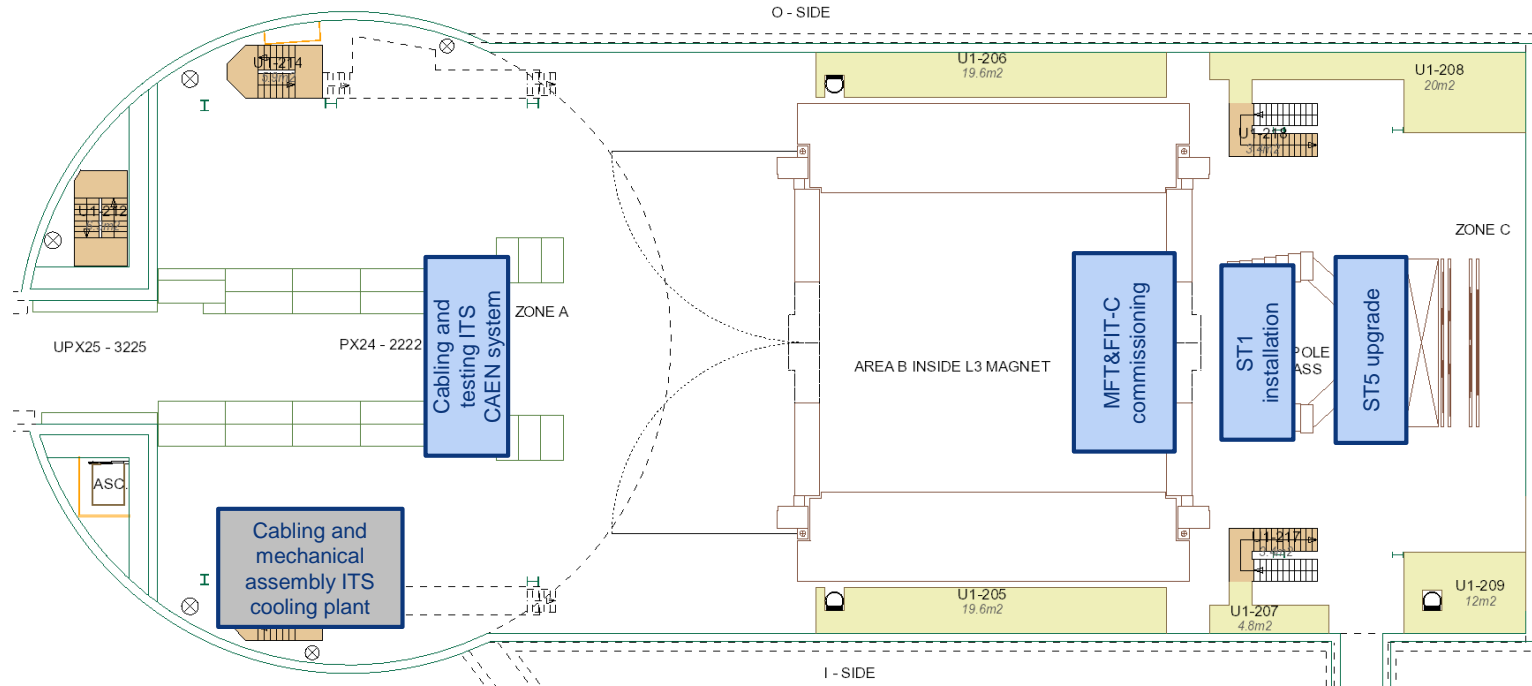
Installation 33 EPNs inside IT1 (14:00)



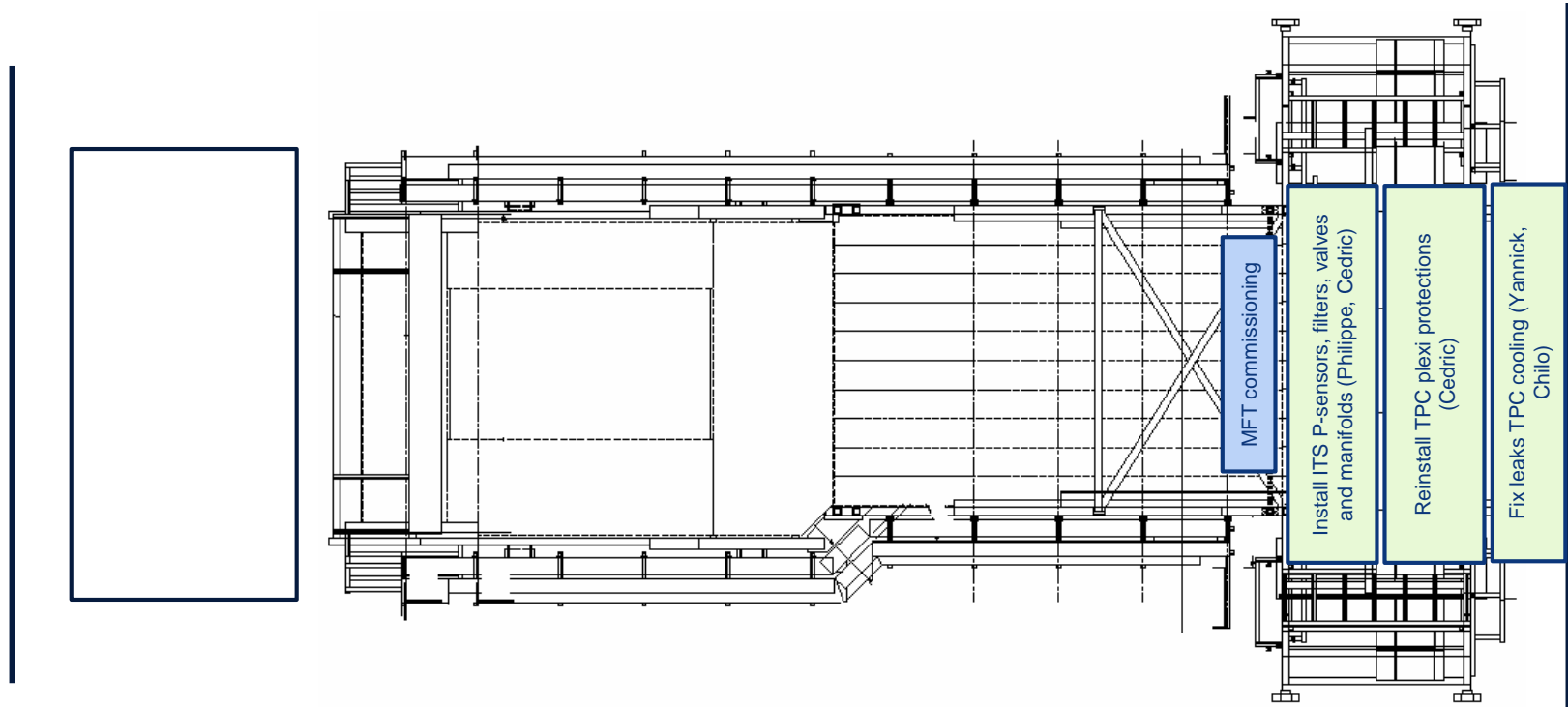
# Miniframe activities w2 – Thu 14 Jan 2021



# UX25 activities w2 – Fri 15 Jan 2021



# Miniframe activities w2 – Fri 15 Jan 2021





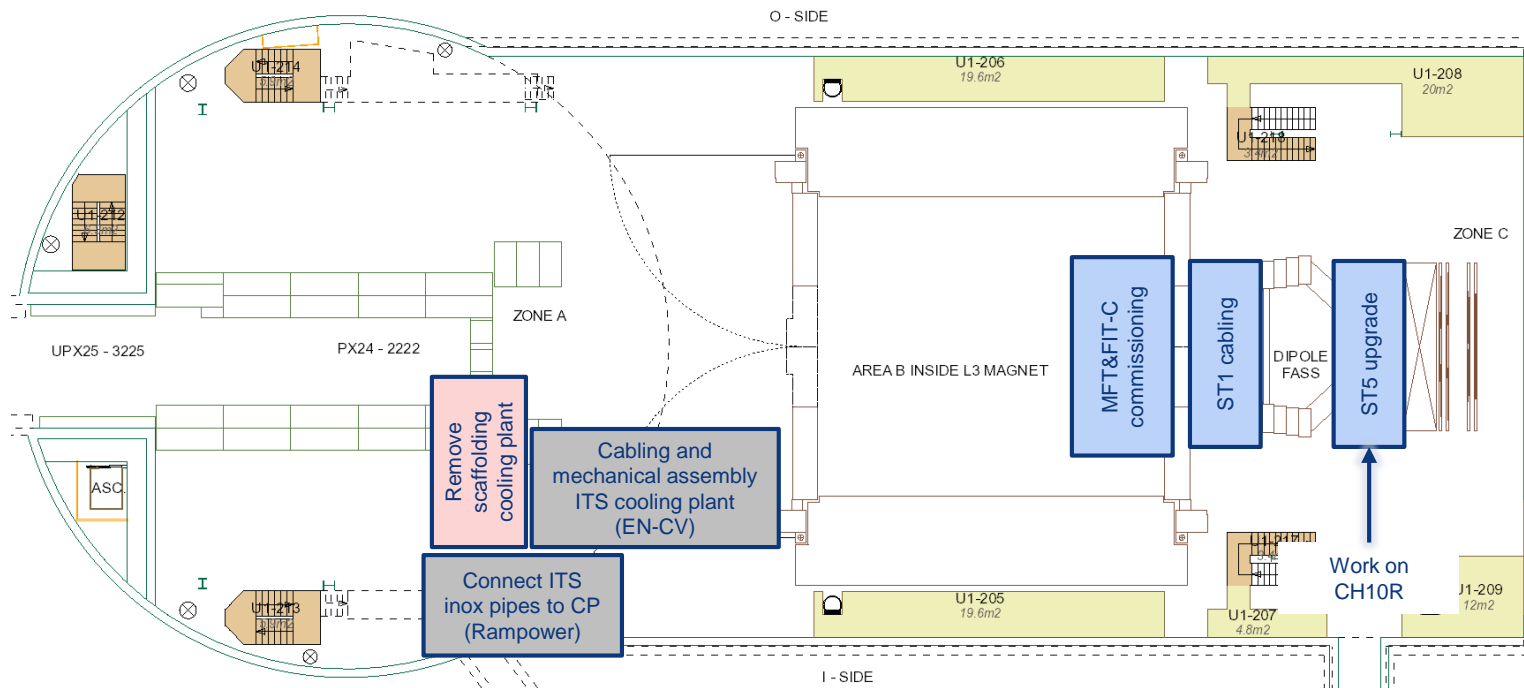
# Day-by-day sequence w3 2021



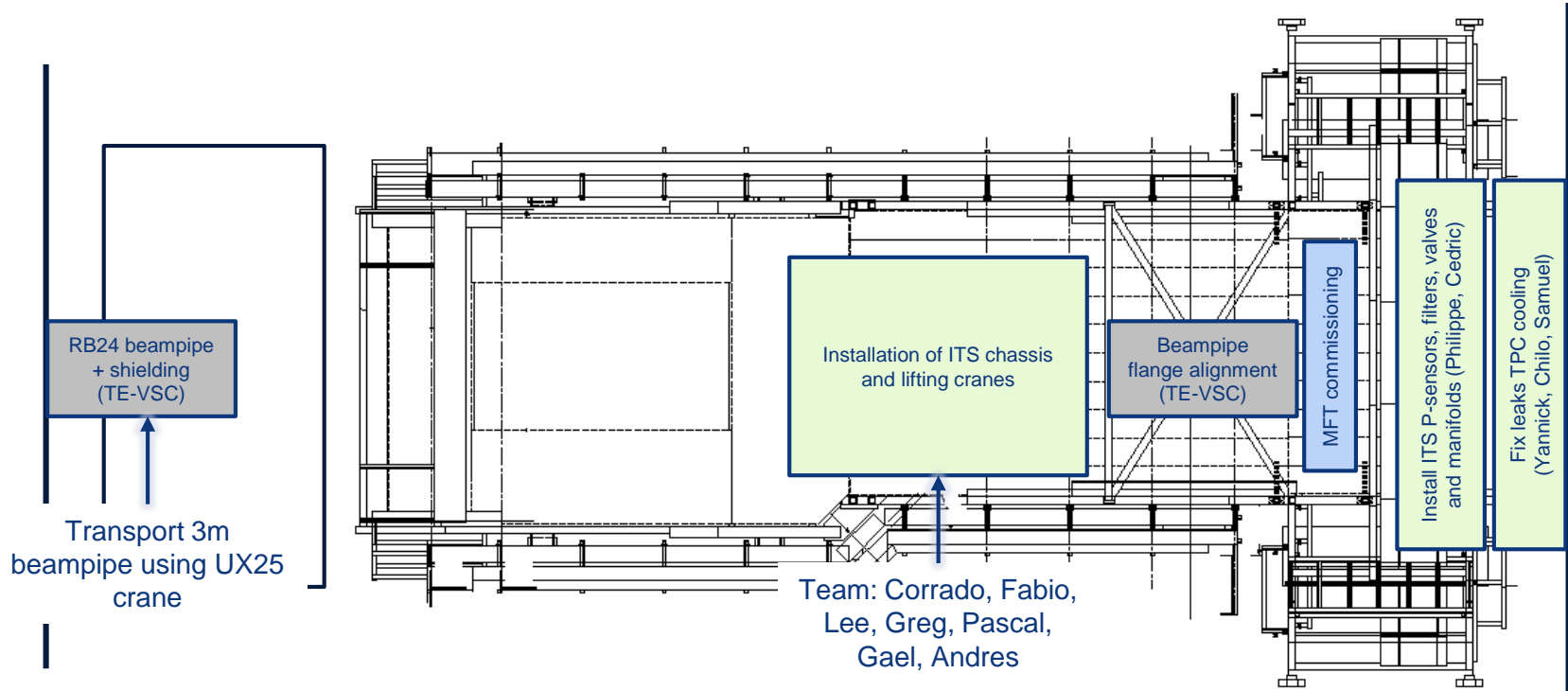
# UX25 activities w3 – Mon 18 Jan 2021

**EN-EL: 12-year maintenance diesel generator**

ITS integration test with cage replica in b.167 (whole week)

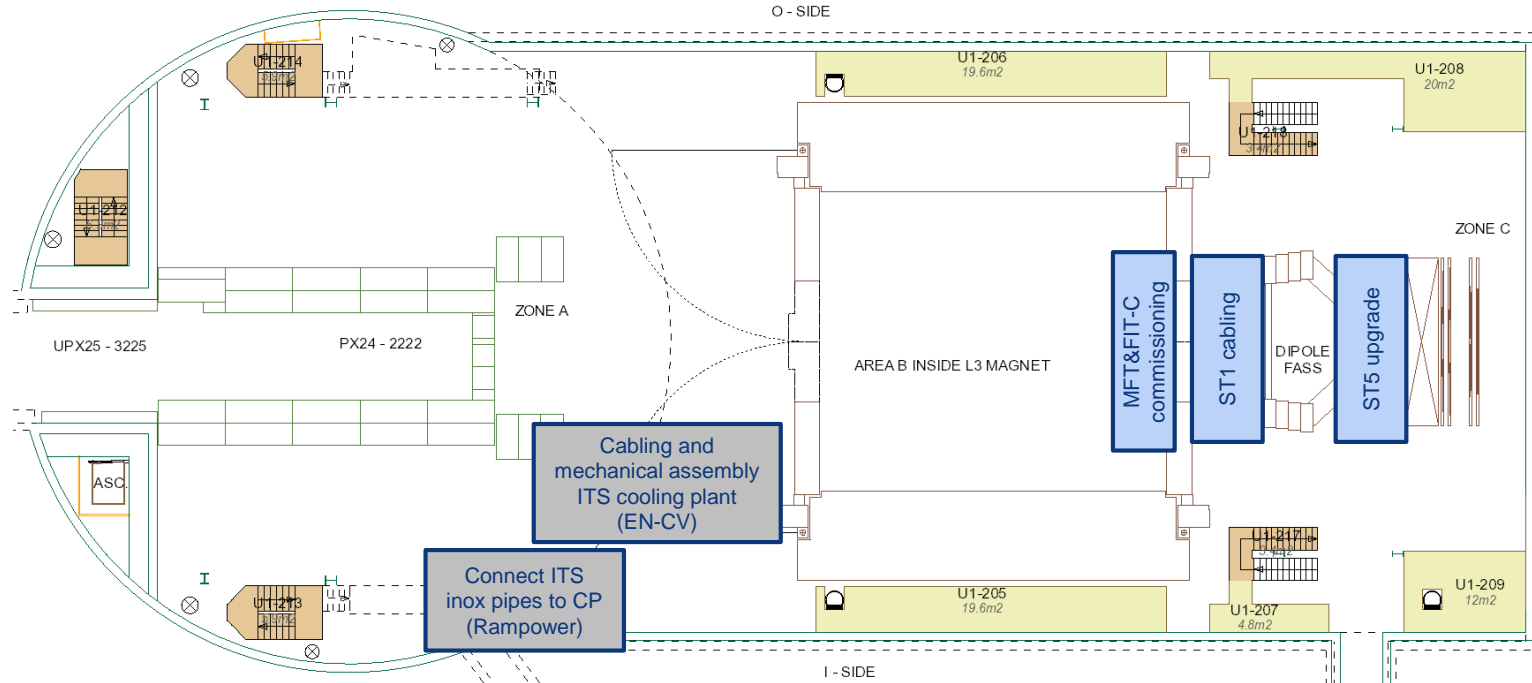


# Miniframe activities w3 – Mon 18 Jan 2021

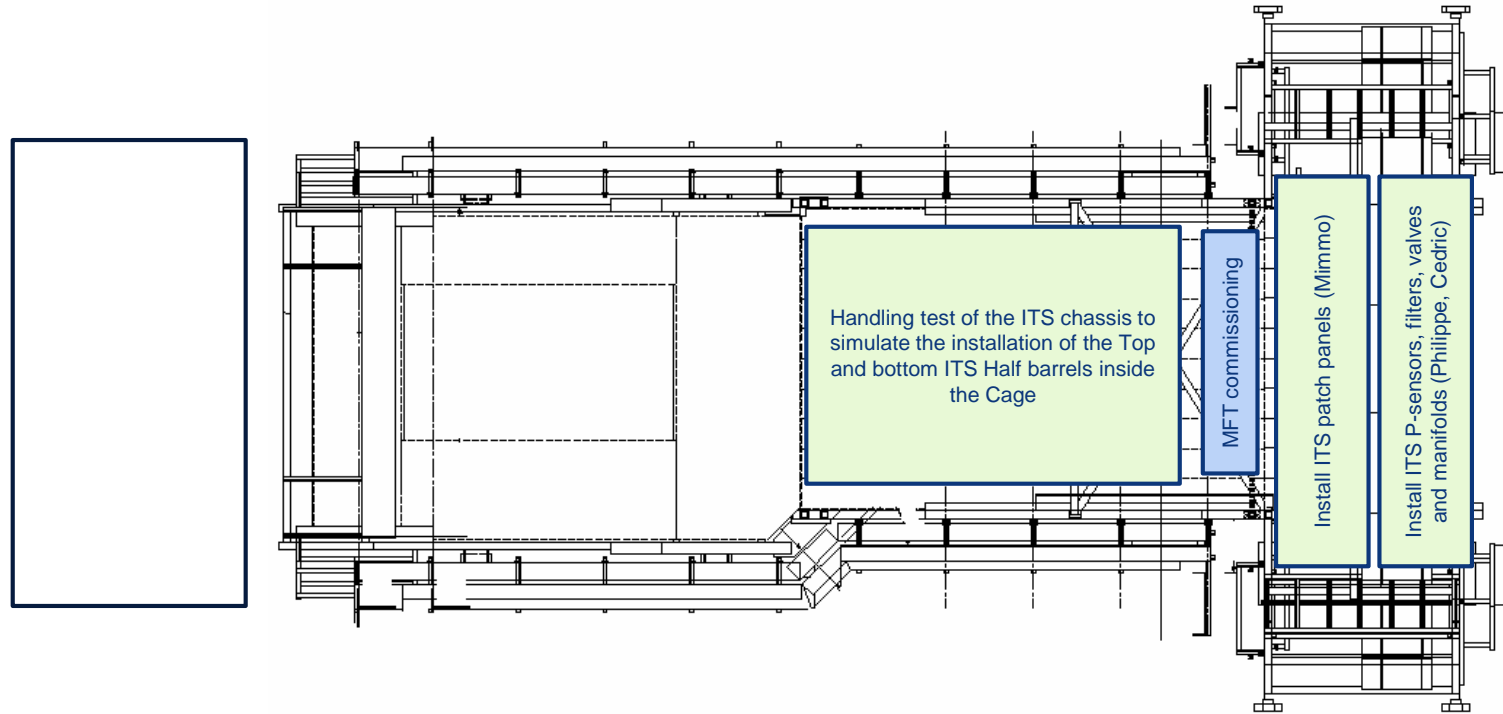


# UX25 activities w3 – Tue 19 Jan 2021

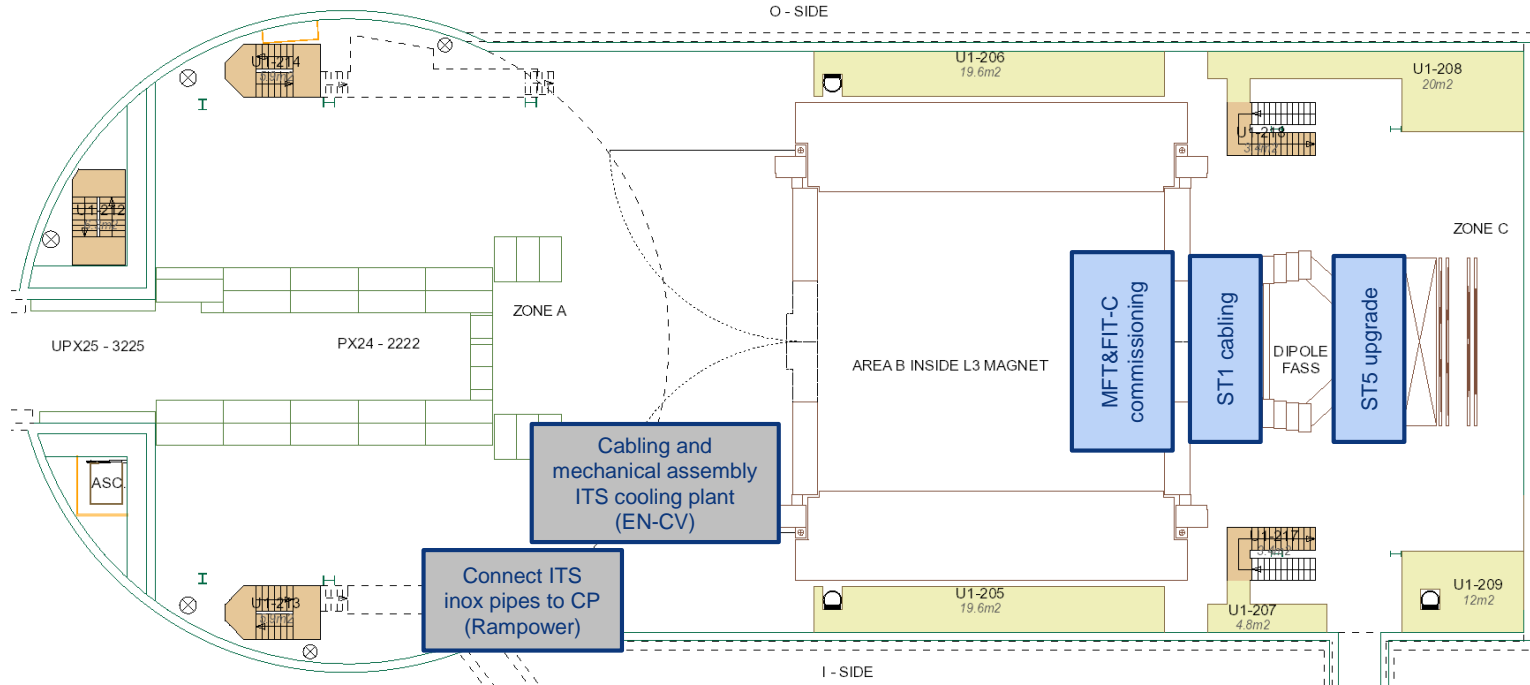
Cleaning cavern (Topnet): 13:00 to 15:00



# Miniframe activities w3 – Tue 19 Jan 2021

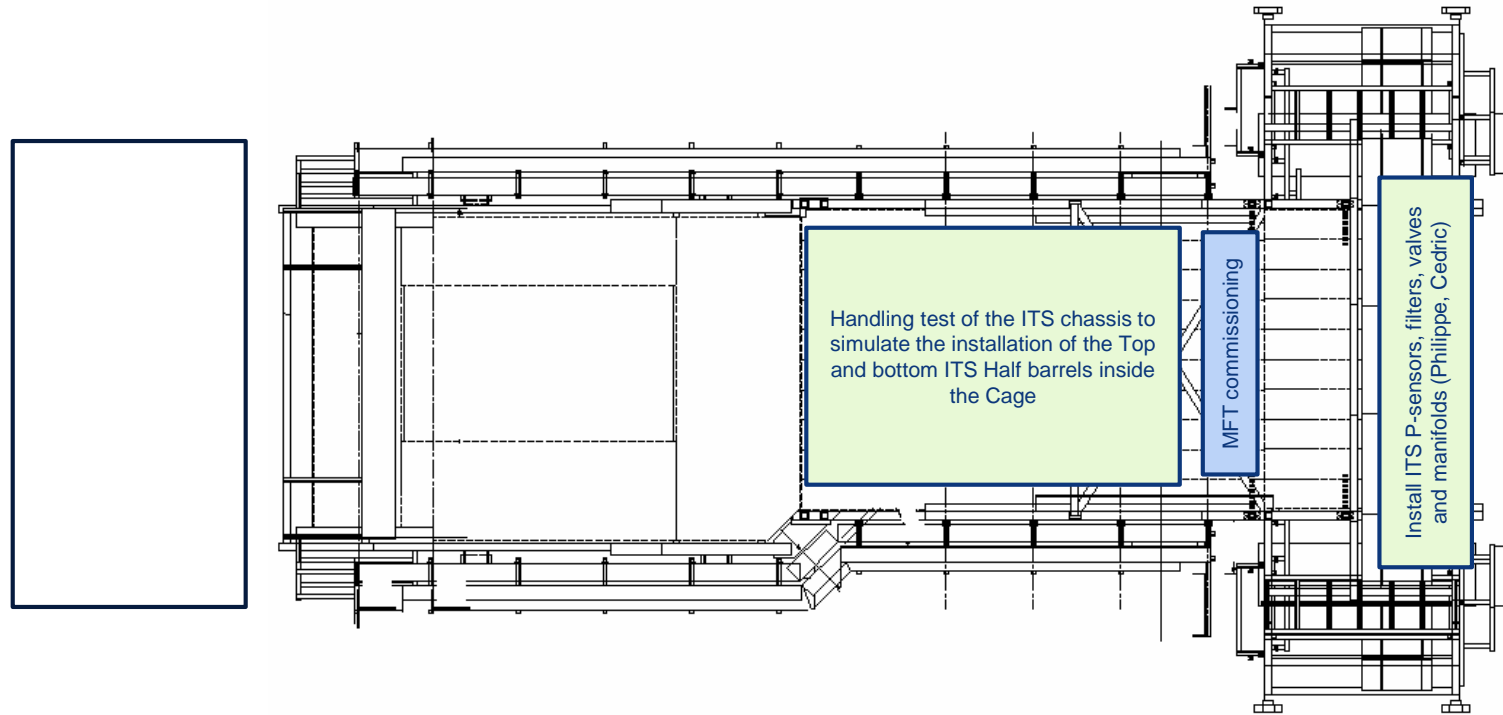


# UX25 activities w3 – Wed 20 Jan 2021

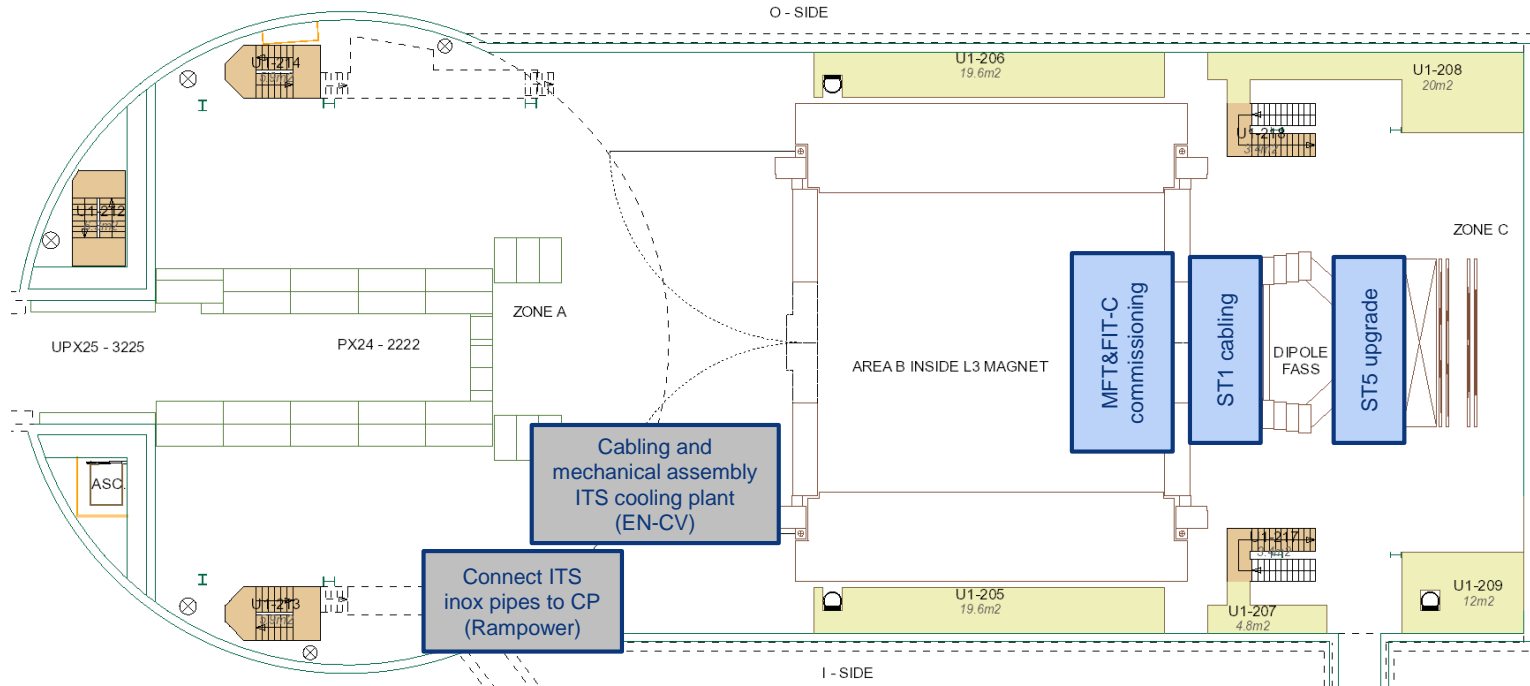




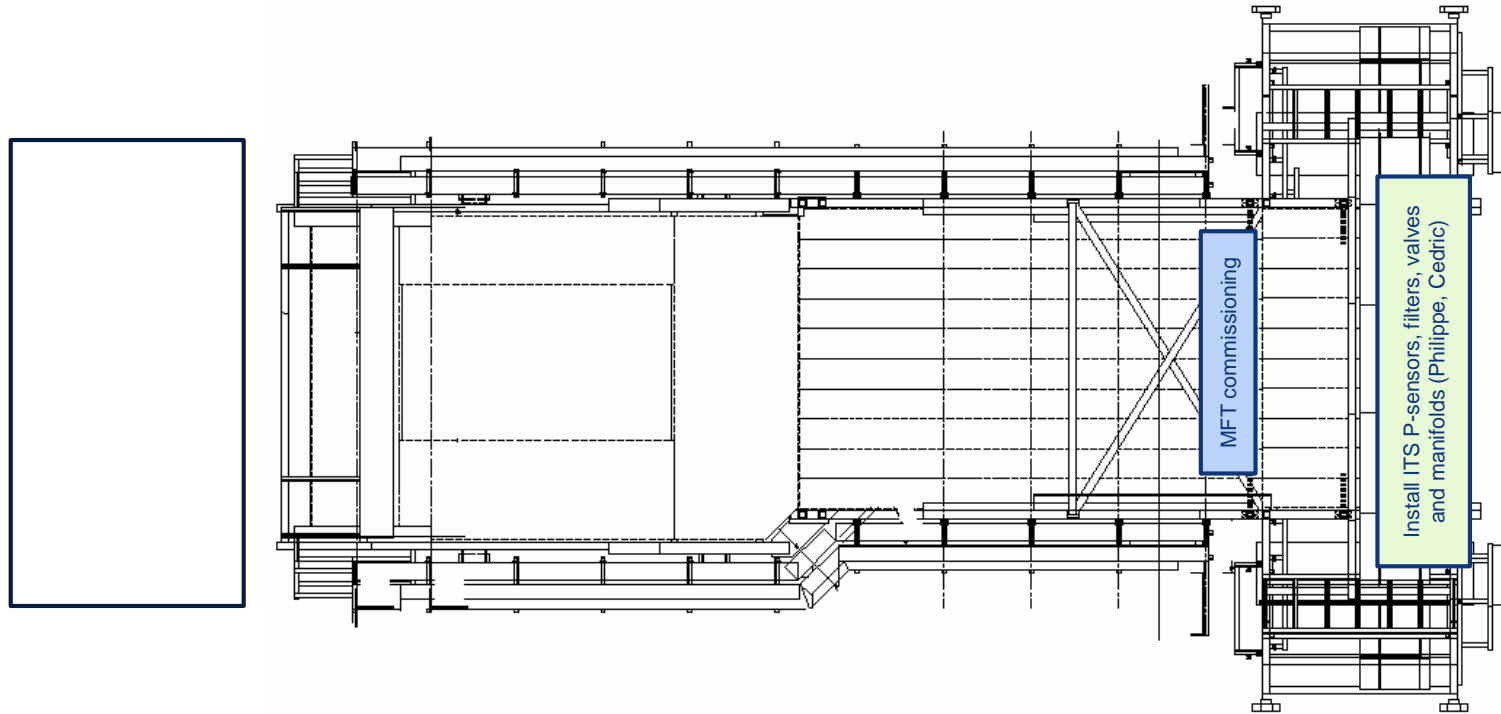
# Miniframe activities w3 – Wed 20 Jan 2021



# UX25 activities w3 – Thu 21 Jan 2021

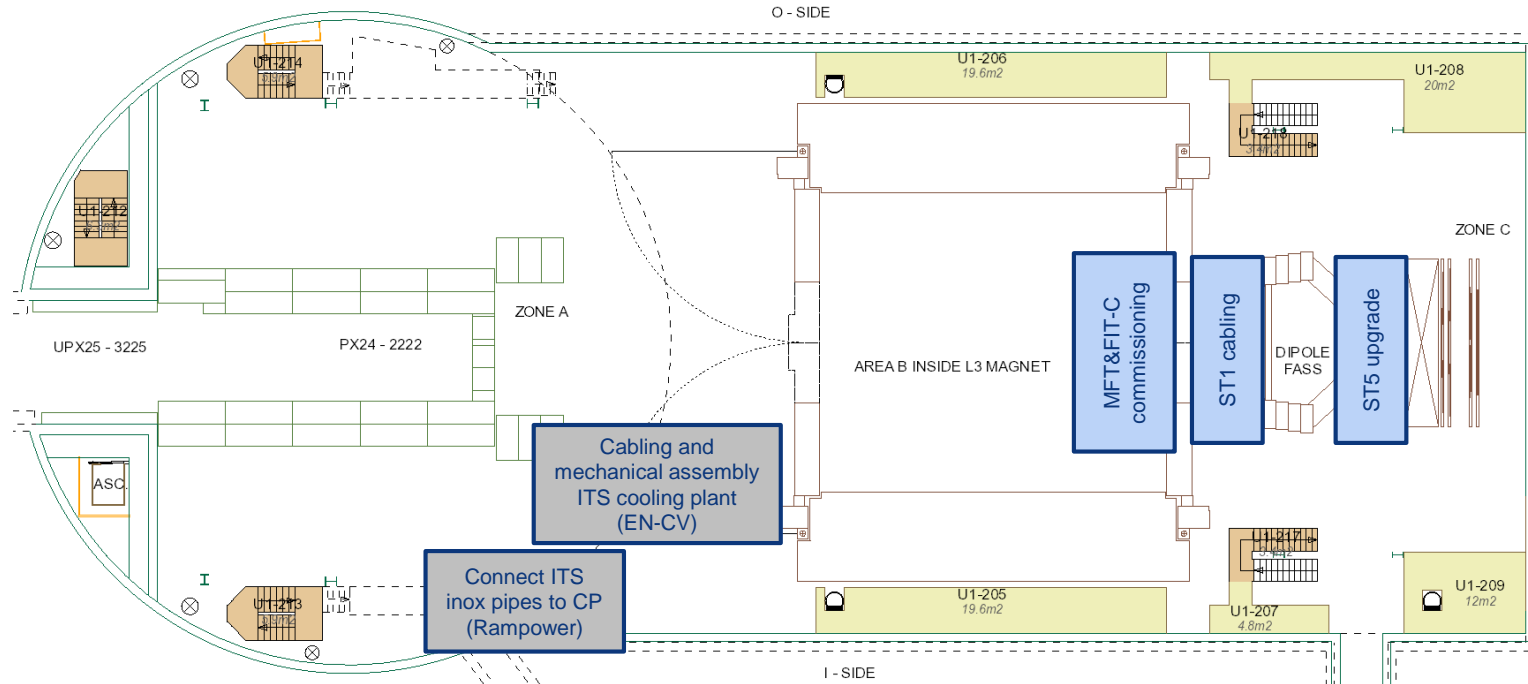


# Miniframe activities w3 – Thu 21 Jan 2021



# UX25 activities w3 – Fri 22 Jan 2021

## Rotation SNIFFER modules



# Miniframe activities w3 – Fri 22 Jan 2021

