

LS2 planning meeting

A.Tauro

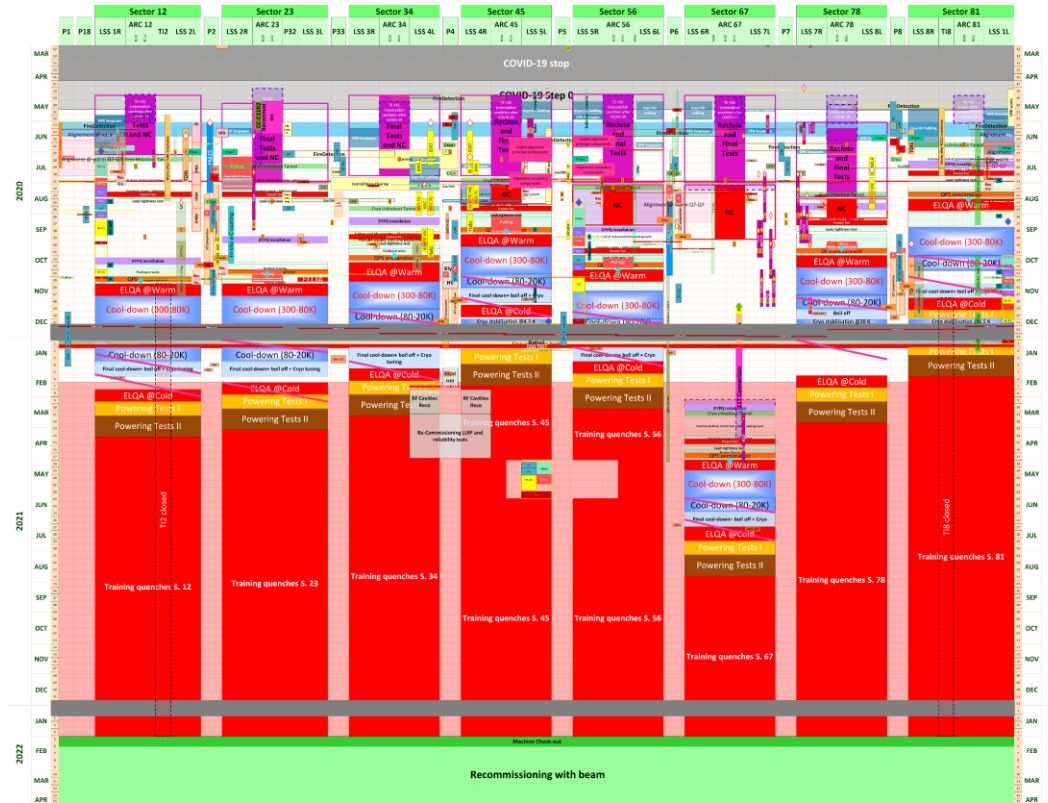


COVID-19 news

- **Access to CERN:** an access (white) list is still enforced presently. The access list will be replaced in a few weeks by a blocking list (containing: Retirees, club Members, family Members, anyone over 70, Colleagues in quarantine, confirmed/suspected cases). Exceptions will be possible through a standard EDH Access Request. The **age** at which access to the CERN site requires authorisation has been **raised from 65 to 70**.
- **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) urgently. The same applies if any household members show symptoms associated with COVID-19.
- **Close contacts** shall not come on the CERN site for **14 days** from their identification as a close contact. Contact tracing is done for **4 days** prior to the onset of the symptoms (>15' at less than 2m without mask).
- **Travel to CERN:** access to CERN sites is not allowed for **14 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](#)
 - The Swiss list now includes a number of French regions, however, the region of Auvergne - Rhone-Alpes (which includes the departments of Ain and Haute Savoie) is not on the list and colleagues living in this area can therefore come to CERN. Switzerland is not on the French list.
- For any question please refer to Covid19.helpline@cern.ch or ALICE-covid19-coordination@cern.ch.

LHC LS2 Baseline V3.0

LHC-PM-MS-0018 v.3.0

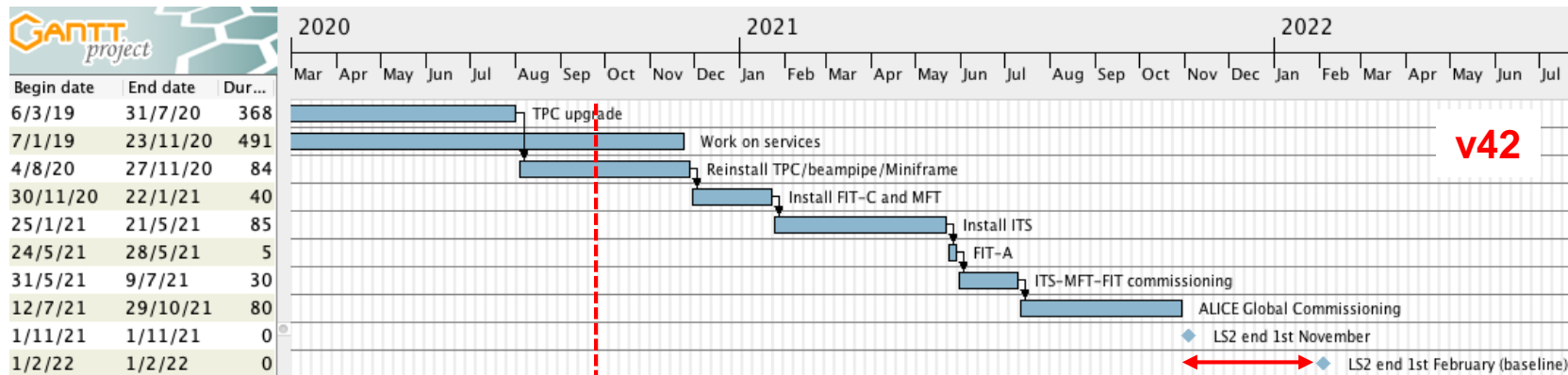


25.9.2020

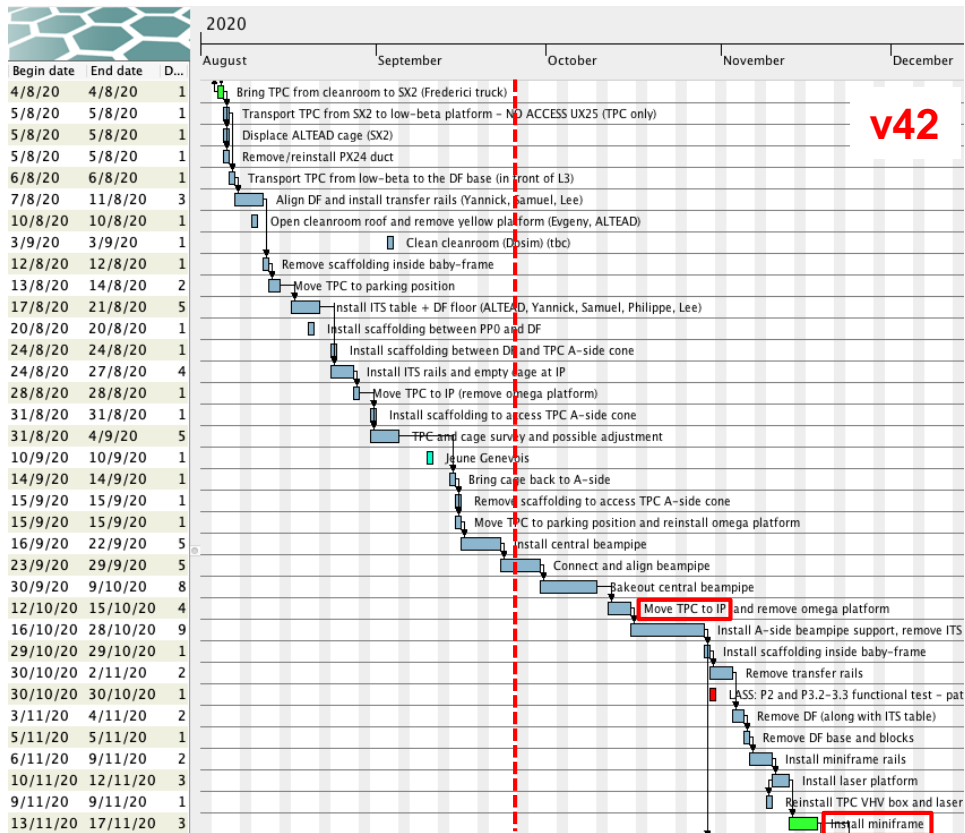
LS2 planning meeting

Current master schedule (v42)

- **Schedule v42:**
 - Stop ITS operation on Mon Jan 4th 2021
 - Stop MFT operation on Mon Oct 26th
 - 16w global commissioning at the end
- RB24 beampipe reinstalled in June 2021 → OK to inject low intensity beam by September 2021
- This plan foresees no contingency and **3 months contingency** with respect to the LS2 end date of 1st November 2021 and **1st February 2022** respectively



Detector installation sequence



Aug 4th – transportation TPC to SX2

Aug 5th – Sep 15th – reinstall TPC
Cage insertion test, TPC moved to IP, adjusted and put back to parking position

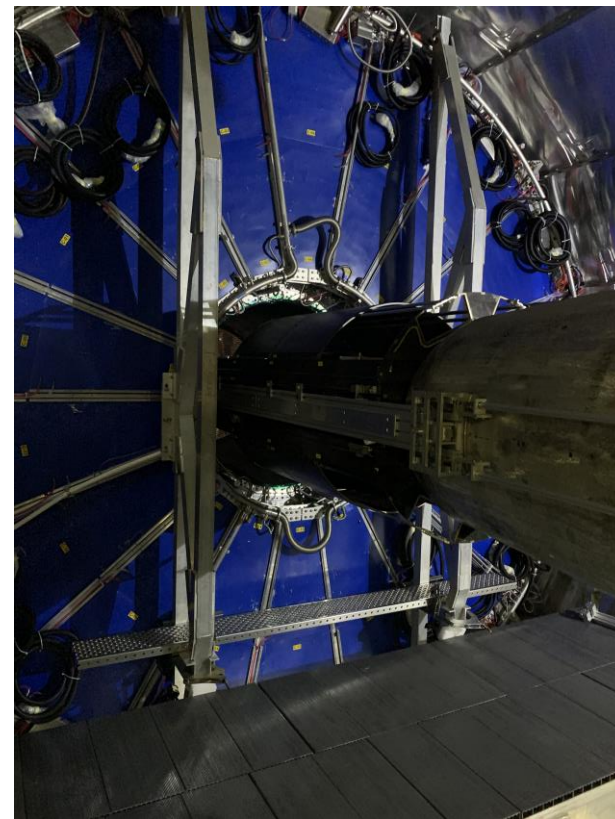
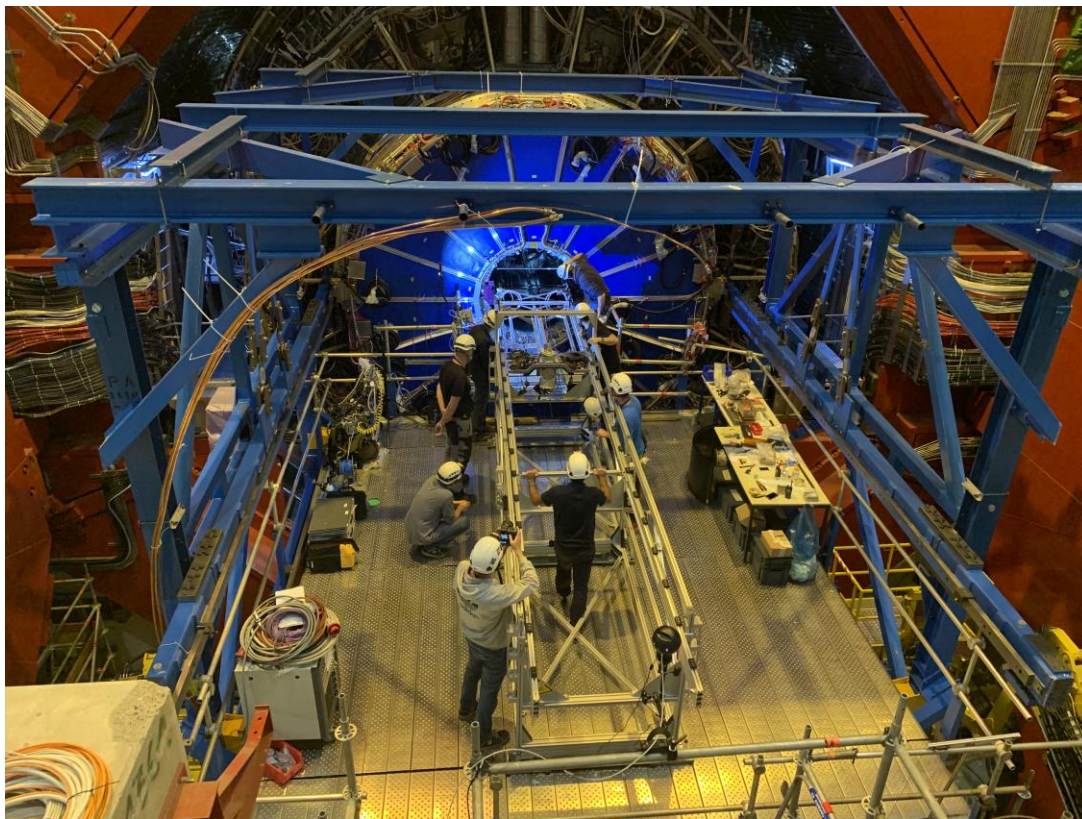
Sep 16th – Oct 9th install central beampipe

Oct 12th – 15th – move TPC to IP – start TPC connections

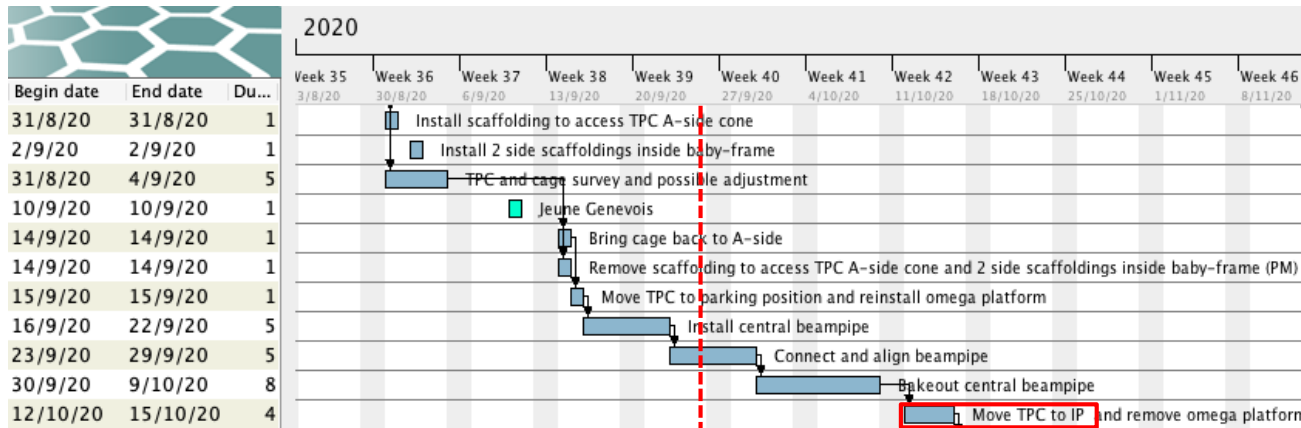
Oct 16th – Nov 12th – prepare miniframe installation

Nov 13th – 17th – reinstall miniframe

Cage and beampipe installed at IP



What's next...



Week 39 (this week):

- Move cage to IP (Wed AM)
- Connect and align beampipe
- Vacuum check beampipe

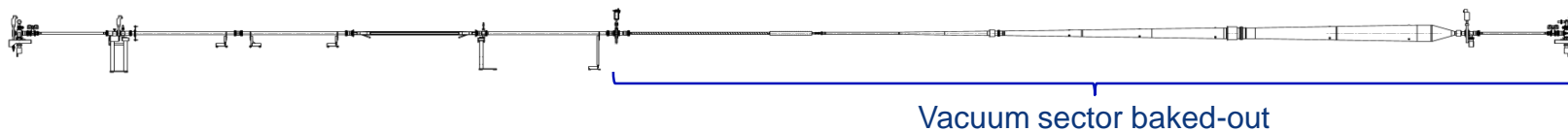
Week 40:

- Bakeout vacuum sector

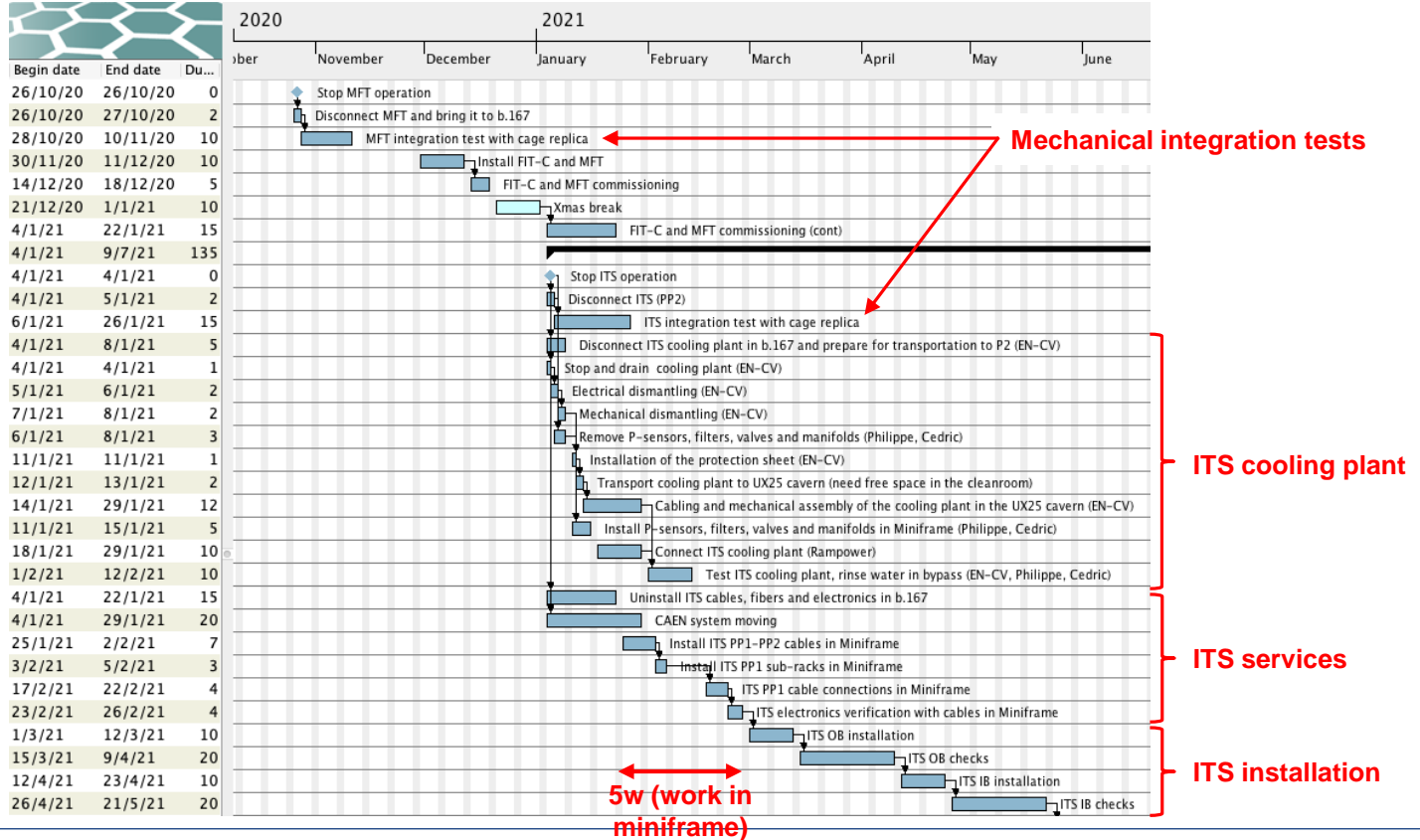
Week 41:

- NEG measurement central beampipe
- Vent central beampipe
- Remove bakeout equipment

ALICE VACUUM CHAMBERS LAYOUT
1:40



Detailed MFT and ITS installation plan

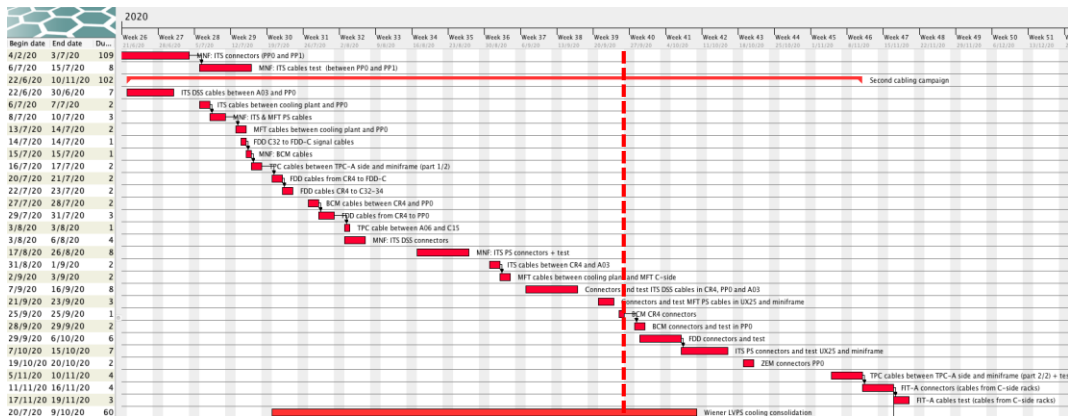


Key dates

Activity	v42
Move TPC to SX2	4 Aug 2020
Install TPC (parking position), cage insertion test	5 Aug – 15 Sep
Install central beampipe	16 Sep – 9 Oct
Move TPC to IP	12 – 15 Oct
Install Miniframe	13 – 17 Nov
FDD-C installation	Nov – Dec 2020 (except w46-47) or w5-8 2021
FDD-A installation	4 – 15 Jan 2021
MFT & FIT-C installation and checks	30 Nov 2020 – 22 Jan 2021 Disconnect MFT 26 Oct
ITS installation and checks	25 Jan – 21 May Disconnect ITS 4 Jan
FIT-A installation	24 – 28 May
ITS & MFT commissioning time	1 ½ months (6w)
ALICE global commissioning time	3.5 months (16w)
End of LS2 – stop UX25 access - baseline (contingency baseline option)	1 Feb 2022 (3 months)
End of LS2 – stop UX25 access - option 1 (contingency option 1)	1 Nov 2021 (0 months)

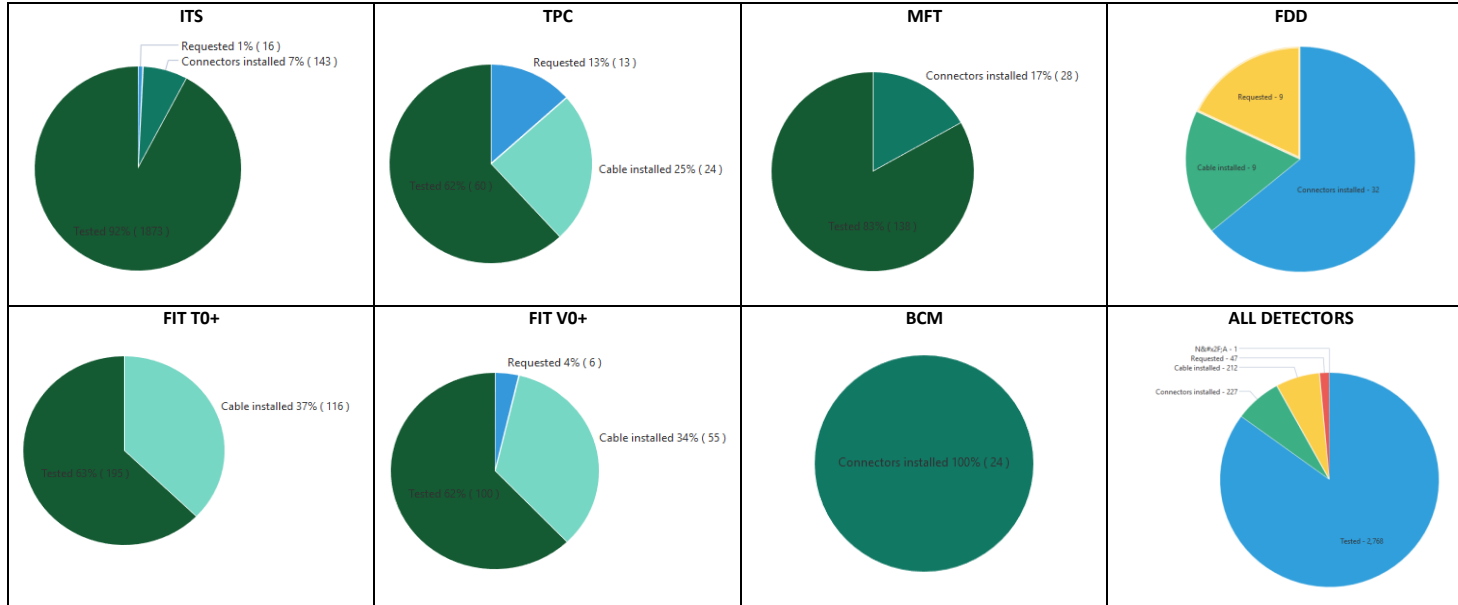
Cabling status

- Miniframe:
 - All cables pulled, all connectors installed, test completed this week
 - All cables/fibers will be folded back inside the Miniframe in October, in preparation for the Miniframe installation in the UX25 cavern
- Cavern:
 - All cables pulled
 - Still some connectors and test remain to be done (less than 10%) (e.g. ITS in PP0) → **completion by end September**
 - Some connectors will be done only after Miniframe is installed (e.g. FIT-A, TPC laser, FDD-A signal)



Cabling progress

ALICE LS2 - EN-EA cabling control follow-up 25-09-2020



3254 cables in total:
 Tested: **87%**
 Connectors wo test: 7%
 Cable only: 6%
 Cables to be installed: 0%

Optical fibers (EN-EL)

- Done:
 - Installation and test **TPC** fibers between CR4 and CR1
 - Installation and test fibers for **IT** (for upgraded network) from CR2 starpoint to CR1 and to CR3
 - Procurement 2 x **FDD** optical cables (requested in March 2020) → fibers to be installed by EN-EL (tbc)
 - Optical measurement fibers SR2-SX2
- To be done:
 - Installation **TPC optical fiber** in the cavern between A and C-sides → ongoing
 - Installation 6 trunk cables between IT1-IT2 (CR0) → installation w46 (requires to open 2 blocks)
 - Cleaning **TRD trigger fibers** connectors and replacement of damaged ones → Anastasia to assess situation
 - Unfold and connect **ITS** and **TPC** trunk cables → after Miniframe installation in November
 - Installation of 2 conventional cable fibers for direct trigger to ITS from CTP

Cooling pipes status

- Rinse Miniframe ITS/MFT pipes with water → done
- Rinse MFT cavern pipes with water → next week (ITS already done)
- Pipe connections to ITS cooling plant will be done after installation of ITS cooling plant in January
- Connections between PP0 and Miniframe will be done using plastic hoses → order Elisa asap



ITS cooling pipes and plant mockup

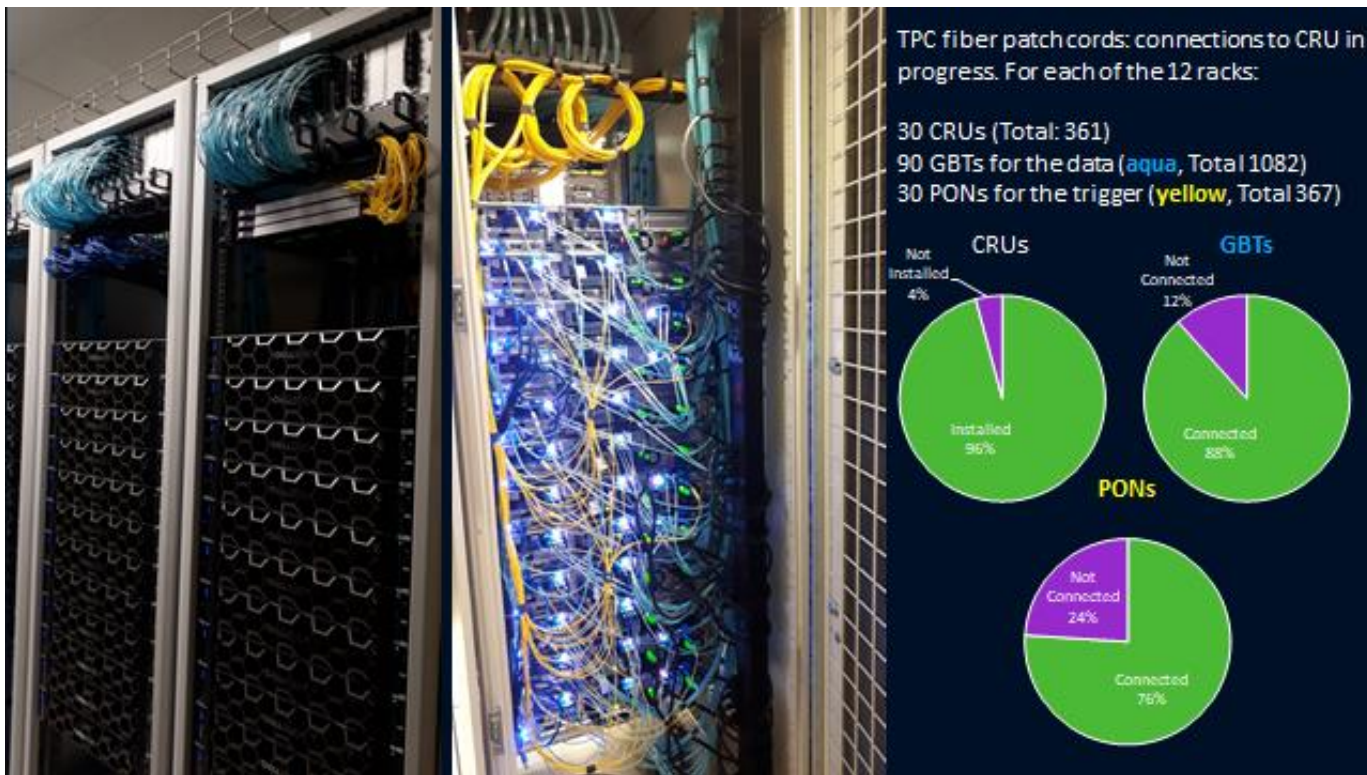
EN-CV interventions

- **Big maintenance:**
 - SF: from Nov 2019 to mid Jan 2020. NO impact on ALICE as both magnets will be OFF – done
 - UW: **stop UX mixed water** for 2 days in week 41/2019 (October) – Tue 8 and Wed 9 Oct – done
 - SU: various small perturbations + 1 day **stop all cooling UX** + 1 day **stop all cooling SXL2** in week 16/2020 (April)
- **Small maintenance:**
 - UW: from w34 to w37 2020. Stop UX mixed water on Monday 7 September 2020 – done
 - SF+SU: weeks 44-47/2020: cleaning towers (stop SF 1 week) + 1 day **stop all cooling UX** + 1 day **stop SXL2 cleanroom ventilation**
- **Ventilation:**
 - ARC: done
 - SG2:
 - UX25 cavern:
 - MCH and MTG:
 - L3: replace extractor → done w31/2020 (cut flammable gas)
 - ITS: → will be done before end October

CR3 status (A.Augustinus)

- February
 - Modify water circuit (add TA valves CR3 and CR4) – kept DCS up and running – DONE (10.02 – 21.02)
 - Additional rack installed for extension of main network starpoint outside CR2
 - Arrival of new racks (25.02)
 - Installation 1st row of racks (26.02)
- March, April, May
 - *COVID closure*
 - Arrival of new servers (28.04, originally foreseen end of March)
 - Installation of the servers in the new racks – DONE (finished 15.05)
 - Remove TOF cluster – DONE (26.05), last racks removed – DONE (28.05)
- June
 - Installation of 2nd row of new racks - DONE (03.06)
 - Re-installation TOF cluster – DONE and tested (08.06)
 - Installation network fibres for network – DONE (25.06)
- July – August – September
 - Adapt electrical installation for (extended) starpoint outside CR2 – DONE (week 28)
 - Reconnection new racks to electricity – DONE (week 30)
 - Installation of new Database servers – DONE (week 36)
 - Installation of network infrastructure (some network interruptions to be foreseen, details to be defined with IT-CS) – **October**
 - Temporary, network solution available, start commissioning new servers in September
- October – November - December
 - Migration from old servers to new servers (first central systems, then detector systems) from October
 - Removal of old servers and last old racks

CR1 status



Consolidation Wiener LVPS

- 193 water cooled power supplies in total (LV and VME)
- 50 LV supplies done (MCH, TRD) = **25%**
- Rework in batches (~15 units/week), was started in week 32:
 1. Disconnection and deinstallation → detectors
 2. Conditioning → ALTEAD + P2tech
 3. Transport to EN-EA (Meyrin)
 4. Rework and test → EN-EA + P2tech (Evgeny and Philippe)
 5. Transport to P2
 6. Reinstallation → detectors
- Some delay during August holidays. Batches for next weeks are waiting (mainly TRD)
- Preliminary plan for further weeks being finalized. If current processing rate can be kept, then all supplies would be done by early November.
 - Andre is contacting each detector to establish a detailed planning



6 modules Wiener LVPS

	LV	VME
CTP		11
EMC	8	
FIT (AD, T0, V0)		6
HMPID		2
MCH	17	
MTR	8	2
PHOS	9	1
Spare VME		2
TOF		3
TPC	22	
TRD	101	1
	165	28

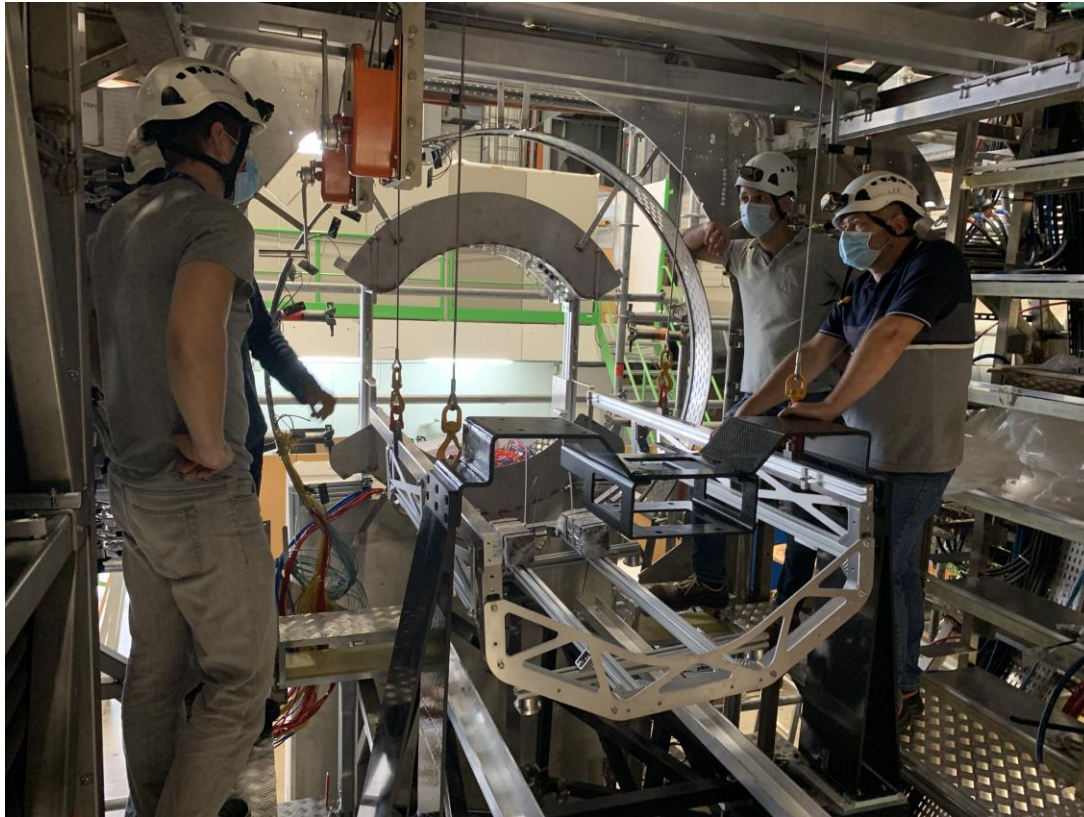


TRD batches in SX2

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
 - Dcal, EMcal: A14, O12
- Detectors can be powered, compatible with current activities inside L3

ITS carriage integration test in Miniframe



Other activities

2020:

- Renovation PX24 access system (PAD-MAD): w33-34 (10-21 Aug) → done
- Maintenance PX24 access system (8-11 Sep)
 - Access via PM25 from 8:30 to 16:30 (normal access via PX24 outside these hours)
 - MAD not operational on Wed 9 Sep whole day
- Renovation PM25 access system (PAD-MAD): w41-43 (5-23 Oct)
- LASS functional test: **no access to UX25 on Friday 30 Oct 2020 whole day (weekend 31 Oct /1 Nov as contingency)**
- LASS global verification of entire LHC: 1 day no access to UX25 (date tbd)
- BIW test: **~~no access underground on 5 and 6 Oct 2020 from 18:00 to 00:00~~**

2021:

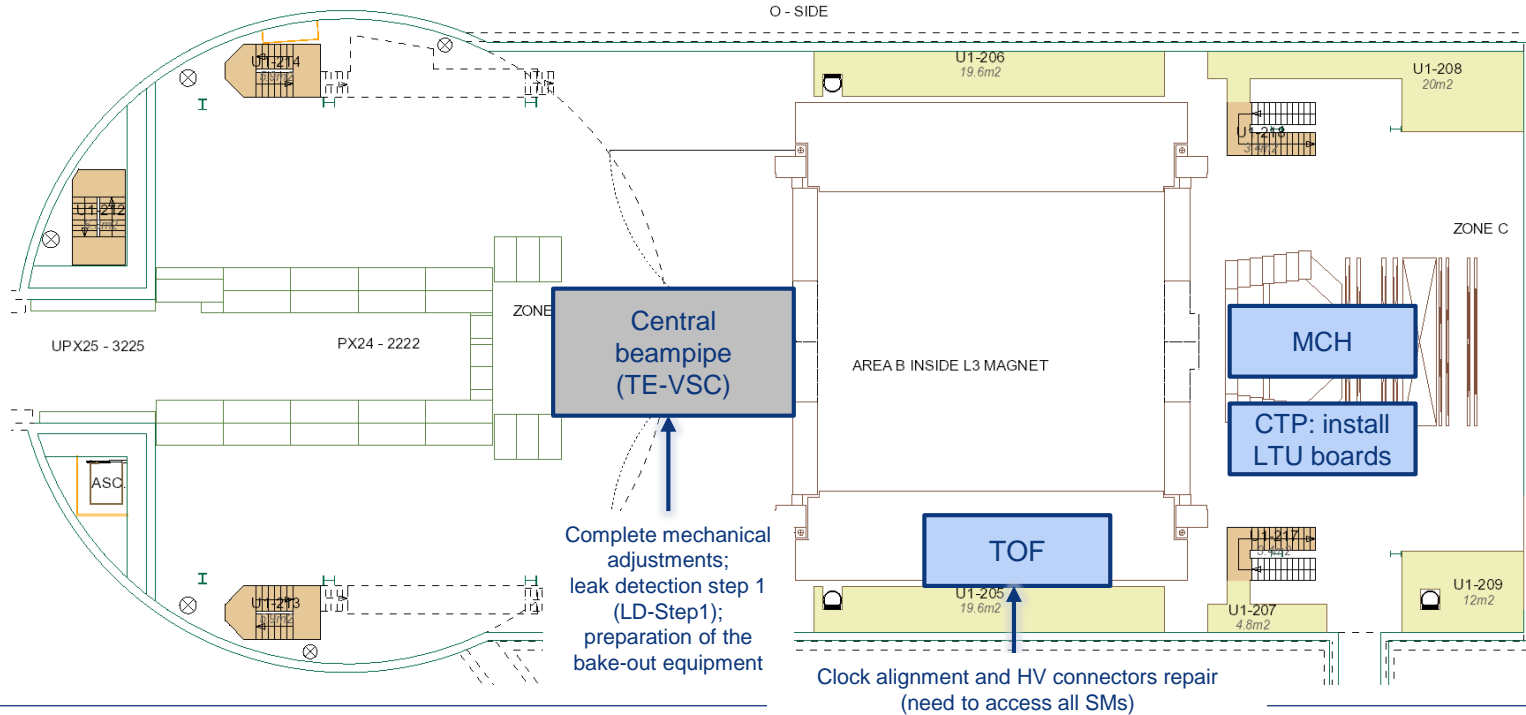
- DSO test for powering permit: w1 2021 (date tbd) (needed to start LHC powering test)
- DSO test for RF recommissioning LSS4: w7 2021
- DSO test for powering permit, following UPR53 installation: date tbd
- DSO test for beam permit: date tbd
- LHC sector test (beam through ALICE): **~~no access to UX25 from 26 to 29 March 2021 (date tbd)~~**

Day-by-day sequence w39



UX25 activities w39 – Mon 21 Sep 2020

EN-MME: X-ray test warm module central beampipe: no access UX25 from 19:00 to 23:00

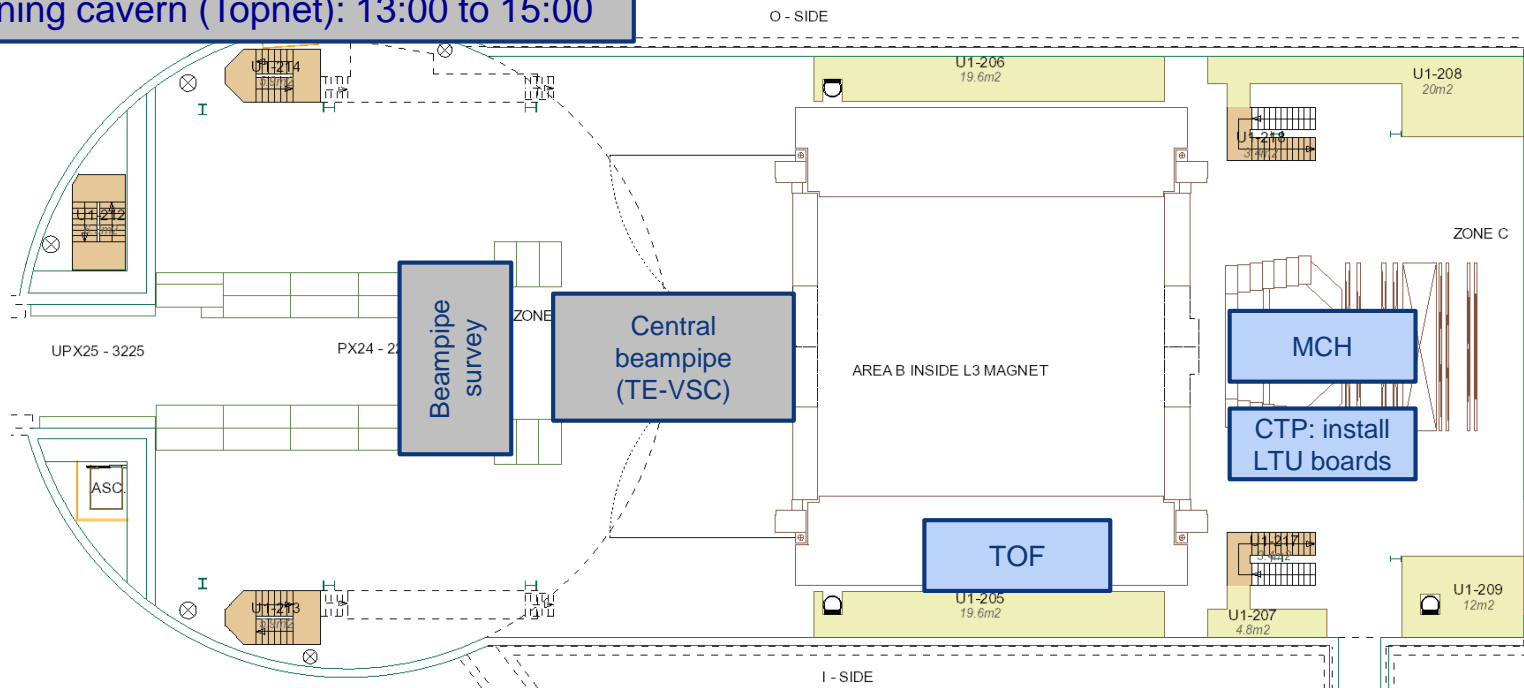


UX25 activities w39 – Tue 22 Sep 2020

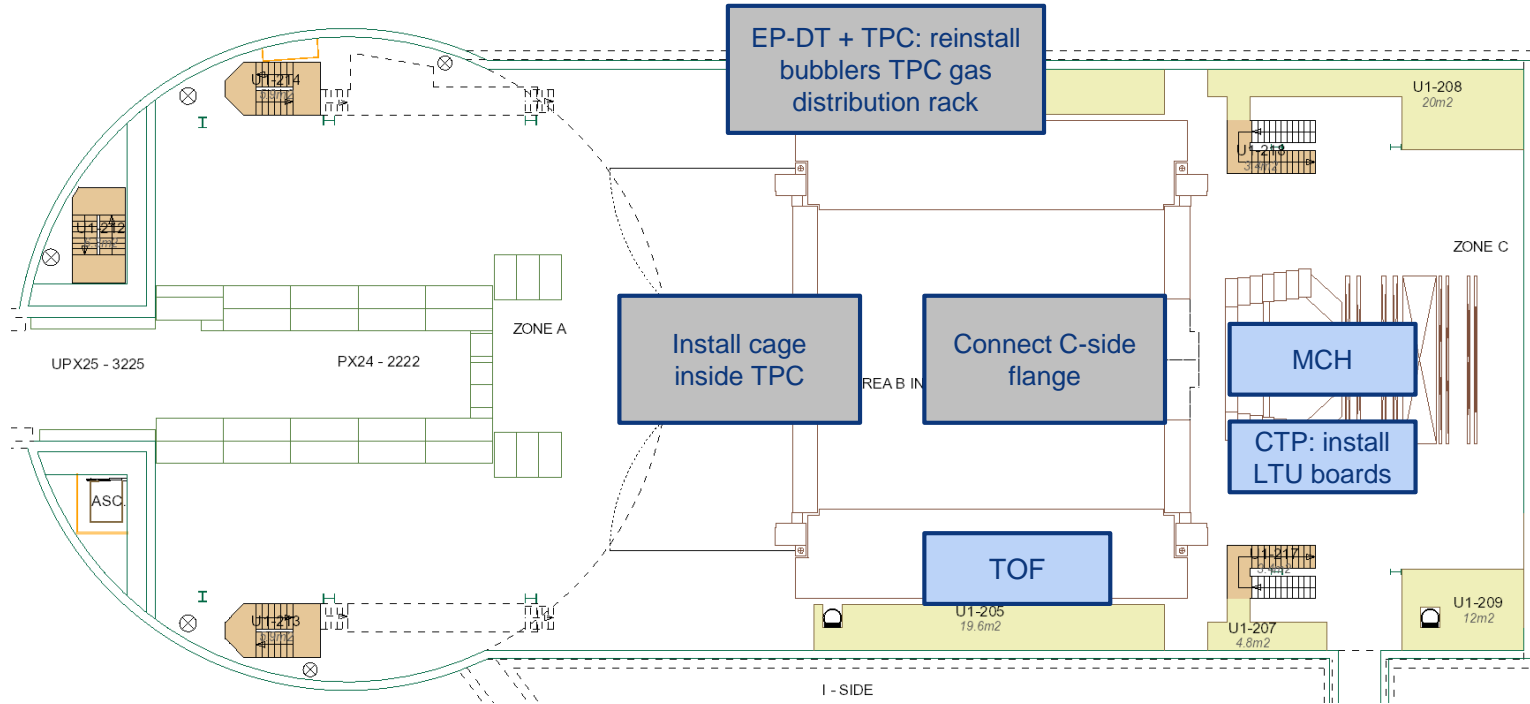
Siren test: no access UX25 after 17:30

ALTEAD: remove empty beampipe box from Delphi Frame

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

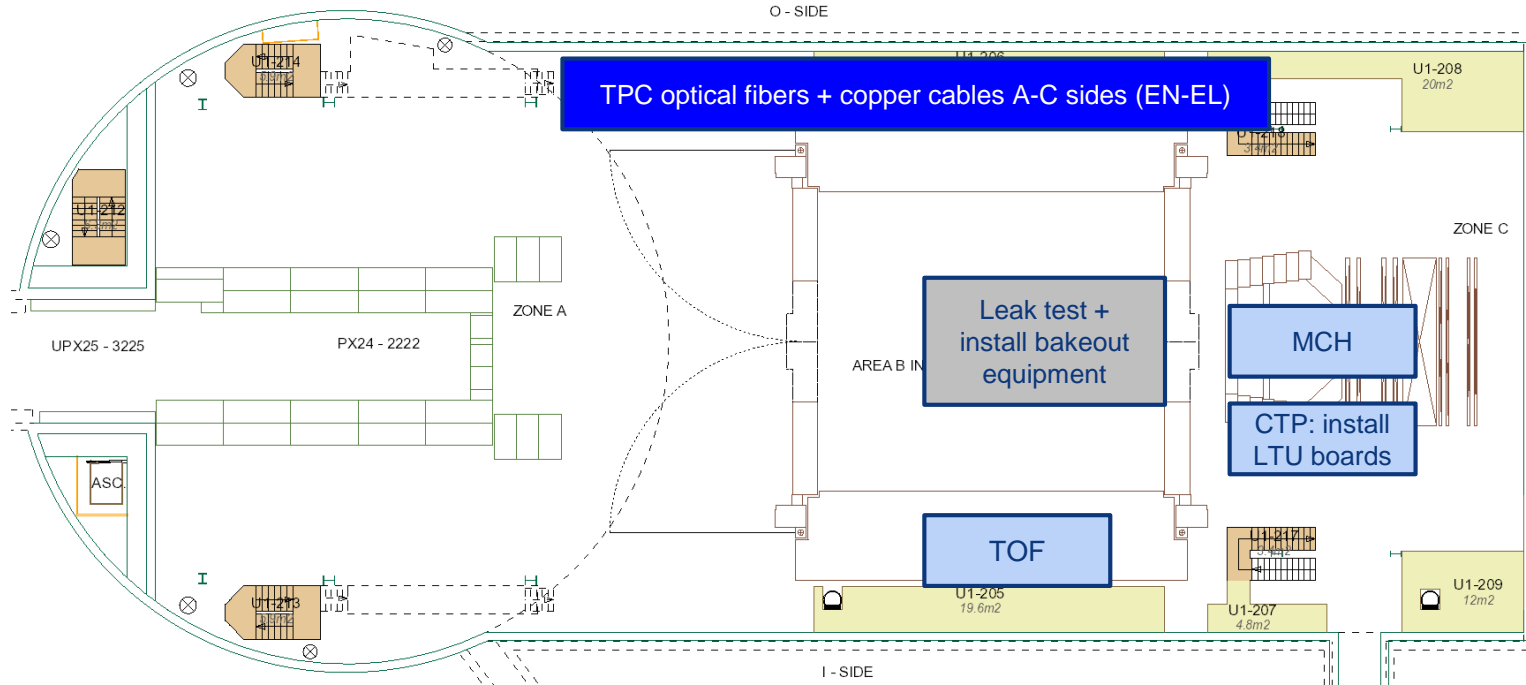


UX25 activities w39 – Wed 23 Sep 2020



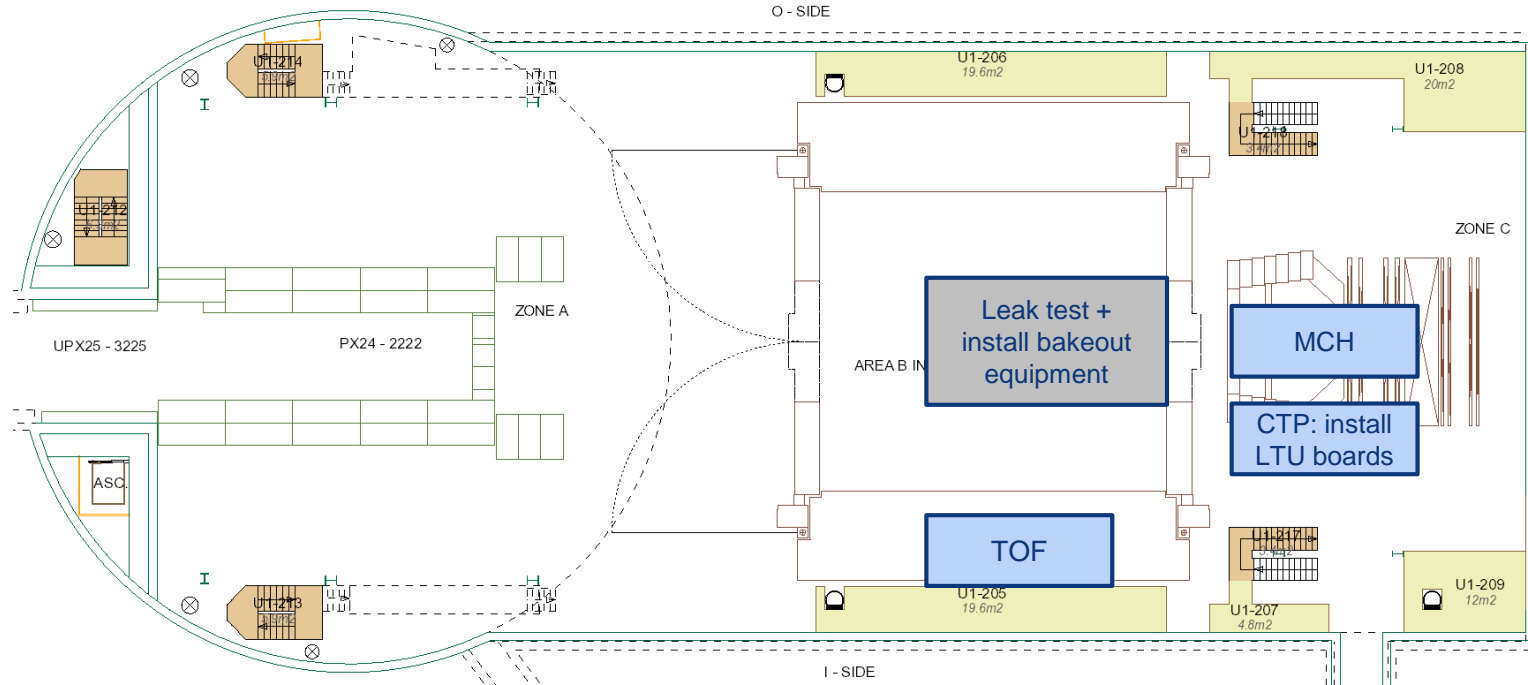
UX25 activities w39 – Thu 24 Sep 2020

EN-HE: unmount wood protections PX24 lift (AS-724)



UX25 activities w39 – Fri 25 Sep 2020

Facebook live (16:00)

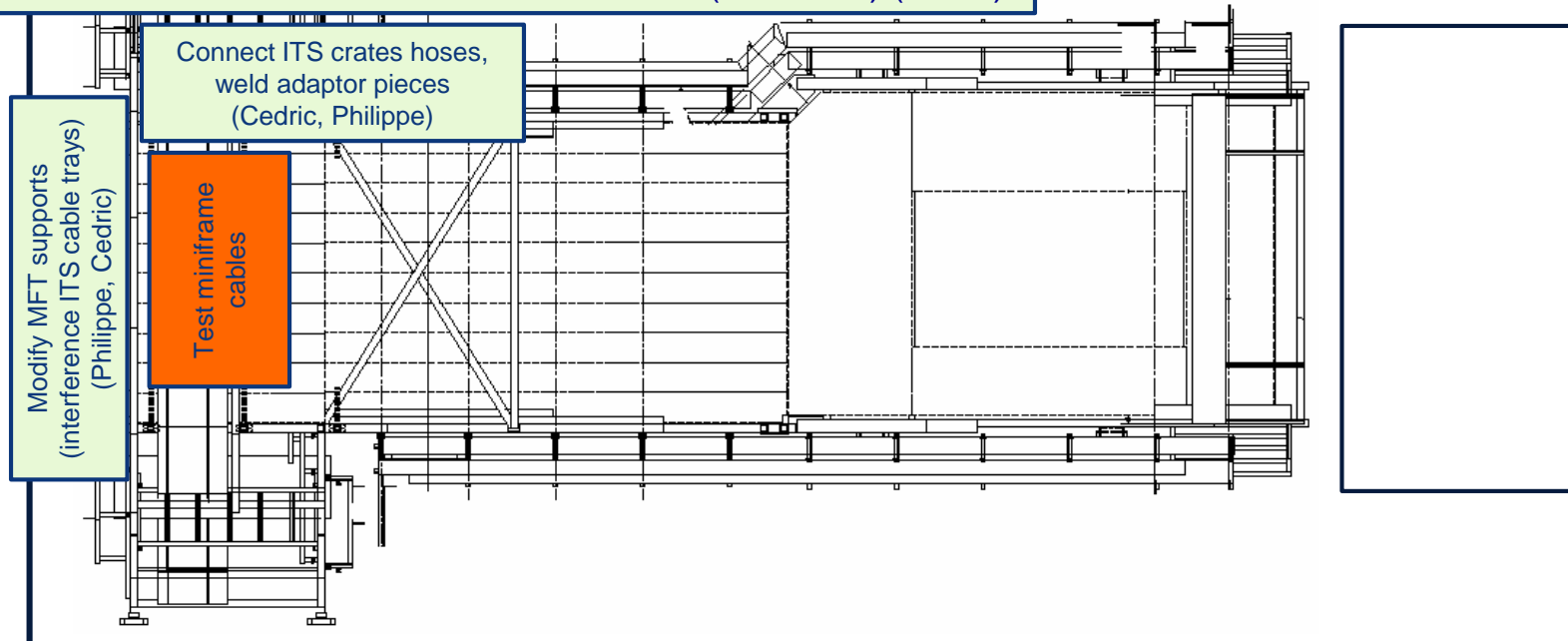


Miniframe activities w39 – Mon 21 Sep 2020

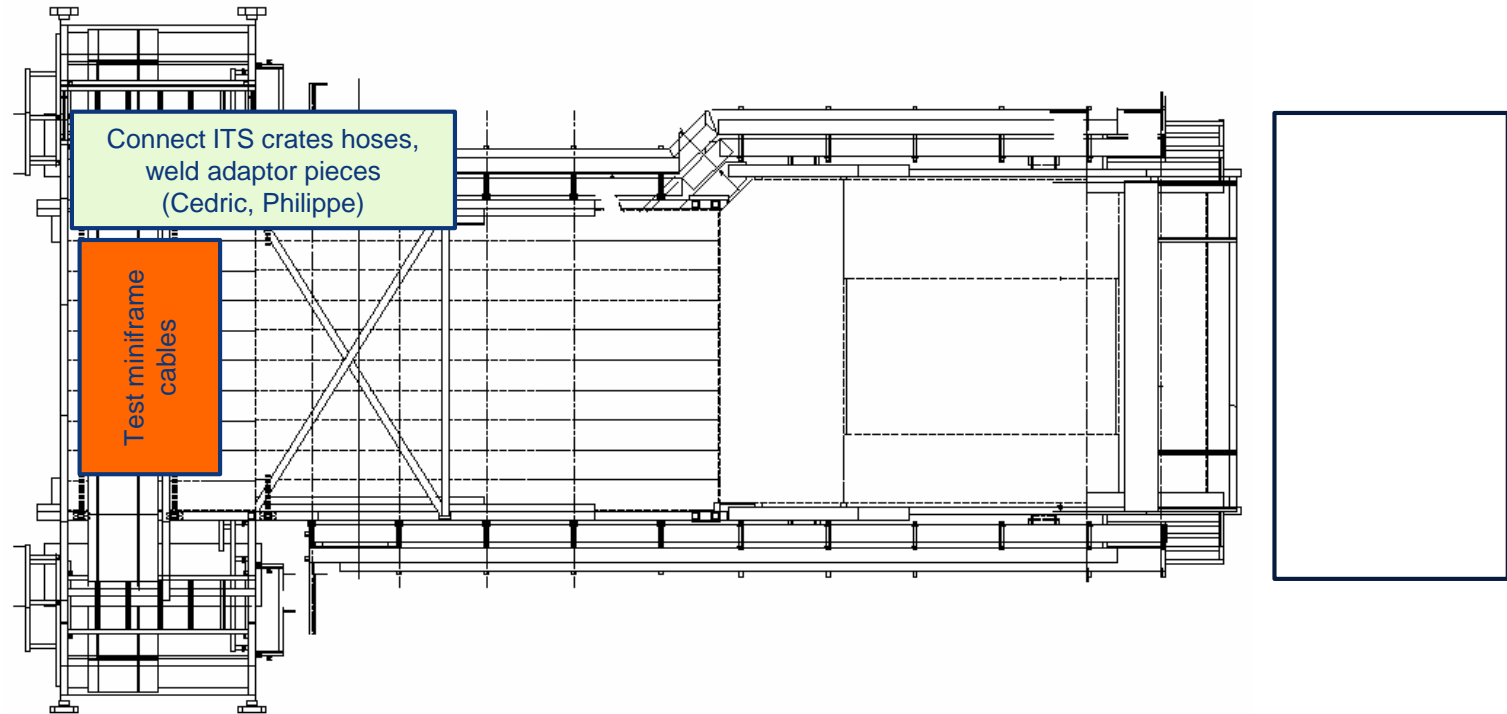
Cleaning Miniframe (Elior)

Produce and install ITS inox cable trays (Antoine)

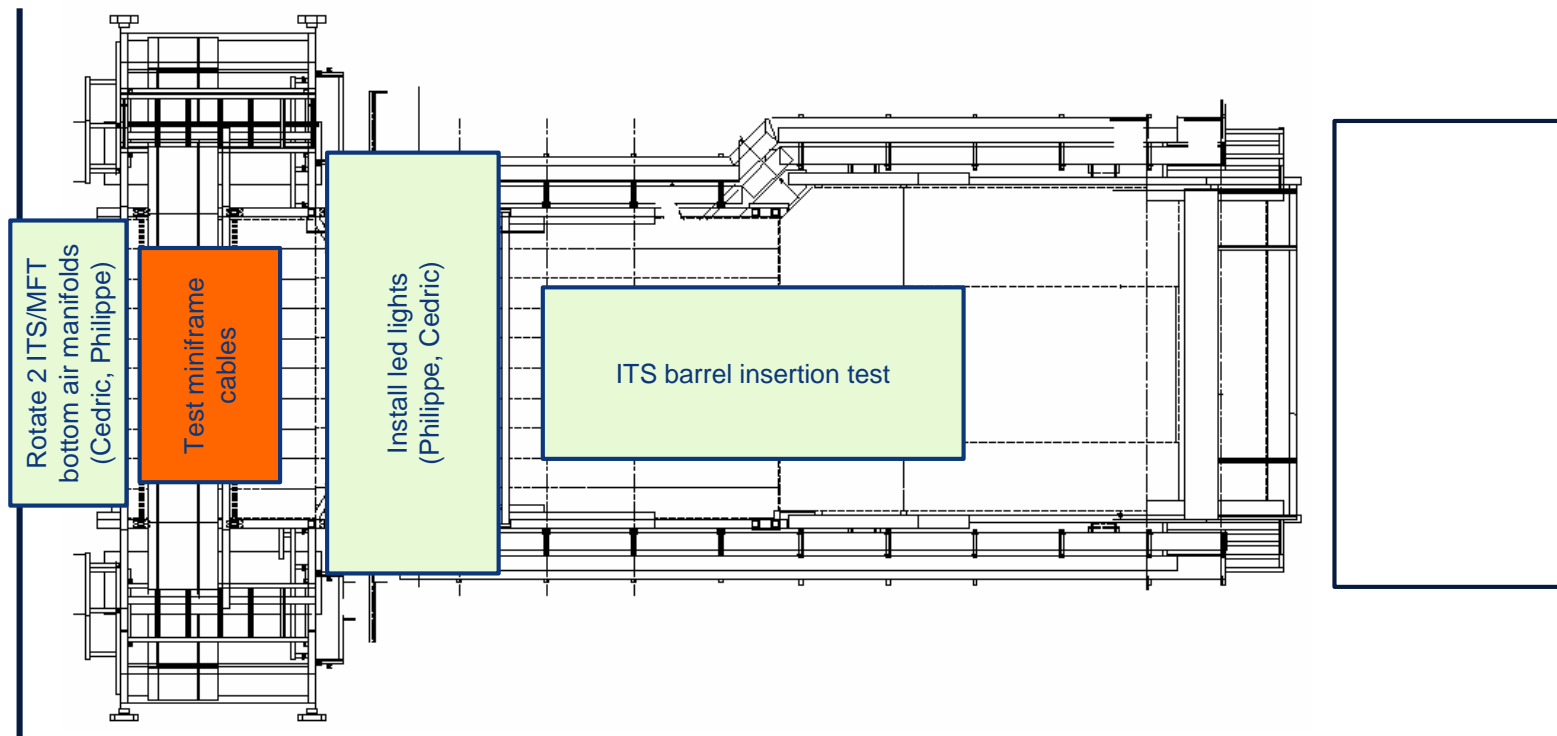
Install brackets for the environmental cables (PP1 side) (Peter)



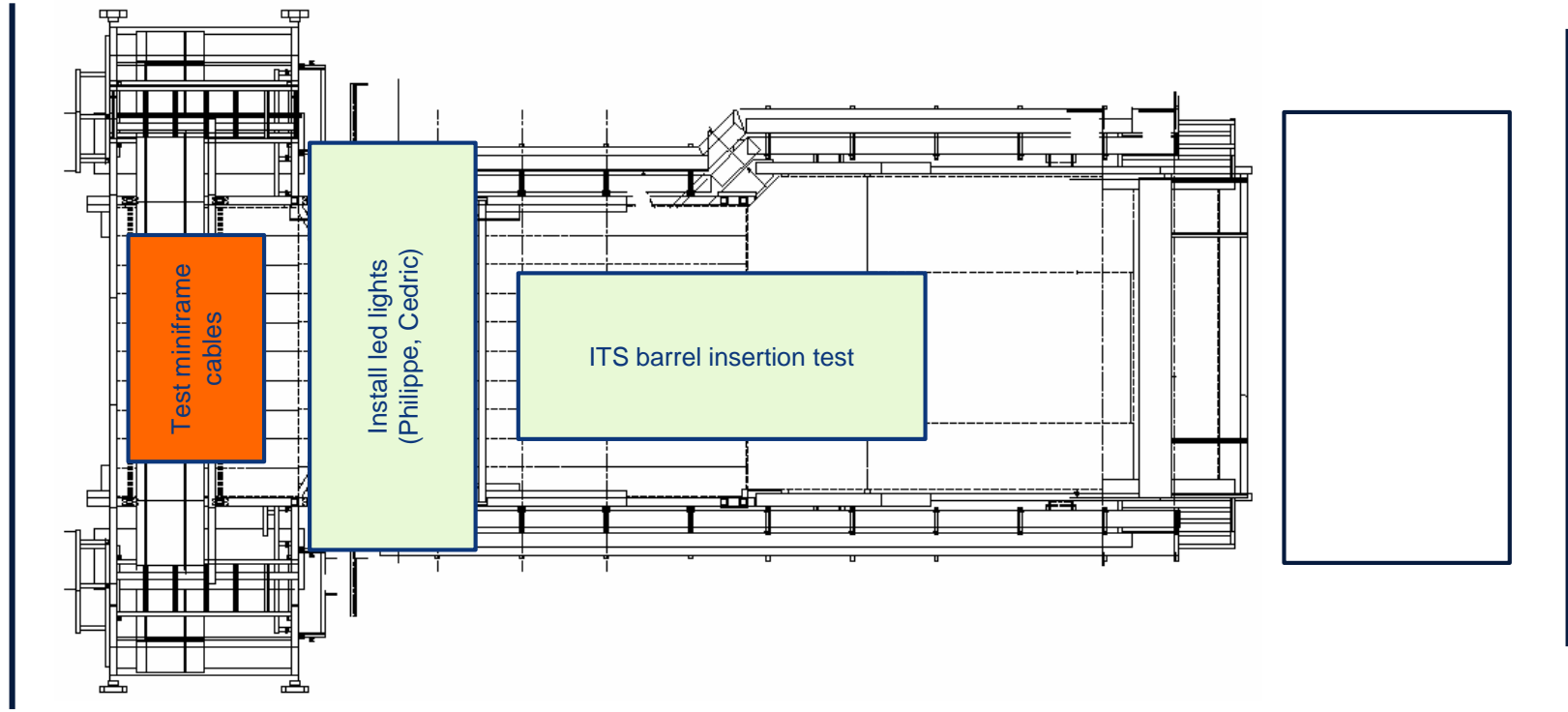
Miniframe activities w39 – Tue 22 Sep 2020



Miniframe activities w39 – Wed 23 Sep 2020

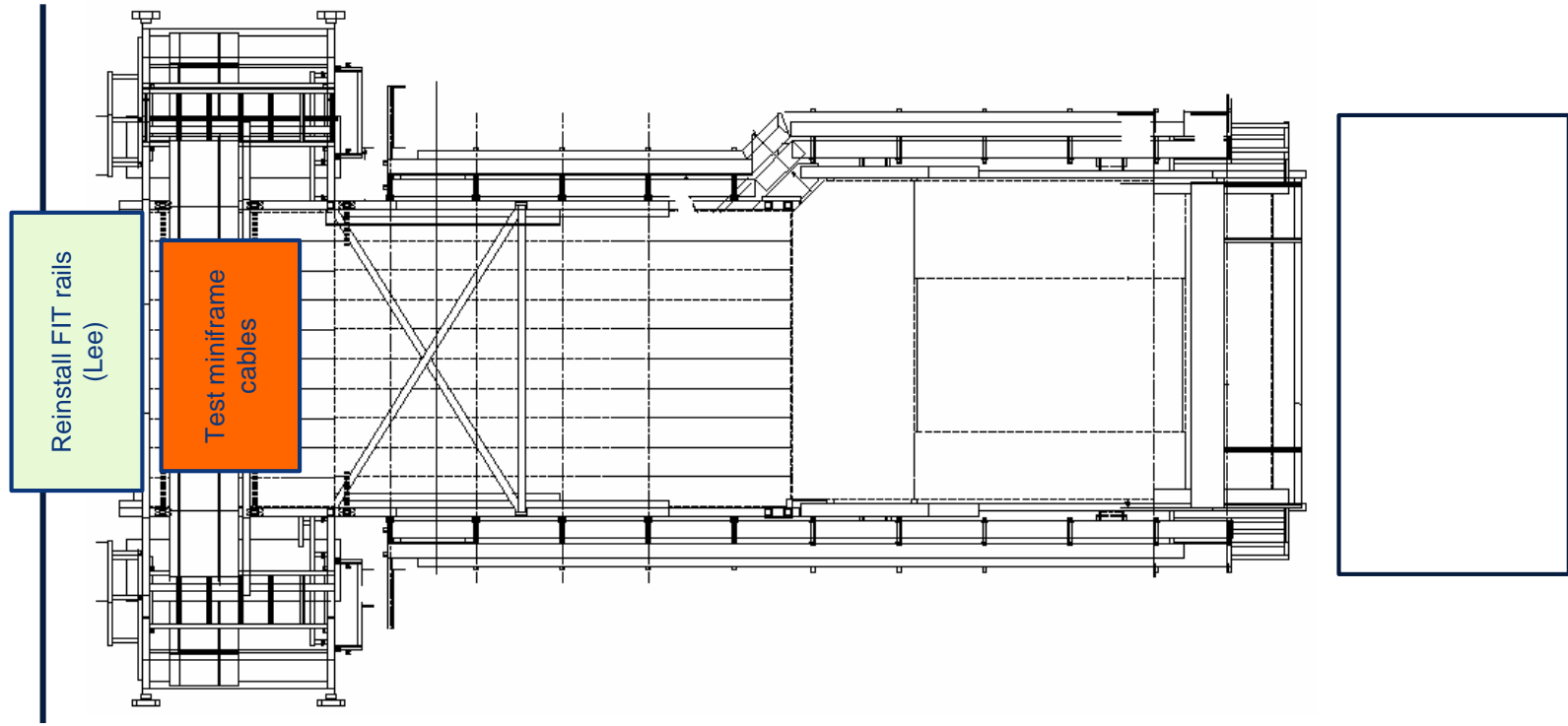


Miniframe activities w39 – Thu 24 Sep 2020



Miniframe activities w39 – Fri 25 Sep 2020

Weld ITS cooling fittings (Cedric)

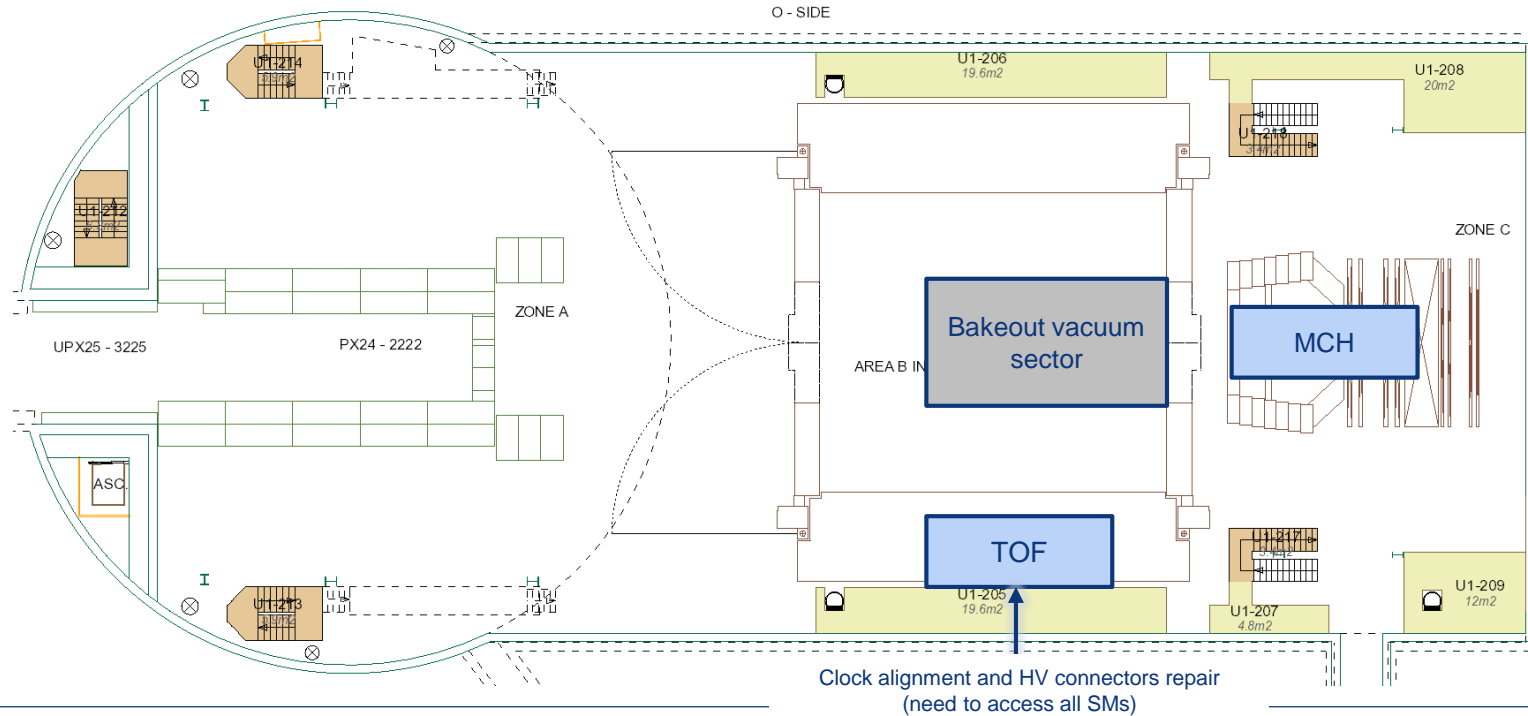


Day-by-day sequence w40



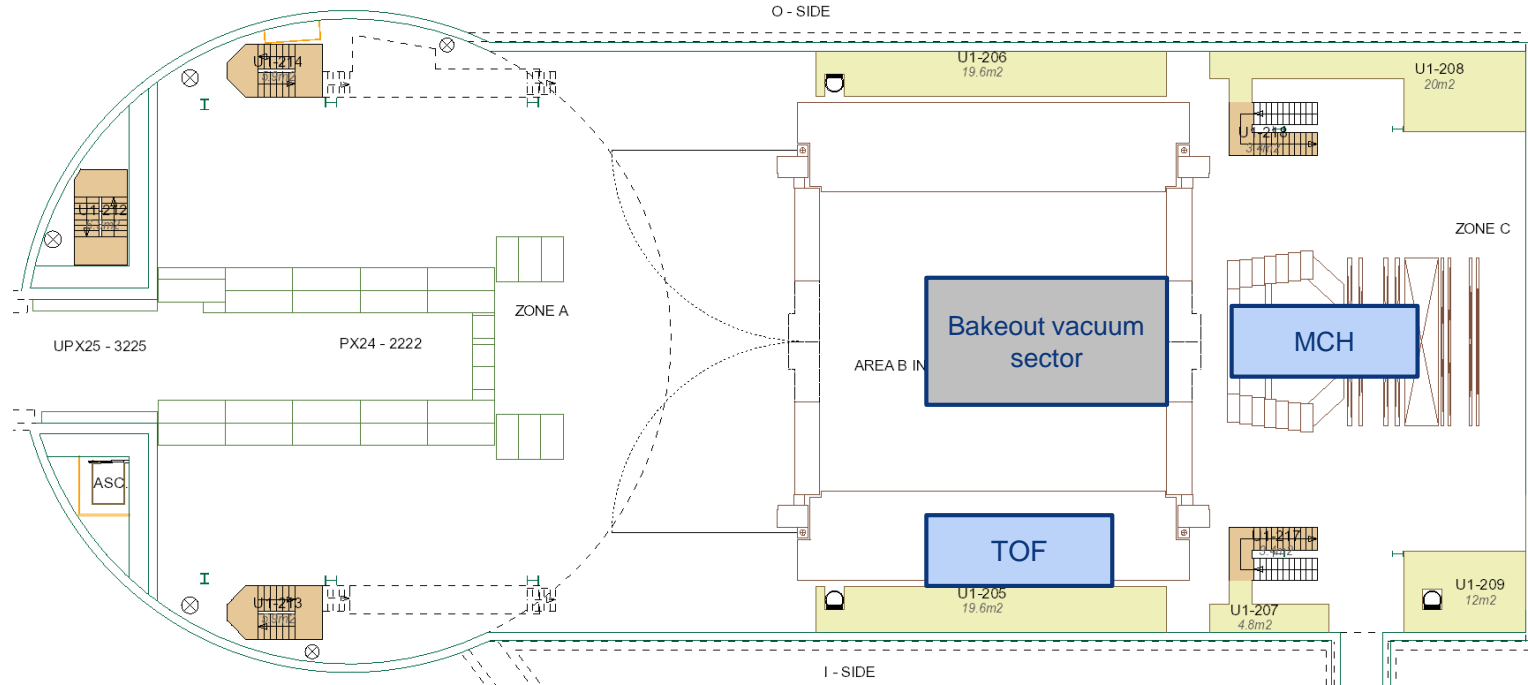
UX25 activities w40 – Mon 28 Sep 2020

EN-HE: reinstall wood protections PX24 lift (AS-724) (9:00 – 9:30)

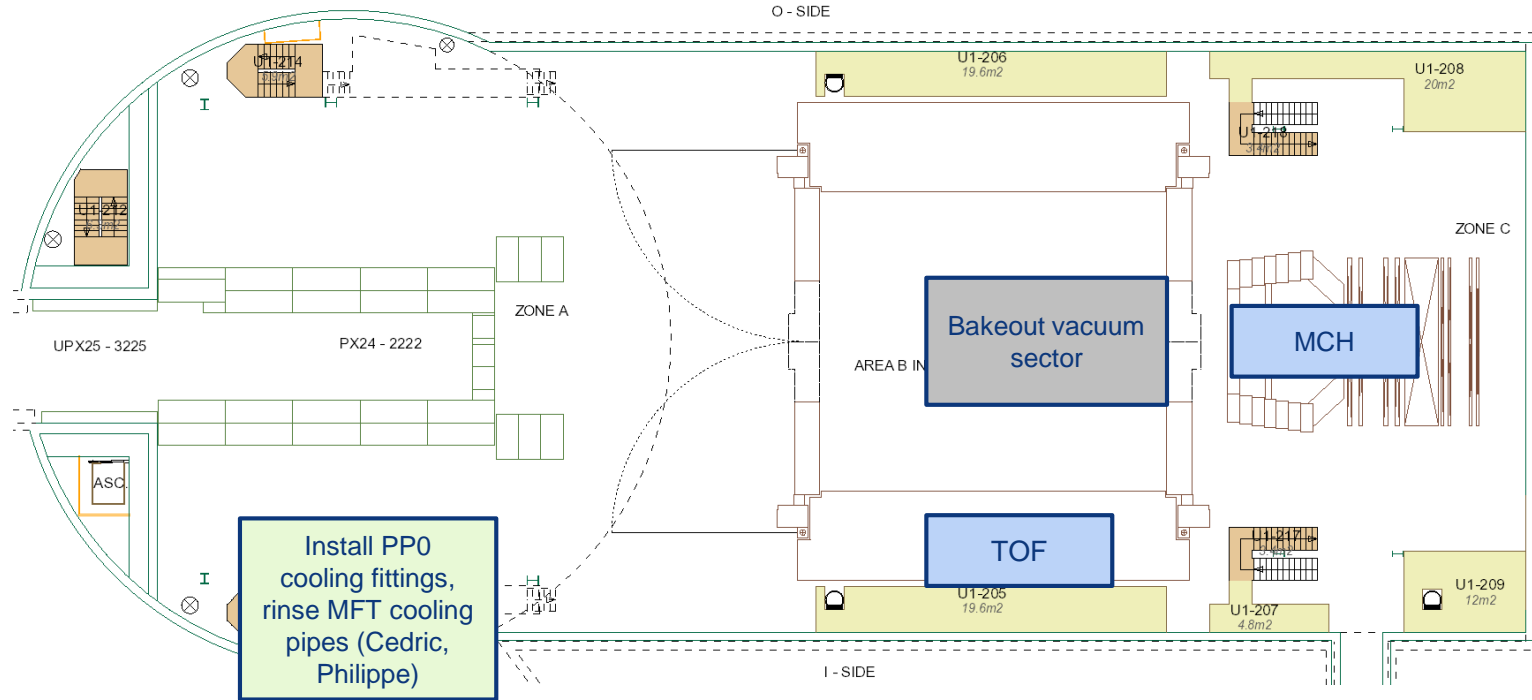


UX25 activities w40 – Tue 29 Sep 2020

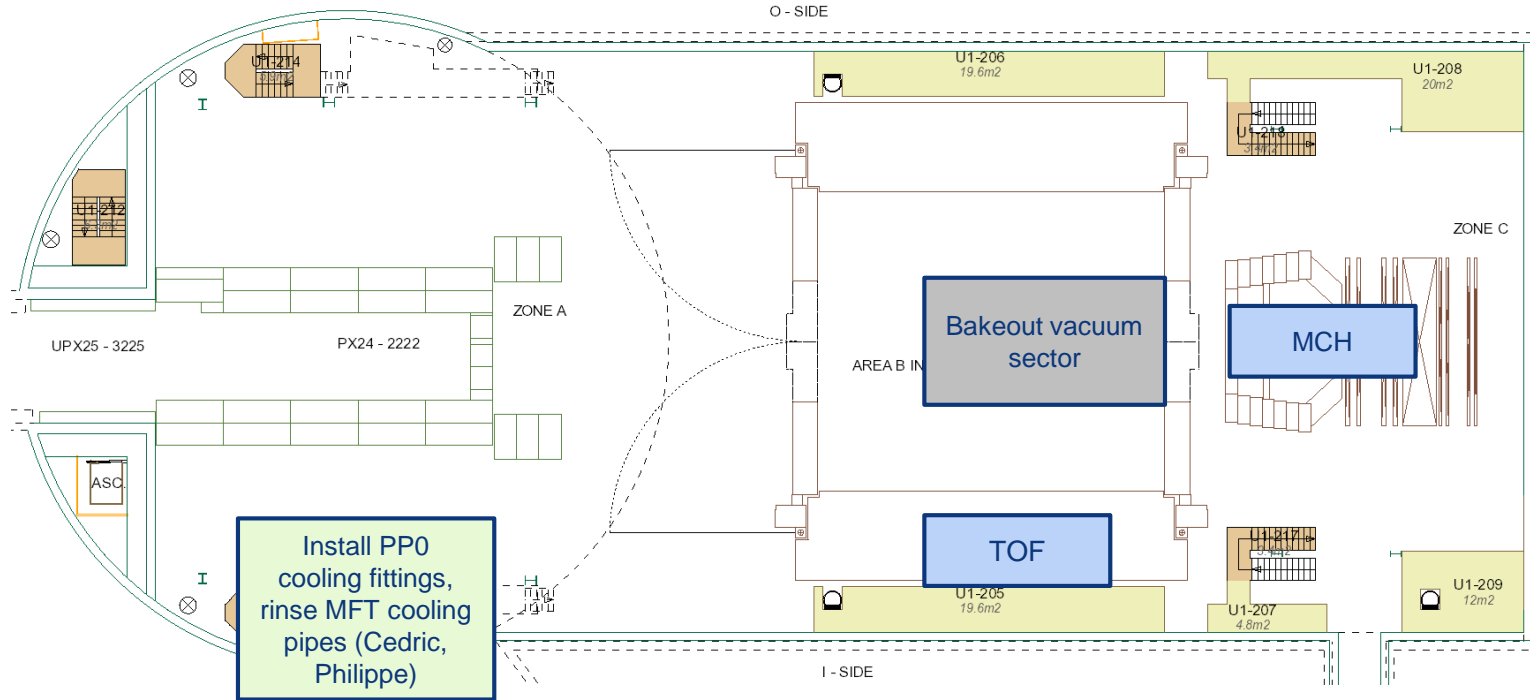
Cleaning cavern (Topnet): 13:00 to 15:00



UX25 activities w40 – Wed 30 Sep 2020

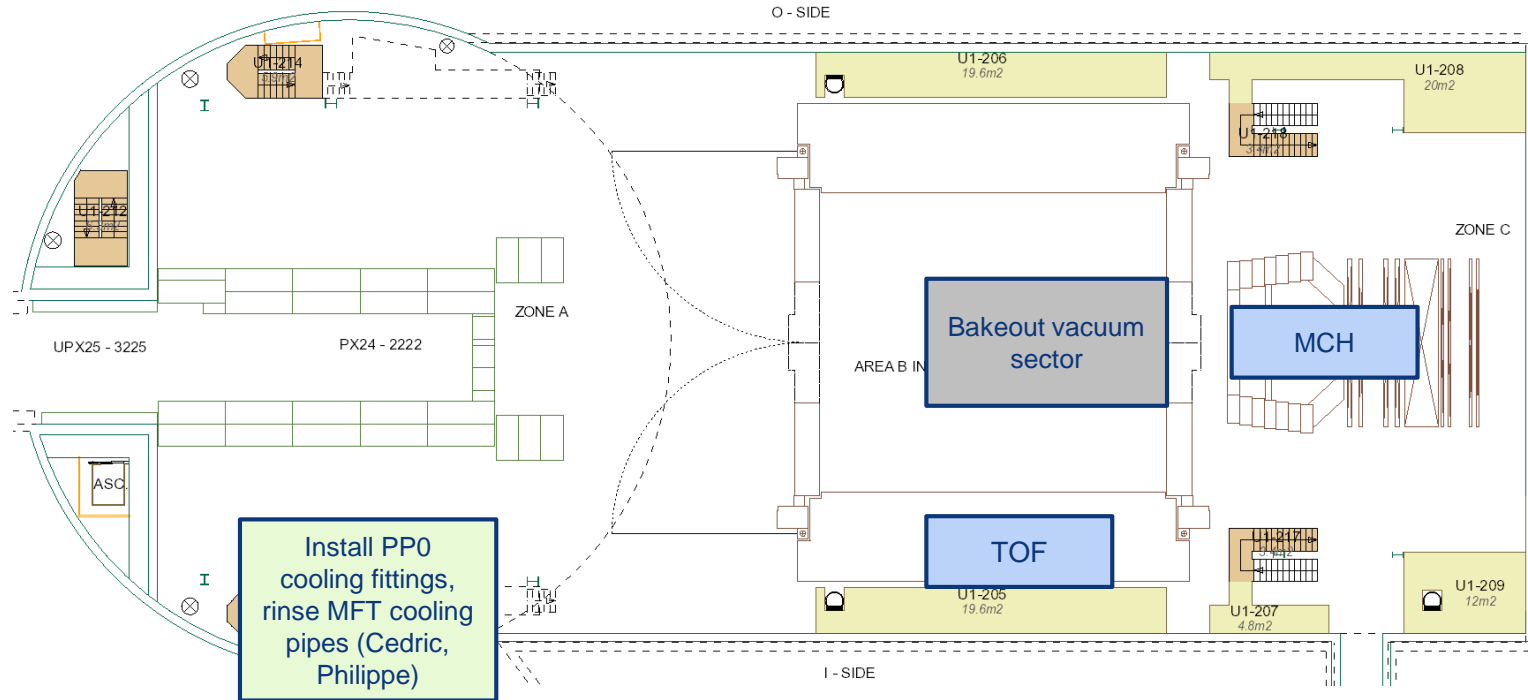


UX25 activities w40 – Thu 1 Oct 2020



UX25 activities w40 – Fri 2 Oct 2020

Cavern lift maintenance (AS-724): no access to UX25 from 6:00 AM to 8:00 AM

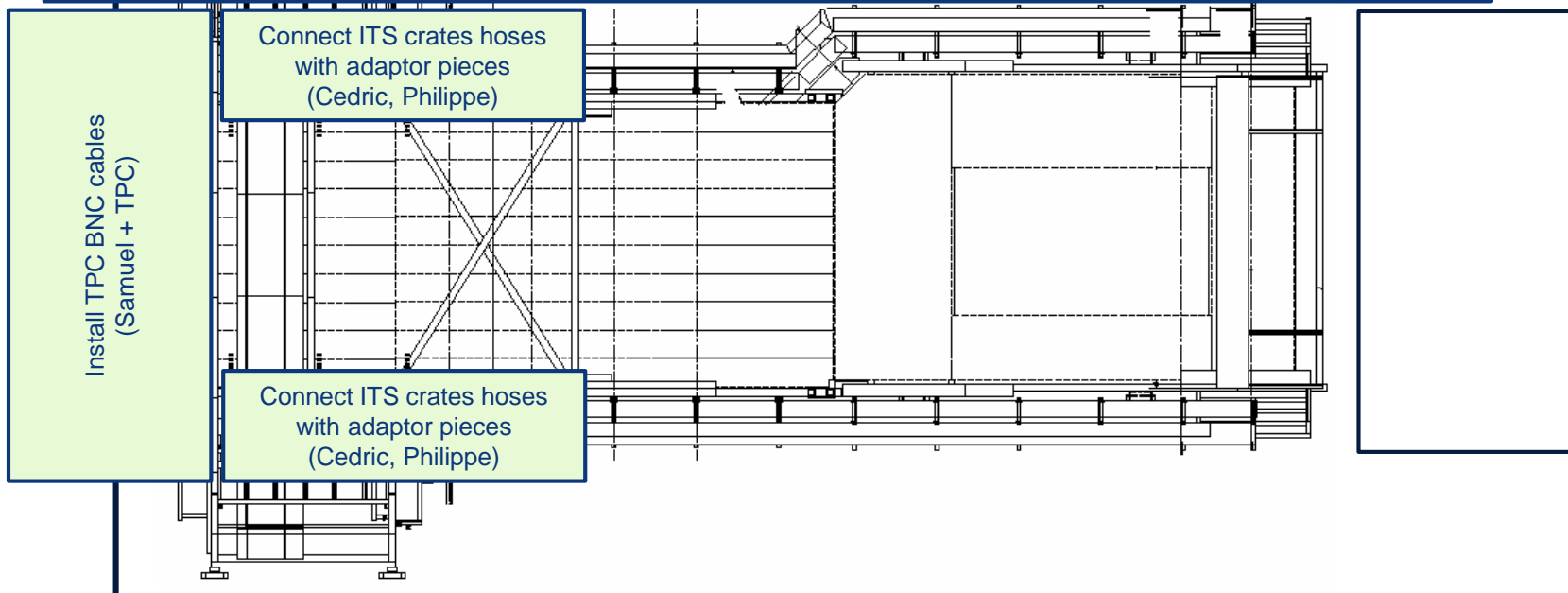


Miniframe activities w40 – Mon 28 Sep 2020

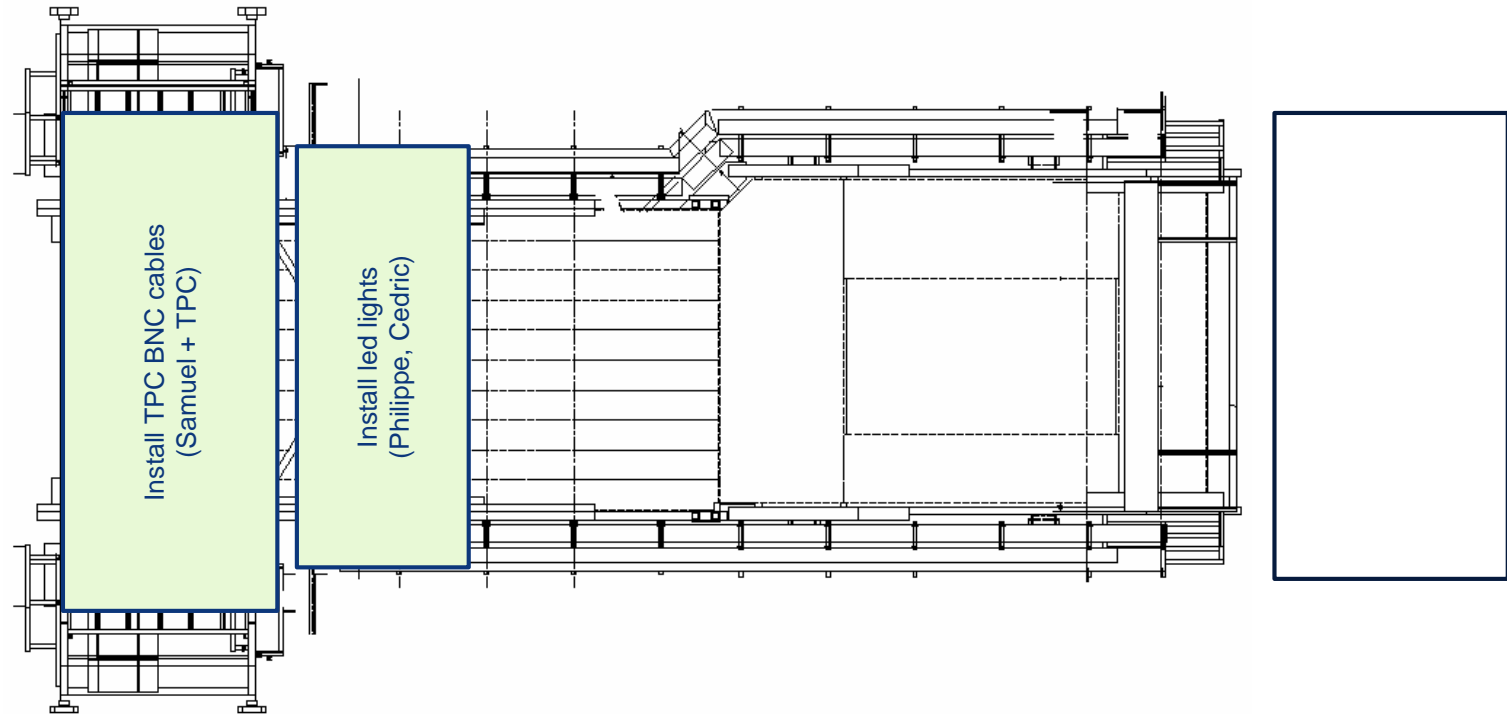
Cleaning Miniframe (Elior)

Produce and install ITS inox cable trays (Antoine) and weld (Cedric)

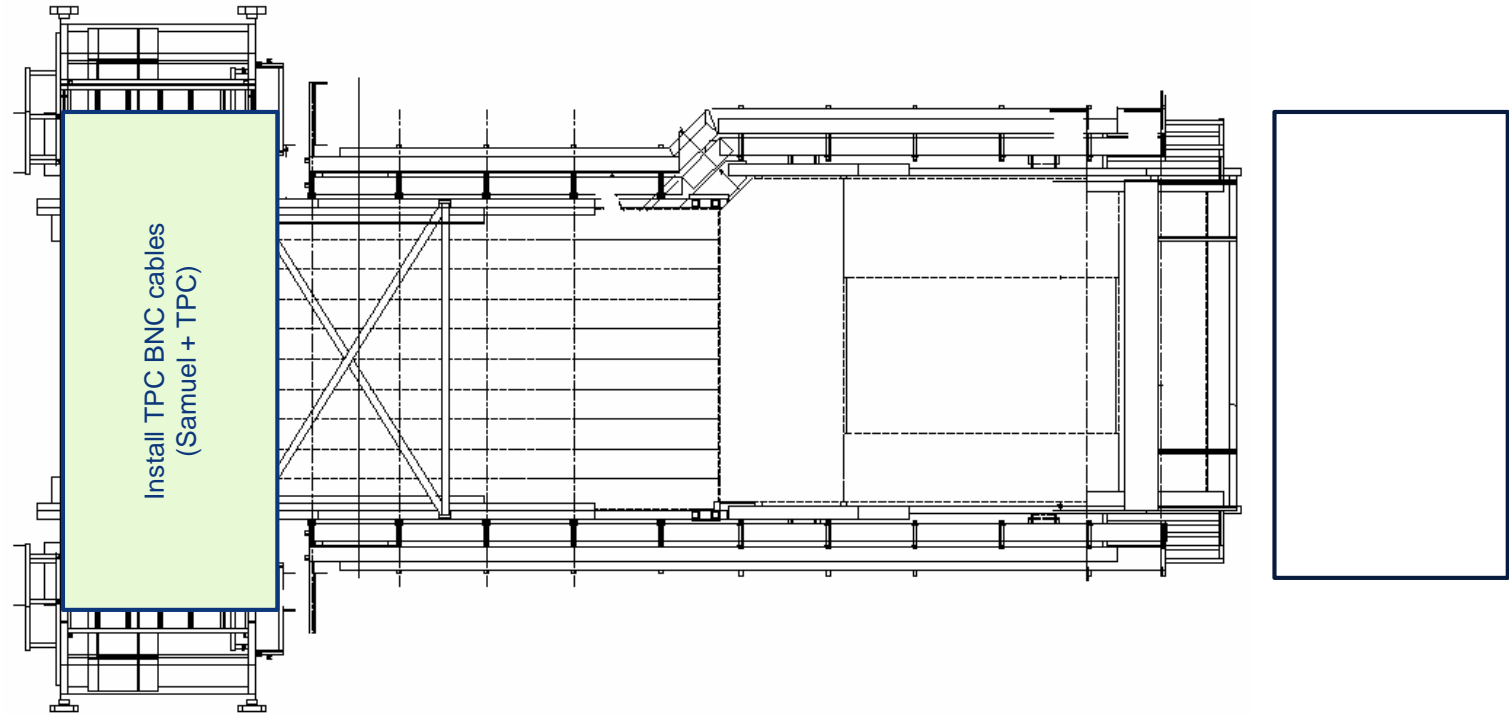
Install labels and connectors (feed-throughs) for FIT signal and HV patch-panels (Evgeny)



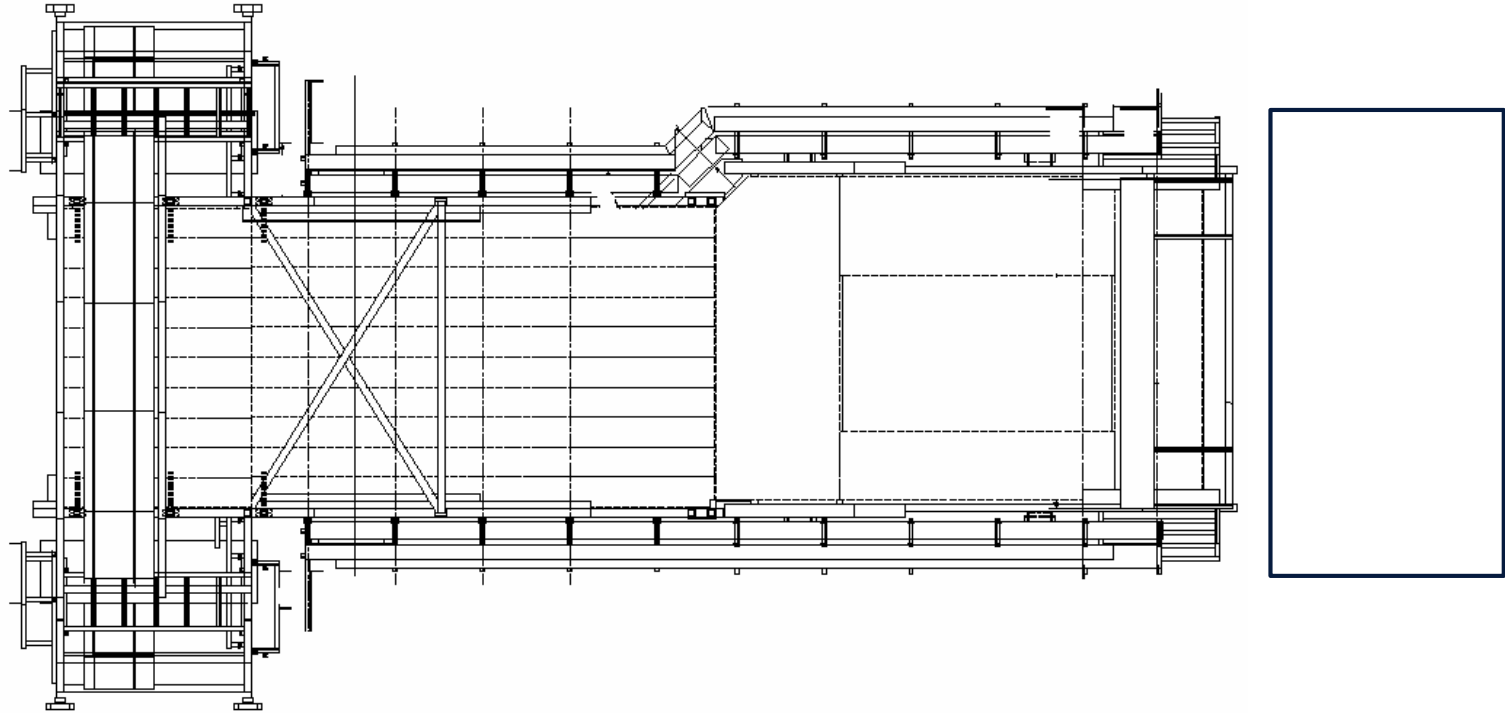
Miniframe activities w40 – Tue 29 Sep 2020



Miniframe activities w40 – Wed 30 Sep 2020



Miniframe activities w40 – Thu 1 Oct 2020



Miniframe activities w40 – Fri 2 Oct 2020

Delivery FIT-T0 & V0 to P2 (date tbc)

