

LS2 planning meeting

A.Tauro



COVID-19 news

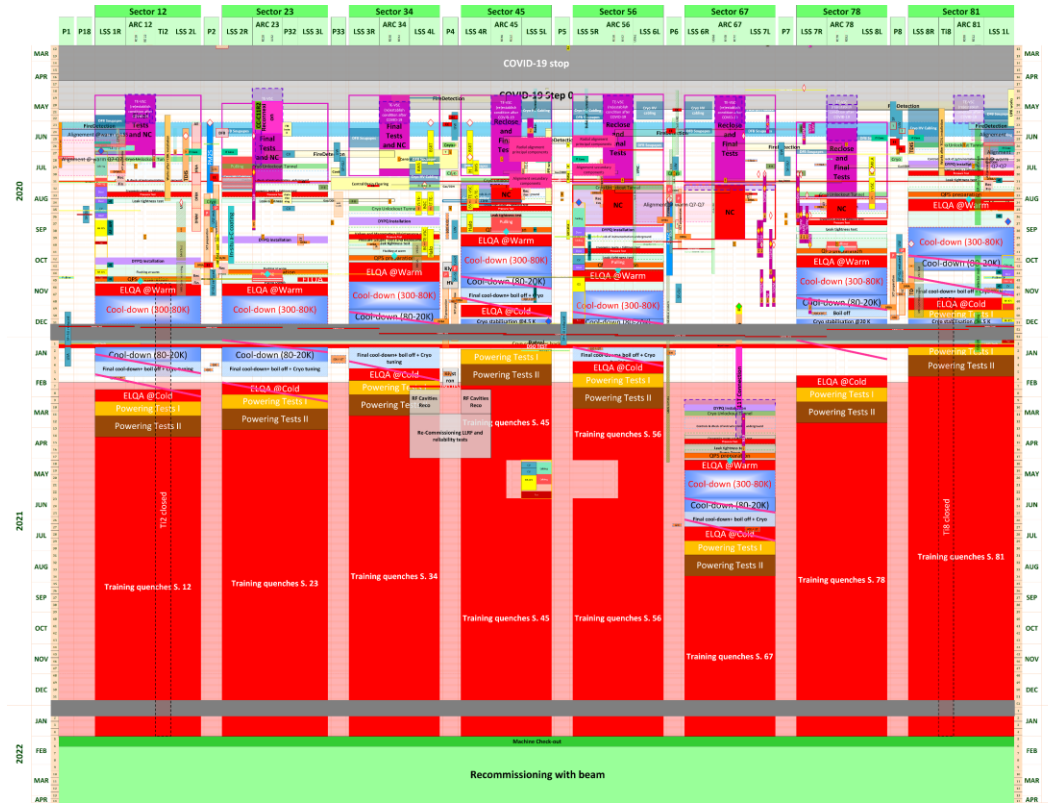
<https://hse.cern/covid-19-information>



- As of Monday, 2 November, all **employed members of the personnel** whose activity can be carried out remotely must **telework**. This measure also applies to certain categories of **associated members of the personnel** (i.e. associated members of personnel for the purpose of training and project associates). It does not apply to those members of the personnel who cannot telework or whose presence on the site is needed for carrying out the ongoing activities of the Organization. The task of specifying whose presence is needed on site lies with the respective hierarchy, and detailed guidance will be provided to supervisors shortly. **Users** who are based in the local area should not come on site unless instructed to do so by their Technical Coordinator. On-site access is not allowed for persons aged **65 years** and above, unless they are called by their supervisor or Technical Coordinator for high-priority activities.
- Those of you residing in **France** who are required to come on site during the current lockdown period in that country must carry with them a completed copy of the **CERN attestation**, valid for members of the personnel and available at this [link](#), together with any relevant document requested by French authorities. Please note that the **border between France and Switzerland remains open**.
- **Access to CERN**: the white list won't be re-introduced at this stage
- **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** (>15' at less than 2m without mask) 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.
- **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 or ALICE-covid19-coordination@cern.ch.

LHC LS2 Baseline V3.0

LHC-PM-MS-0018 v.3.0

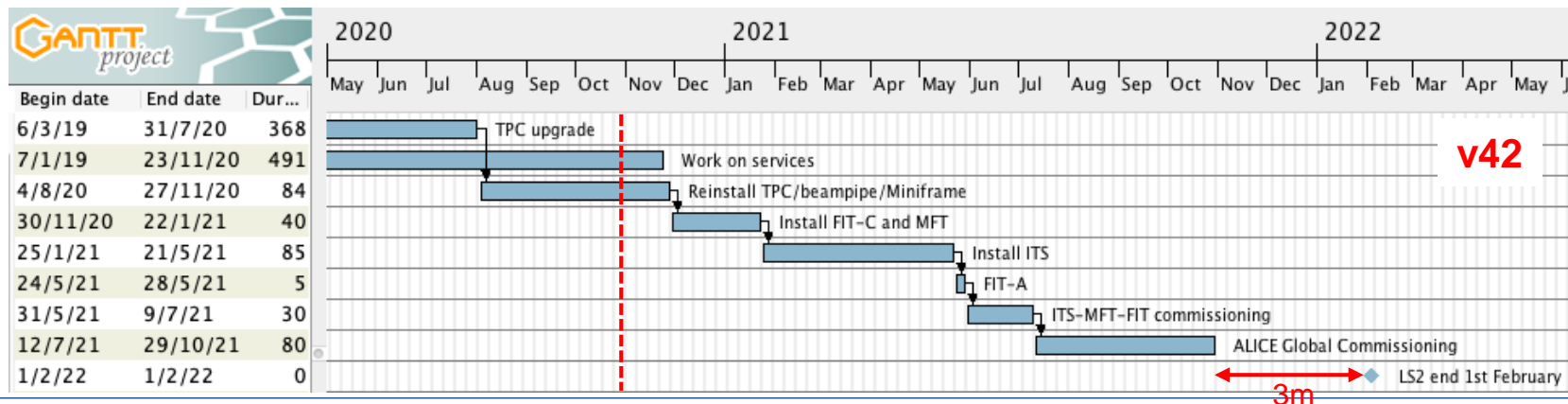


30.10.2020

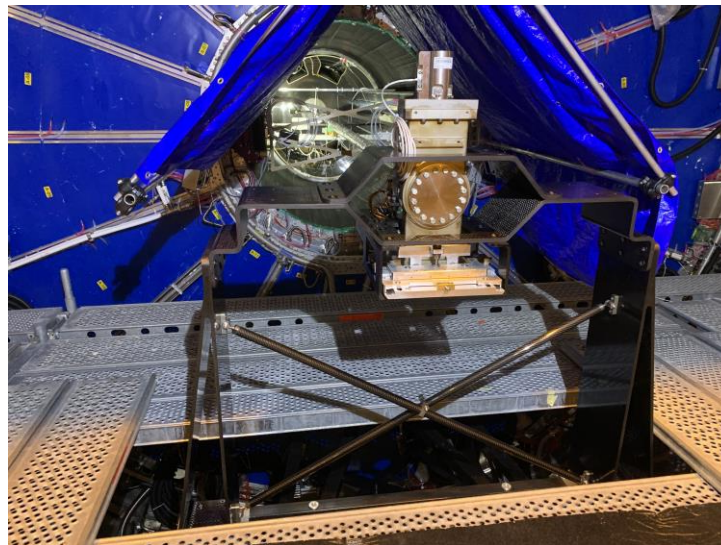
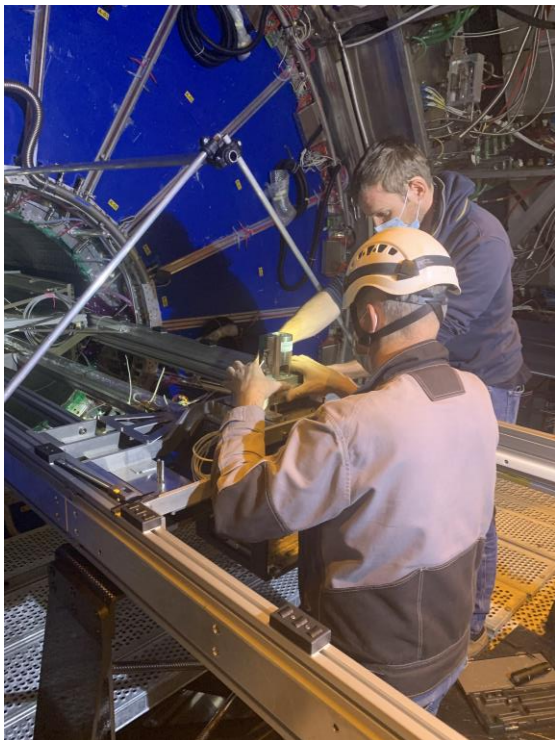
LS2 planning meeting

Current master schedule (v42)

- **Schedule v42:**
 - Stop ITS operation on Mon Jan 4th 2021
 - Stop MFT operation on Mon Nov 12th
 - 16w global commissioning at the end
- **LS2 schedule review 23 Oct → LS2 end date 1st February 2022**
- ALICE vacuum closed by June 2021 → OK to inject low intensity beam by last week September 2021
- This plan foresees **3 months contingency** with respect to the LS2 end date

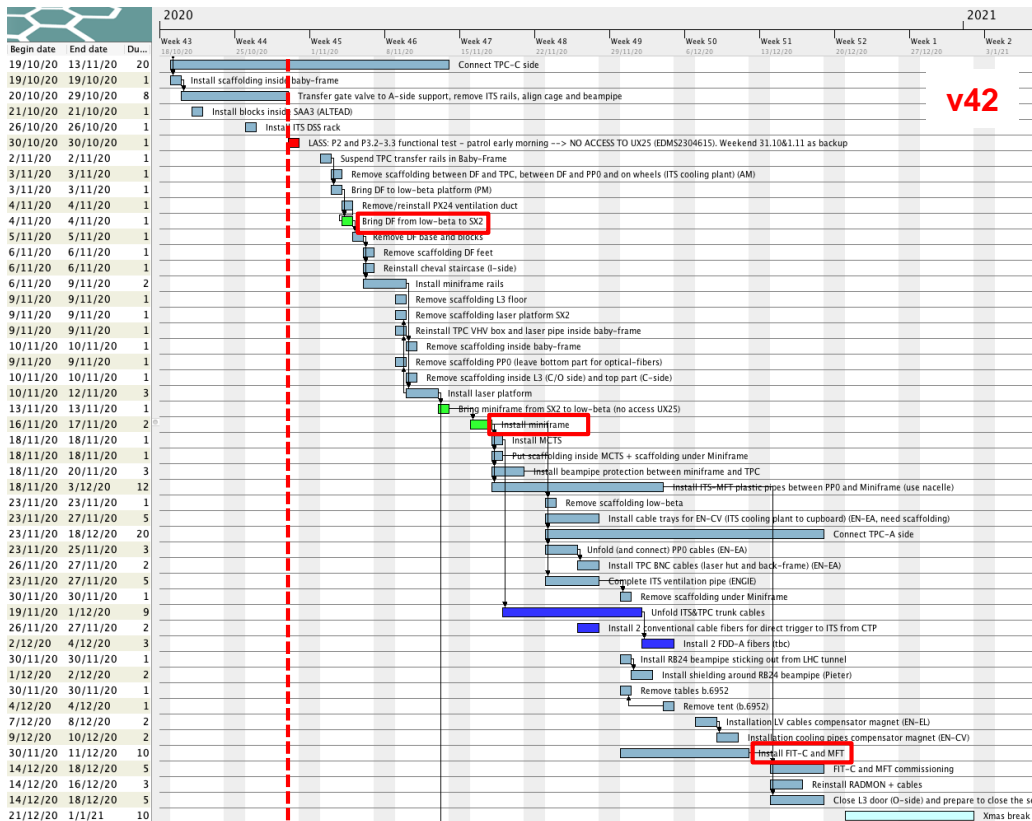


Valve transferred to TPC



Temporary rails removed
Cage, beampipe and valve aligned

Detailed plan until end of year



Oct 19th – Nov 13th: connect TPC C-side

Oct 19th – 29th: transfer gate valve to A-side support, remove ITS rails, final survey and adjustment of cage (and beampipe)

Nov 2nd – 18th: remove DF, install Miniframe and MCTS

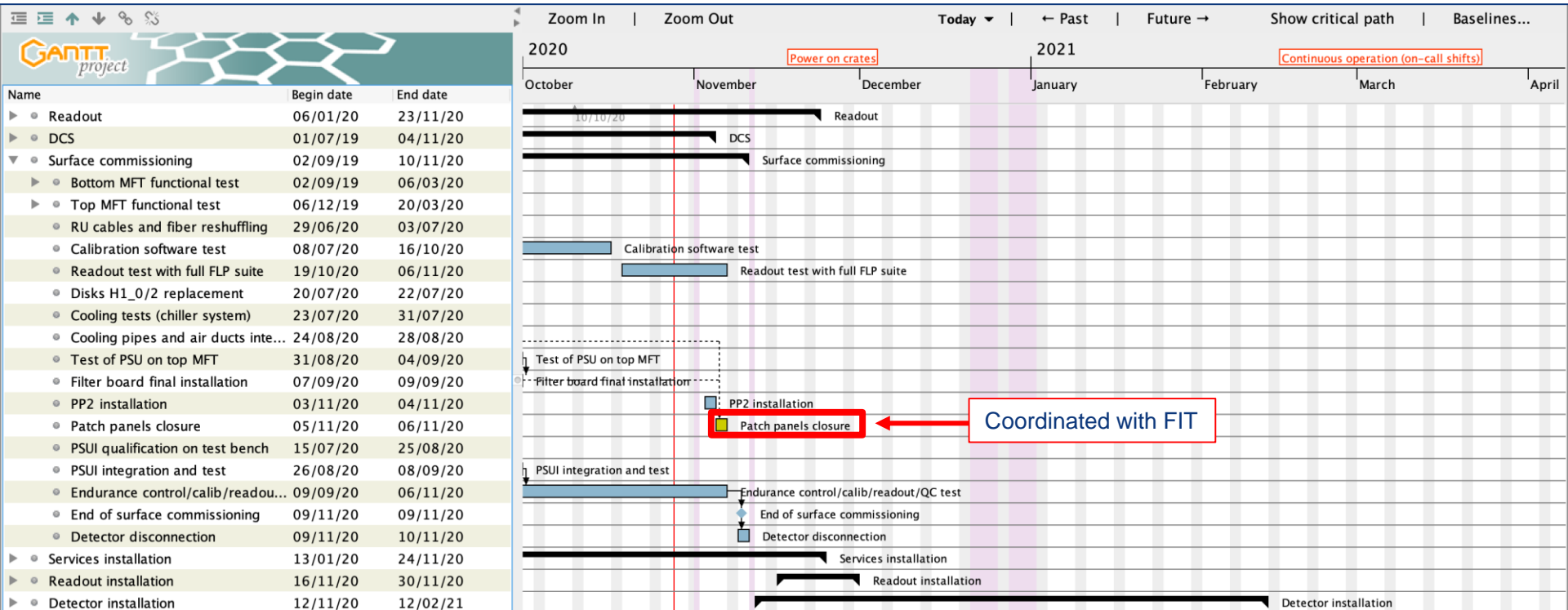
Nov 19th – Dec 9th: connect Miniframe

Nov 23rd – Dec 18th: connect TPC A-side

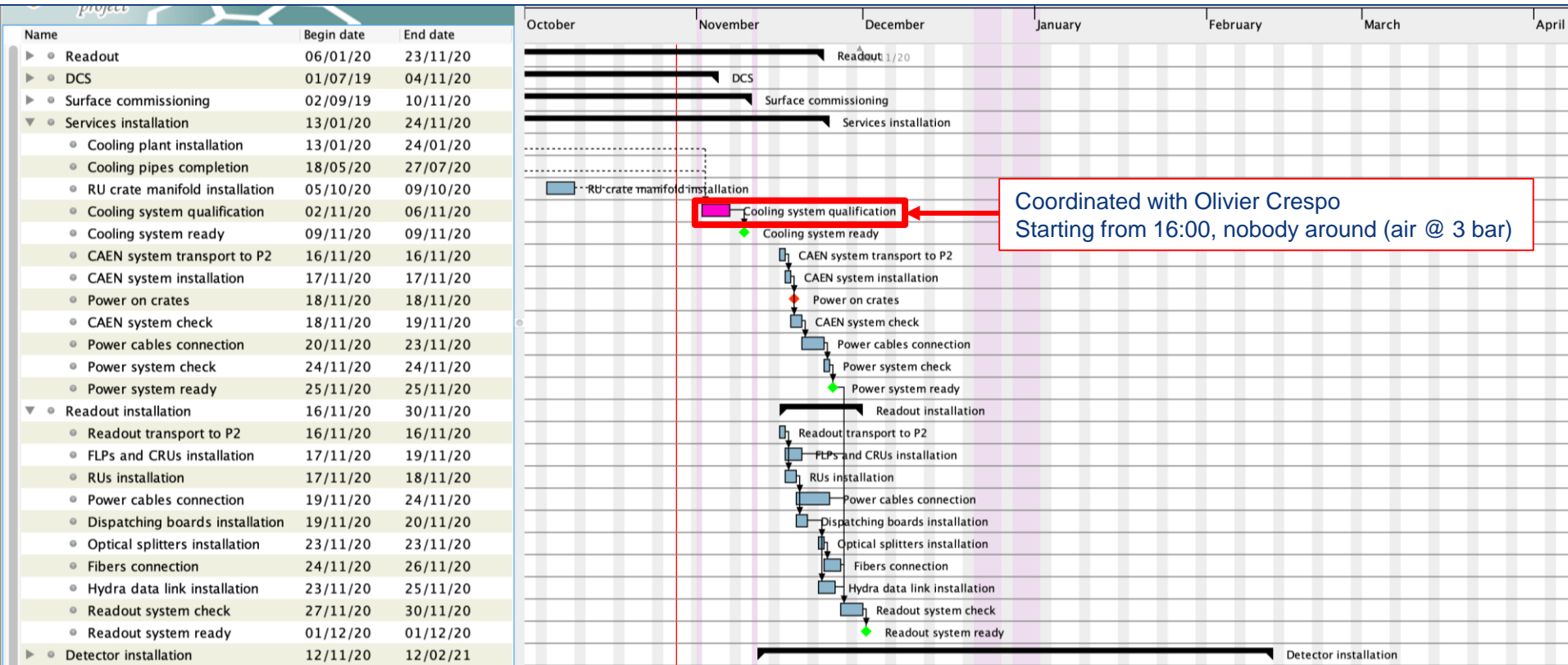
Nov 30th – Dec 18th: FIT-C and MFT installation + commissioning

Dec 14th – Dec 18th: close L3 O-side door

MFT & FIT schedule



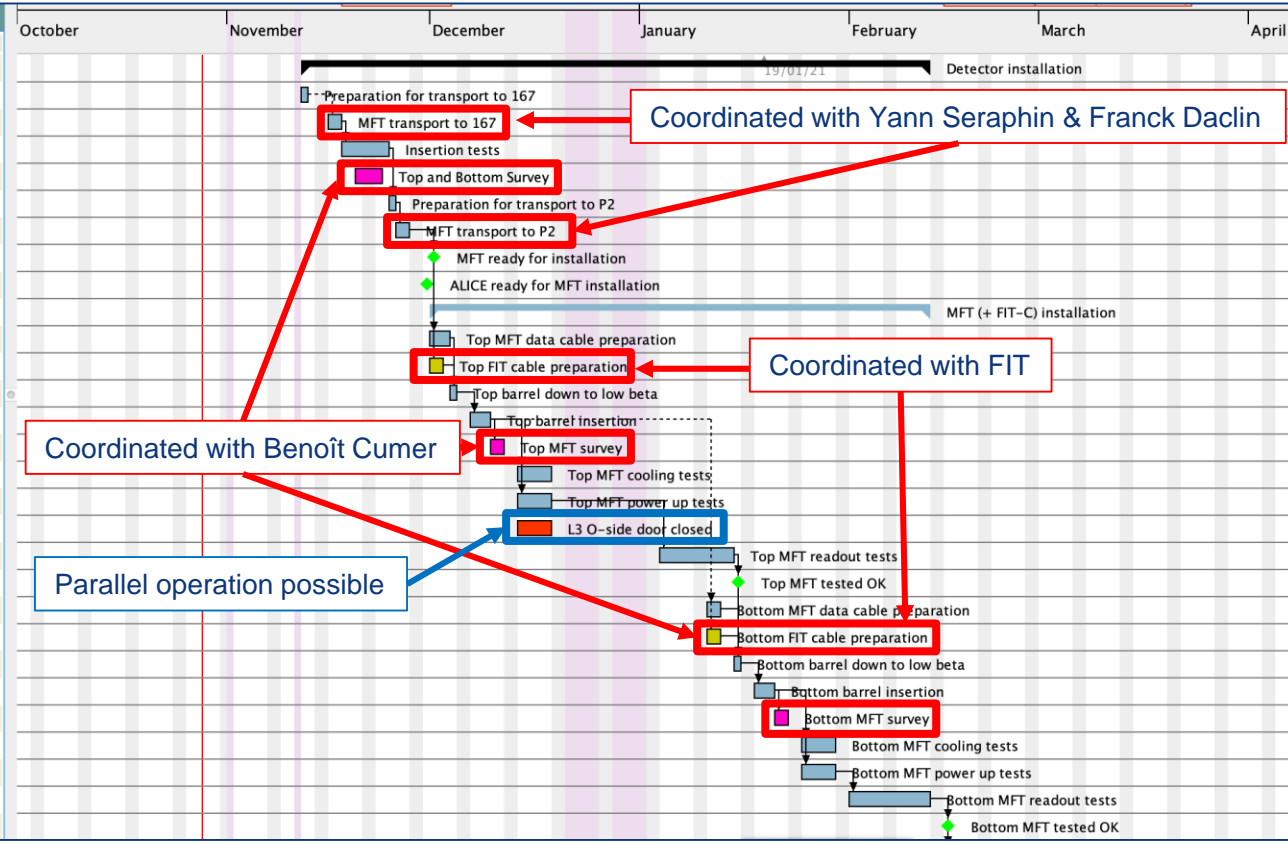
MFT & FIT schedule



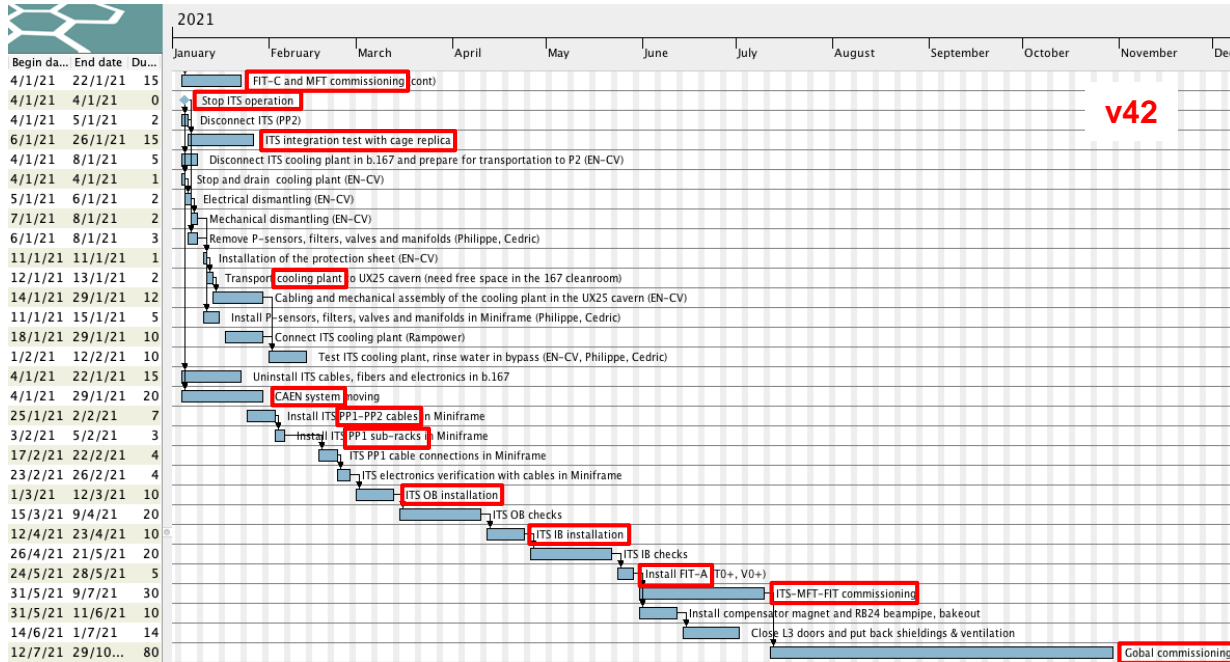


MFT & FIT schedule

Name	Begin date	End date
▼ Detector installation	12/11/20	12/02/21
• Preparation for transport to 167	12/11/20	12/11/20
• MFT transport to 167	16/11/20	17/11/20
• Insertion tests	18/11/20	24/11/20
• Top and Bottom Survey	20/11/20	23/11/20
• Preparation for transport to P2	25/11/20	25/11/20
• MFT transport to P2	26/11/20	27/11/20
• MFT ready for installation	01/12/20	01/12/20
• ALICE ready for MFT installation	30/11/20	30/11/20
▼ MFT (+ FIT-C) installation	01/12/20	12/02/21
• Top MFT data cable prepar...	01/12/20	03/12/20
• Top FIT cable preparation	01/12/20	02/12/20
• Top barrel down to low beta	04/12/20	04/12/20
• Top barrel insertion	07/12/20	09/12/20
• Top MFT survey	10/12/20	11/12/20
• Top MFT cooling tests	14/12/20	18/12/20
• Top MFT power up tests	14/12/20	18/12/20
• L3 O-side door closed	14/12/20	18/12/20
• Top MFT readout tests	04/01/21	14/01/21
• Top MFT tested OK	15/01/21	15/01/21
• Bottom MFT data cable pre...	11/01/21	12/01/21
• Bottom FIT cable preparation	11/01/21	12/01/21
• Bottom barrel down to low ...	15/01/21	15/01/21
• Bottom barrel insertion	18/01/21	20/01/21
• Bottom MFT survey	21/01/21	22/01/21
• Bottom MFT cooling tests	25/01/21	29/01/21
• Bottom MFT power up tests	25/01/21	29/01/21
• Bottom MFT readout tests	01/02/21	12/02/21
• Bottom MFT tested OK	15/02/21	15/02/21



Detailed plan 2021



v42

Jan 4th : stop ITS operation in b.167

Jan 5th – Feb 26th: transfer ITS services from b.167 to P2

Mar 1st – May 21st: ITS installation

May 24th – 28th: FIT-A installation

May 31st – Oct 29th: ITS-MFT-FIT commissioning / global commissioning / close Experiment

Key dates

Activity	v42
Install central beampipe	16 Sep – 12 Oct
Move TPC to IP	13 – 16 Oct
Install Miniframe	16 – 17 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)
End of LS2 – stop UX25 access (contingency)	1 Feb 2022 (3 months)

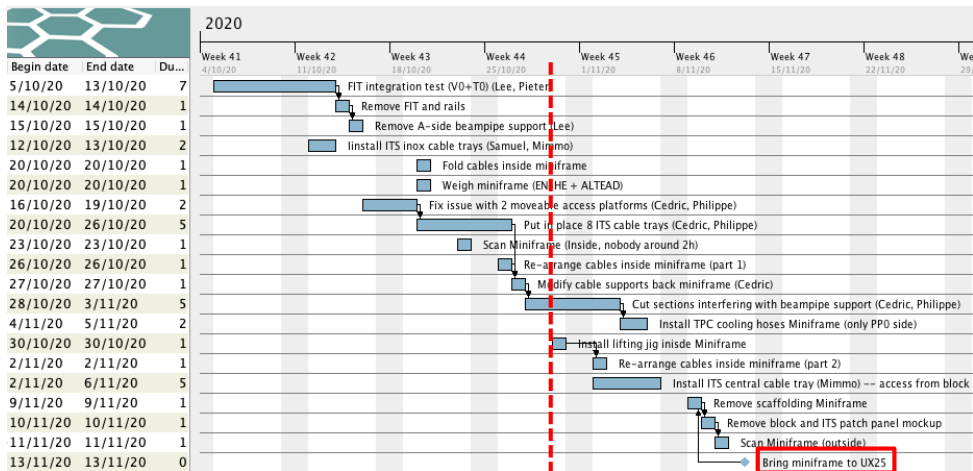
Miniframe

2 more weeks before Miniframe installation in UX25 cavern

Reimaining work:

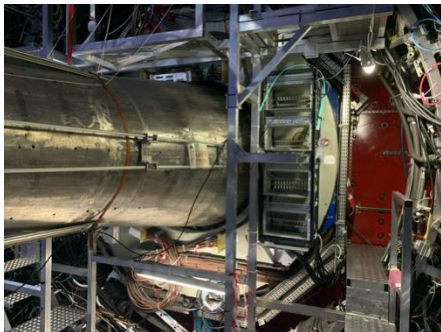
- Fixation ITS cable trays
- Mechanical modifications front side of Miniframe
- Removal scaffoldings, installation lifting jig, 3D scans

Miniframe weight: **13.8t**



Services status

- **Cables (EN-EA):**
 - **All cables installed and tested!**
 - Unfold **Miniframe** cables: 23-25 Nov
 - Complete **TPC BNC** (laser) cables (back-frame and laser-hut): 26-27 Nov
 - Install cable trays for ITS cooling plant: 24-27 Nov
 - Cut and put connectors on **FIT-A** signal cables in Miniframe: 18-21 Jan
 - Complete **FDD-A** connectors: 22 Jan
- **Optical fibers (EN-EL):**
 - Installation 6 trunk cables between **IT1-IT2 (CR0)** → w46 (requires to open 2 blocks)
 - Unfold and connect **ITS** and **TPC** trunk cables and install 2 conventional cables for direct trigger **CTP-ITS** → w47-48 (19-27 Nov)
 - Installation 2 **FDD** optical cables → w49
- **Cooling:**
 - **MFT:** ready to send water to RU cooling loops
 - **ITS/MFT/TPC:** connections between Miniframe and PP0 → w48-49
 - Connection of **ITS** and inox pipes to ITS cooling plant (Rampower) → w4
- **Wiener LVPS consolidation (EN-EA):**
 - 193 water cooled power supplies in total (LV and VME)
 - Rework in batches (~16 units/week), was started in week 32
 - **146 have been processed (75%)**
- **Rack turbines replacement:**
 - 80 units in total, the first batch (19 units) delivered to SX2
 - Replacement without cutting the power in the rack



MFT RU crates on the C-side



Wiener LVPS rework (EN-EA)



Rack turbines delivered in SX2

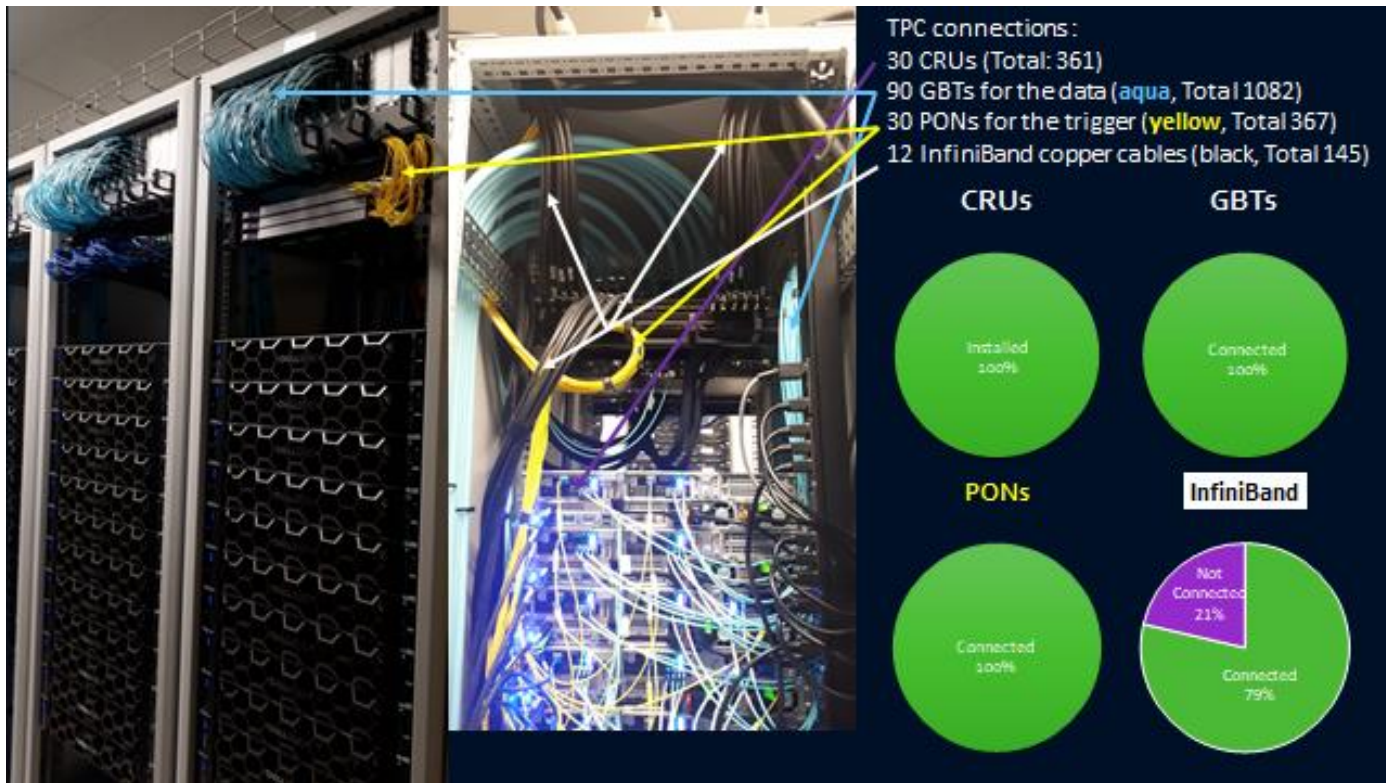
EN-CV interventions

- **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 w44-45, no impact) + 1 day **stop all cooling UX (9 Nov)** + 1 day **stop SXL2 cleanroom ventilation (9 Nov)**
- **Ventilation:**
 - ARC – done
 - SXL2 CLR: w43 (19-21 Oct) – done
 - SG2: w44 (26-28 Oct) – done
 - UX25 cavern – done
 - MCH and MTG – done
 - L3: replace extractor – done
 - ITS – done

EN-EL interventions

- **UPS maintenance:**
- Battery replacement on ALICE UPSes
 - Intervention without power interruption, but no battery backup during replacement (UPS bypassed, no protection for glitches)
 - **19 – 21/10: UPS for CR0, CR1, ARC – done**
 - **22 – 23/10: UPS for CR3, CR4 – done**
 - **05 – 06/11: Diesel UPS**
- Annual on ALICE UPSes
 - Intervention without power interruption, no battery backup during 30 minutes for each UPS
 - **Week 46**

CR1 status



CR3 status (A.Augustinus)

- **October**
 - Installation of network infrastructure (some short network interruptions to be foreseen (details will be seen directly with detectors))
 - Cabling up of new servers
 - Start commissioning of new servers
- **November – December - January**
 - Migration from old servers to new servers (first central systems, then detector systems) from November
 - Removal of old servers and last old racks

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

Other activities

2020:

- Renovation PX24 access system (PAD-MAD): w33-34 (10-21 Aug) → done
- Maintenance PX24 access system (8-11 Sep) → done
- Renovation PM25 access system (PAD-MAD): w41-43 (5-23 Oct) → done
- LASS contractor test (26-28 Oct): short access perturbations → done
- **LASS functional test: no access to UX25 on Friday 30 Oct 2020 (weekend 31 Oct /1 Nov as contingency) → ongoing**
- LASS global verification of entire LHC: 1 day no access to UX25 (date tbd)

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)

Scaffoldings

- Sem.43, Lun 19 Oct (7:30): installation échafaudage dans le Baby-Frame + enlever liaison Miniframe
- Sem.45, Mar 3 Nov (9:00): dépose liaison entre Delphi-Frame et la partie devant la TPC + dépose liaison entre Delphi-Frame et PP0
- Sem.45, Ven 6 Nov: dépose de l'accès aux blocs du Delphi-Frame + dépose roulant devant cooling plant ITS
- Sem.46, Lun 9 Nov: dépose échafaudages Miniframe en SX2 + dépose échafaudage devant la tour laser en SX2 + dépose plancher L3 + dépose échafaudage PP0
- Sem.46, Mar 10 Nov: dépose échafaudage dans le baby-frame + dépose échafaudage dans L3 (cote C/O) + dépose jonction au fond de L3 (coté C)
- Sem.47, Mer 18 Nov: installation petit échafaudage dans Miniframe en UX25 (deuxième rampe escalier) + échafaudage sous Miniframe
- Sem.48, Lun 23 Nov: dépose échafaudage Low-Beta (coté I)
- Sem.49, Lun 30 Nov: dépose échafaudage sous Miniframe

New ITS DSS rack A03



All HW transferred to A03

Temporary rack already removed

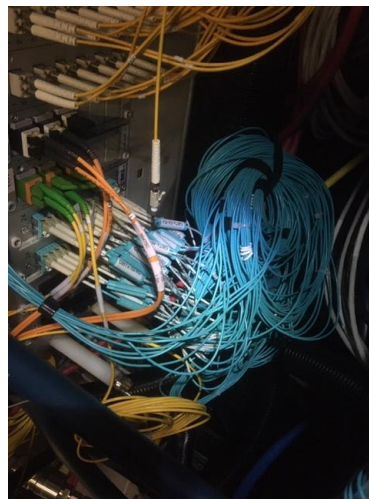
PLC connection ongoing



TPC C-side connections

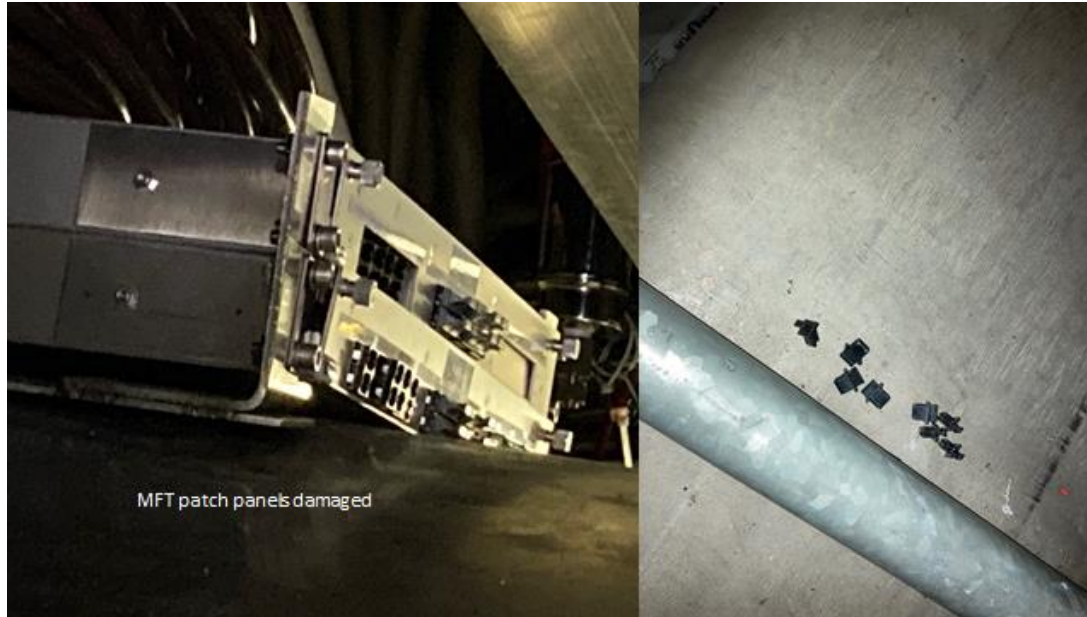


Cooling, LV, HV, Ethernet
connected



Patch cords: ongoing. A few
issues found

Damaged equipment



Found by Giuseppe

Located on the absorber

Fibers to be tested again

Day-by-day sequence w44

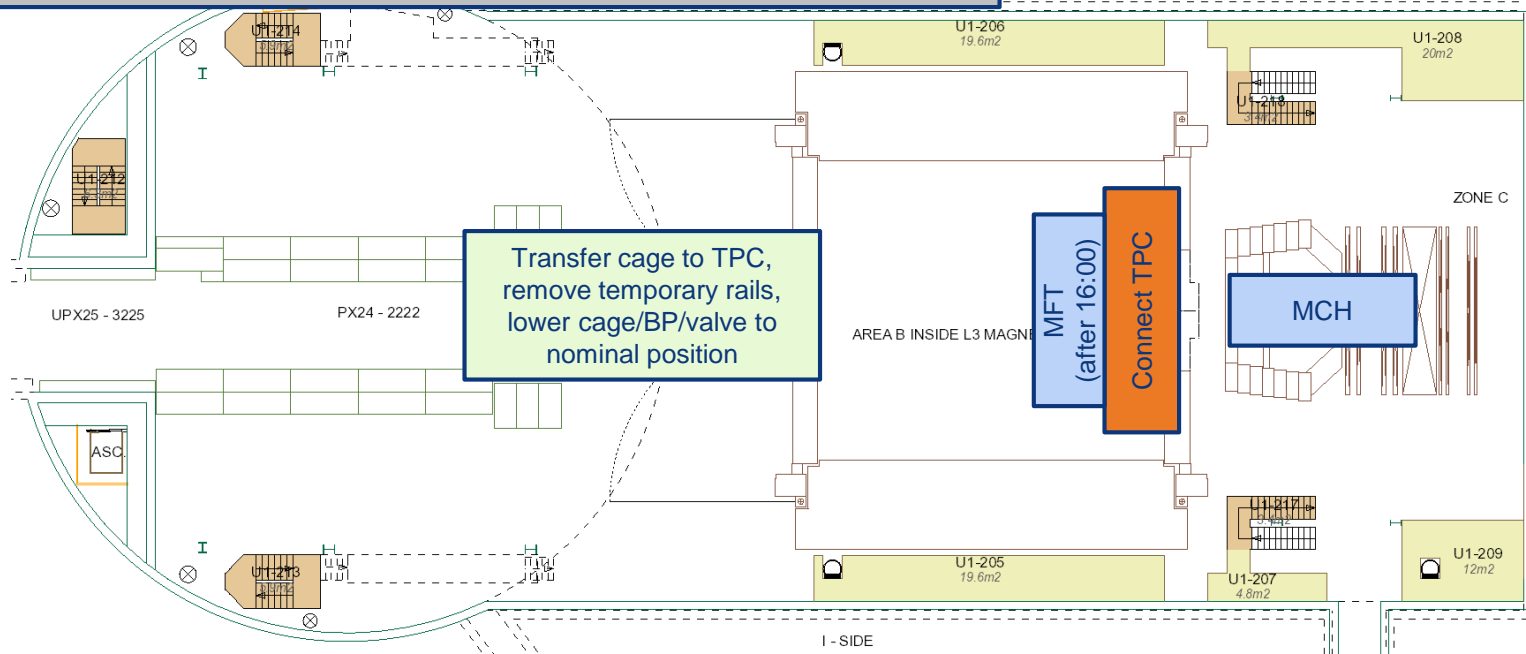


UX25 activities w44 – Mon 26 Oct 2020

Maintenance SF + SU (EN-CV) (w44-47)

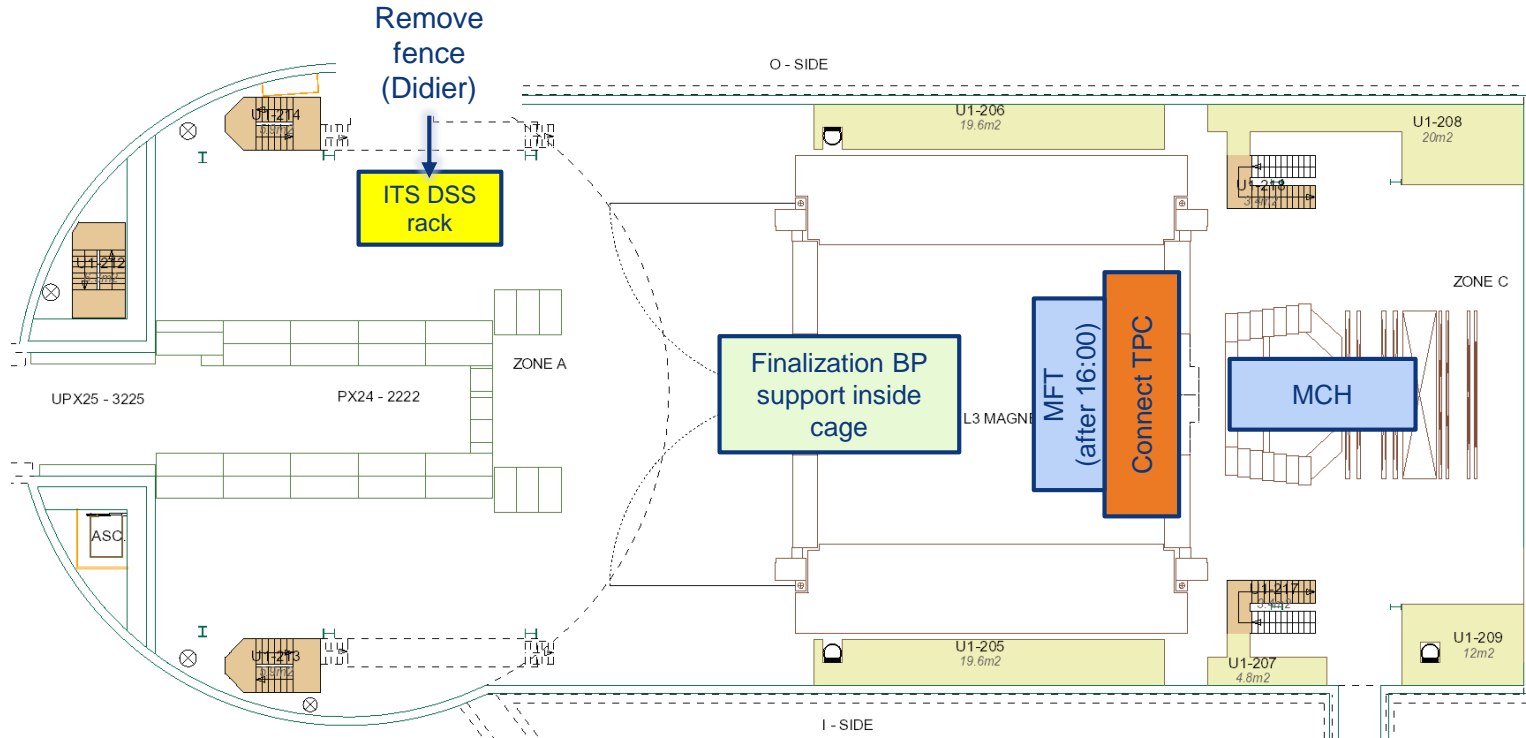
Maintenance SG2 ventilation (EN-CV). Switch to Arcal10 (Mon-Wed)

LASS contractor tests (Mon-Wed) - short access perturbations

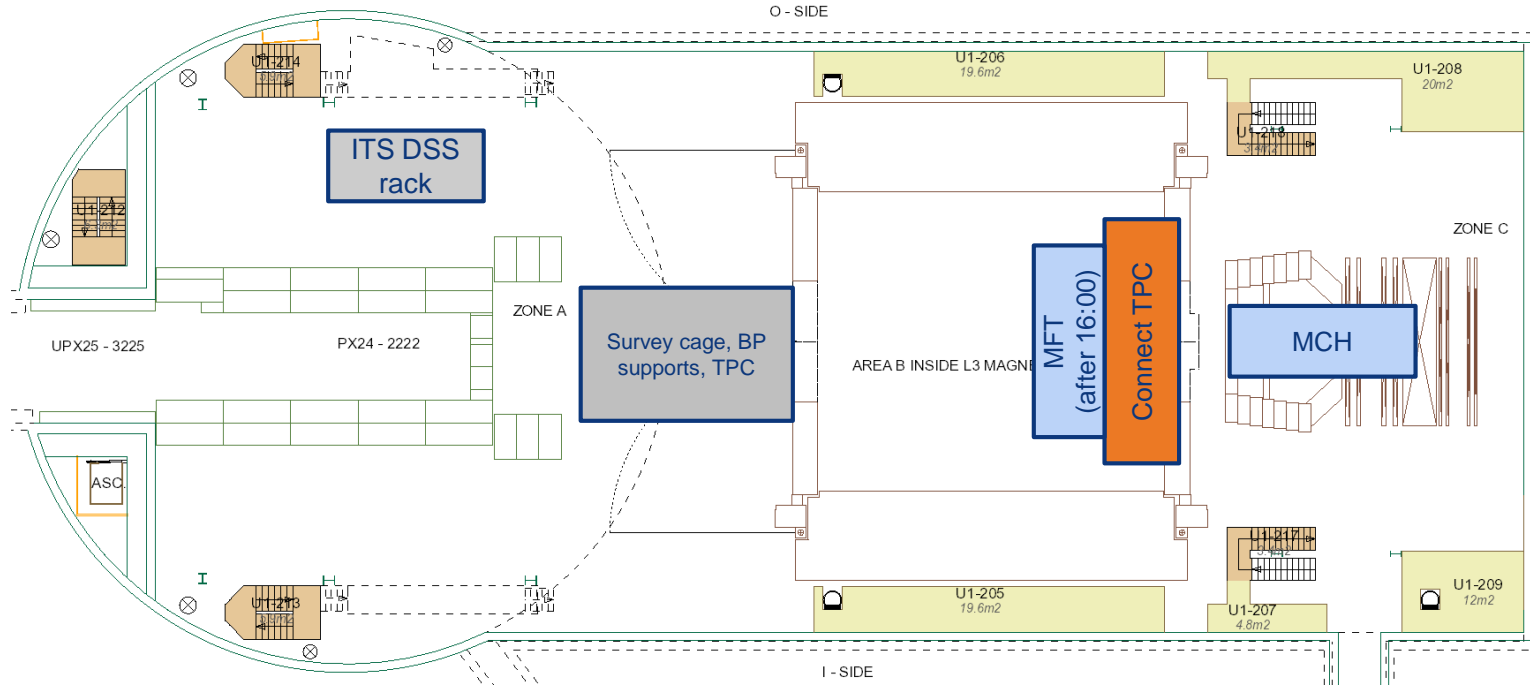


UX25 activities w44 – Tue 27 Oct 2020

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

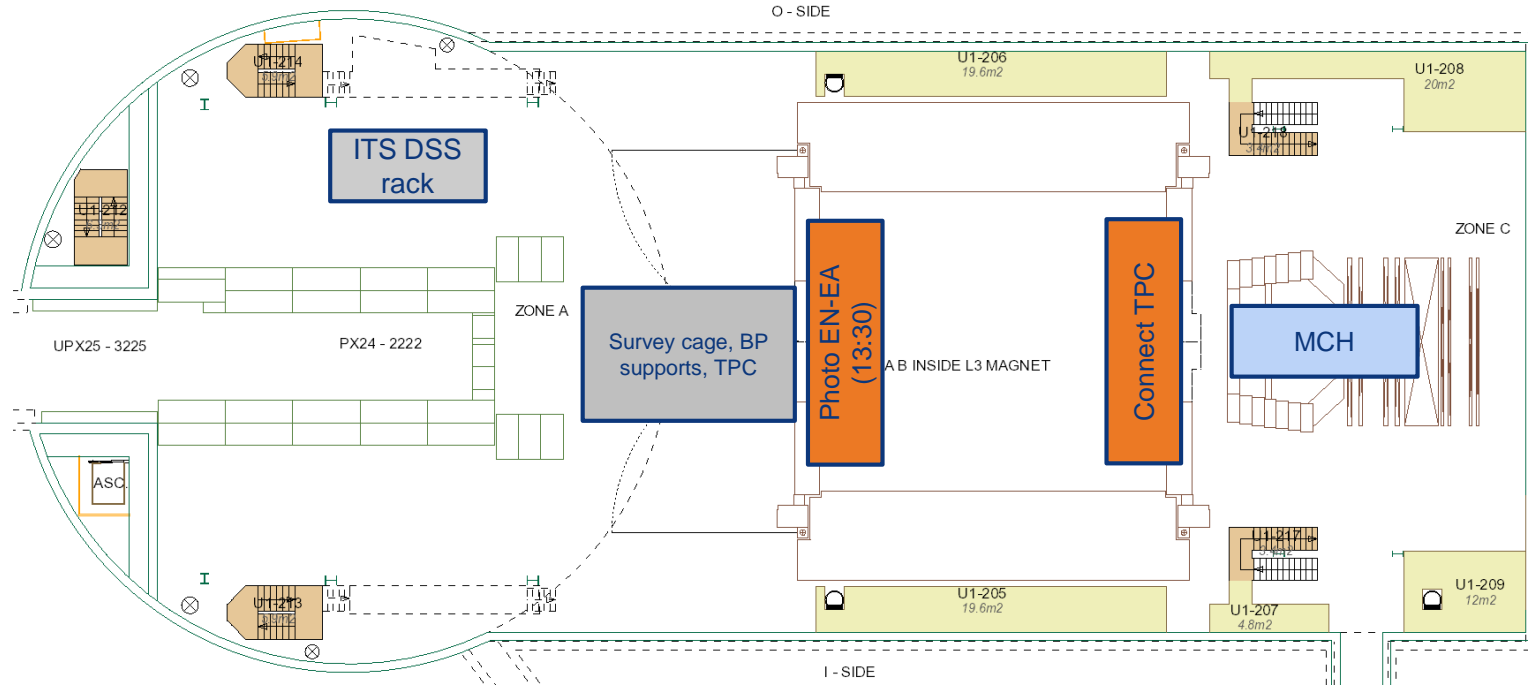


UX25 activities w44 – Wed 28 Oct 2020



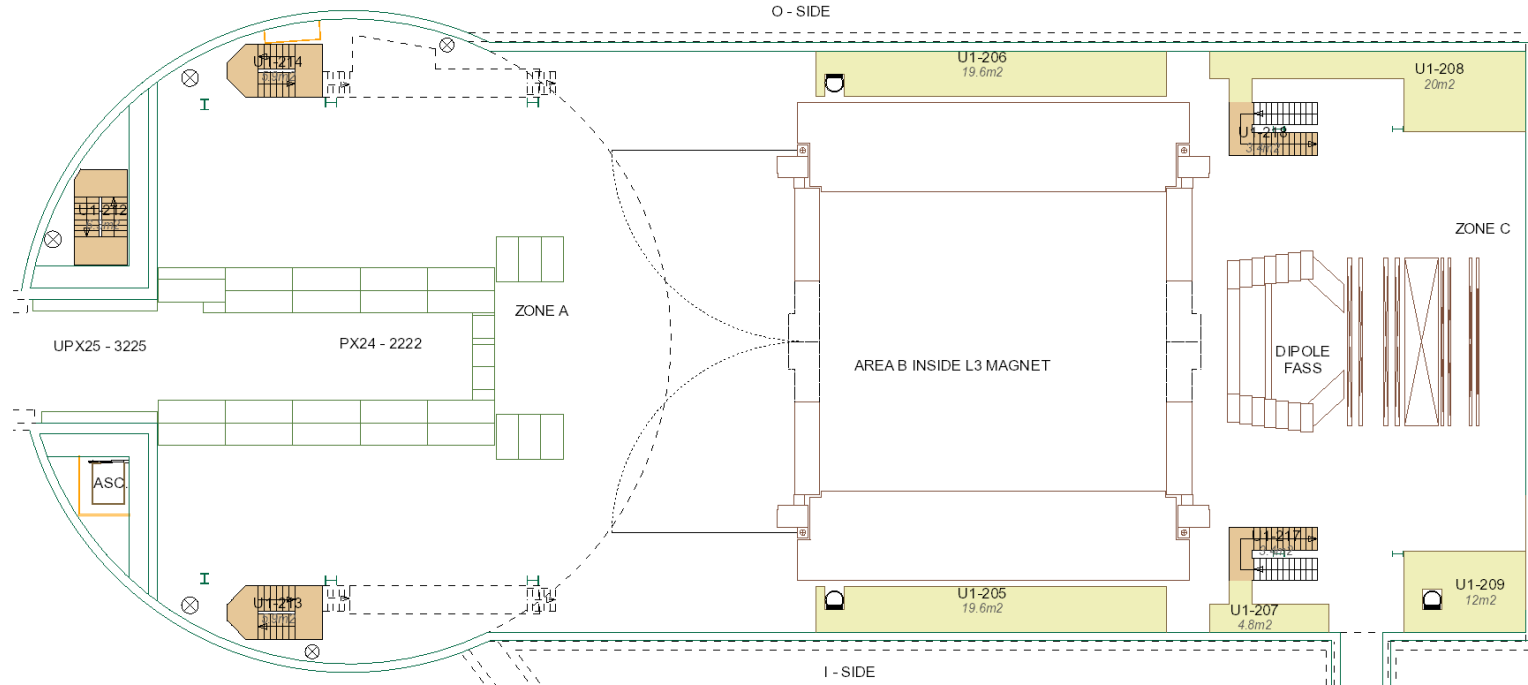
UX25 activities w44 – Thu 29 Oct 2020

Cavern patrol at 18:00 + interrupt all IMPACTs (Klaus)



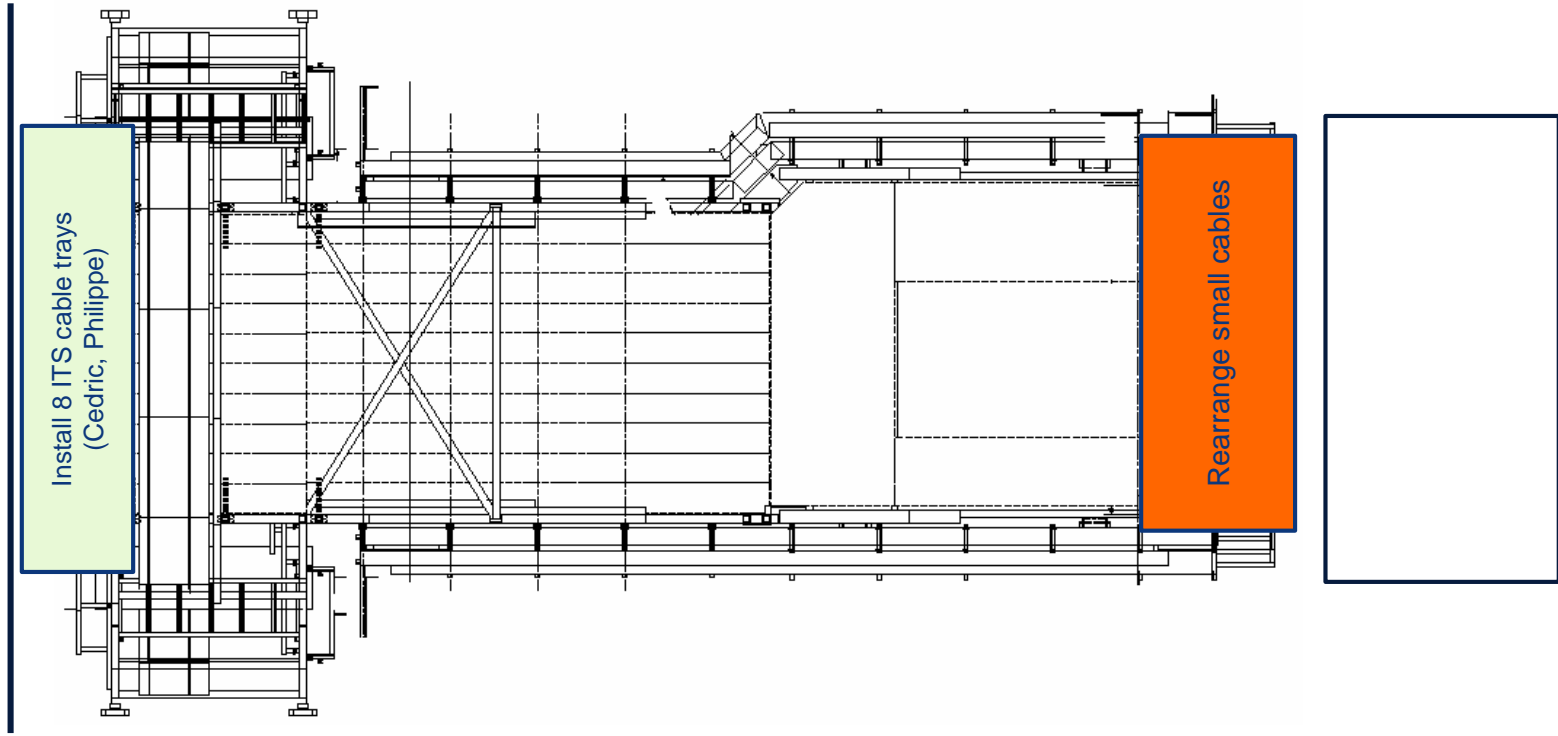
UX25 activities w44 – Fri 30 Oct 2020

LASS functional test: no access to UX25 whole day (weekend as contingency)

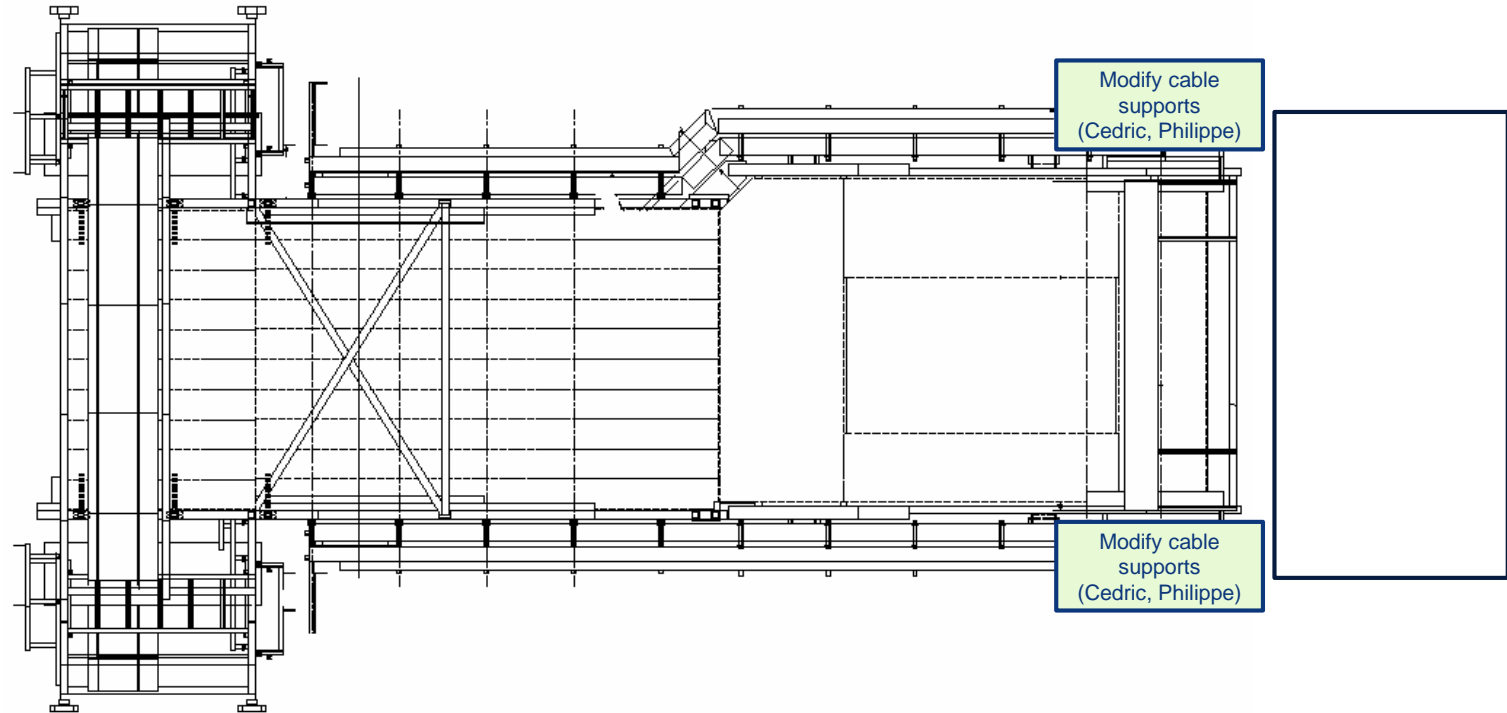


Miniframe activities w44 – Mon 26 Oct 2020

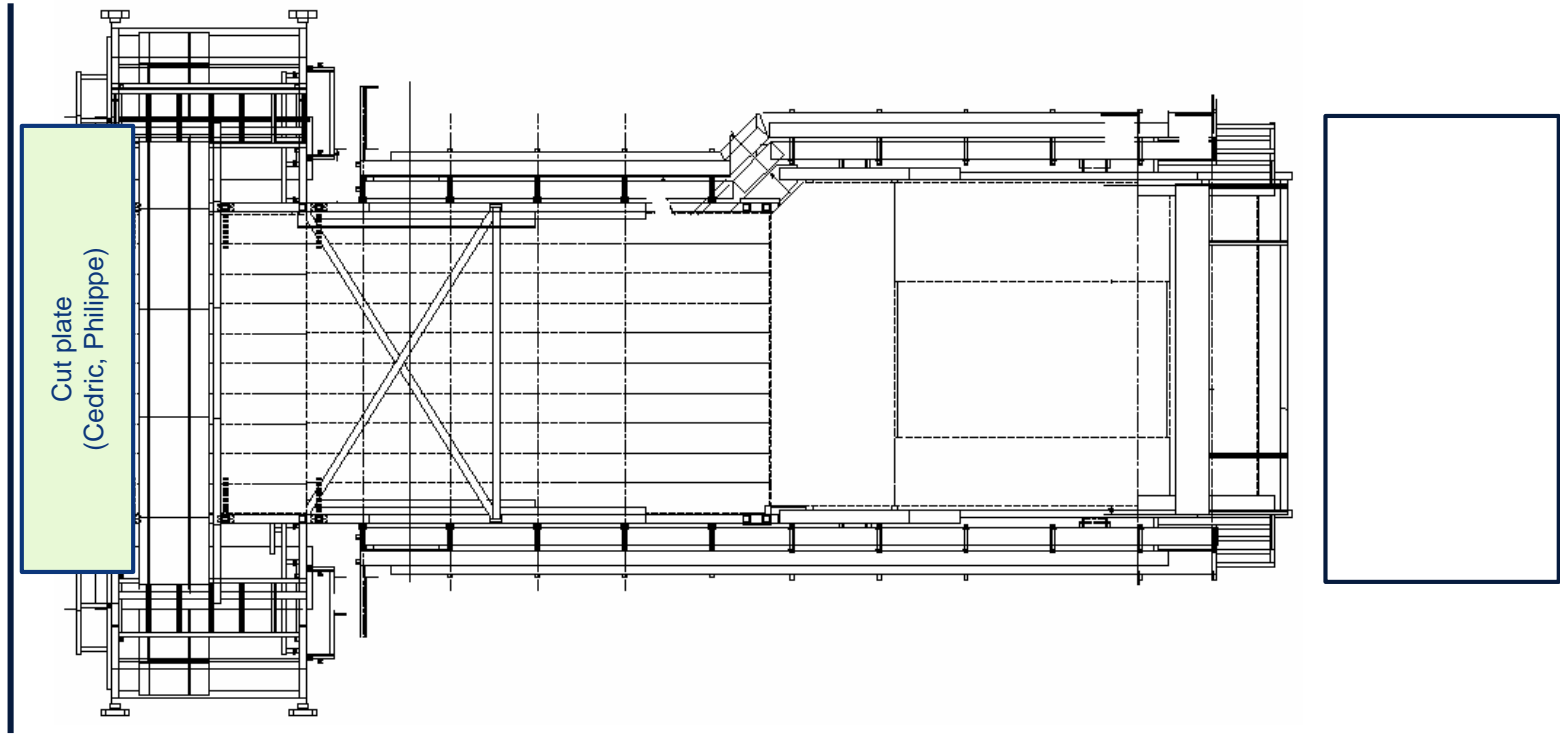
Cleaning Miniframe (Elior)



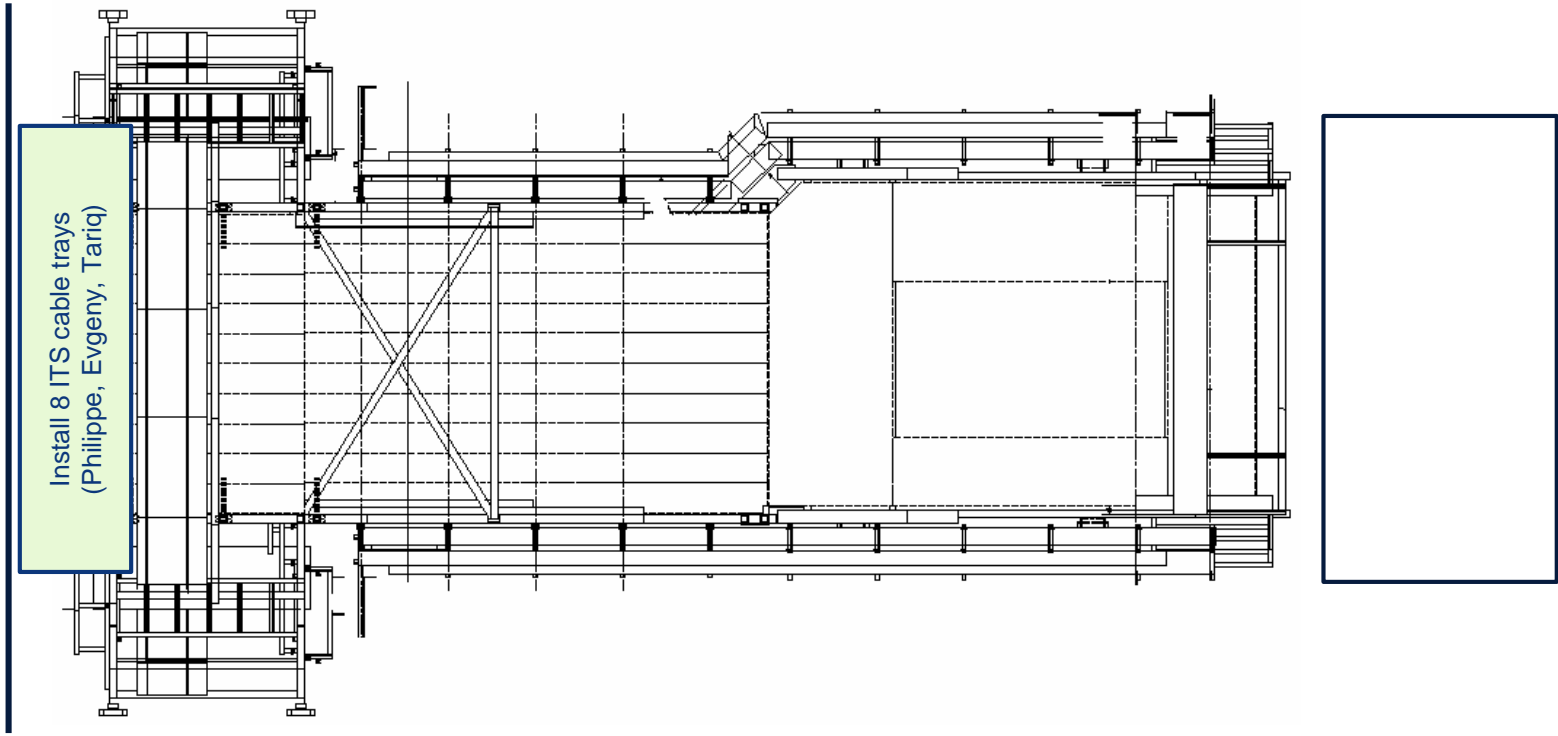
Miniframe activities w44 – Tue 27 Oct 2020



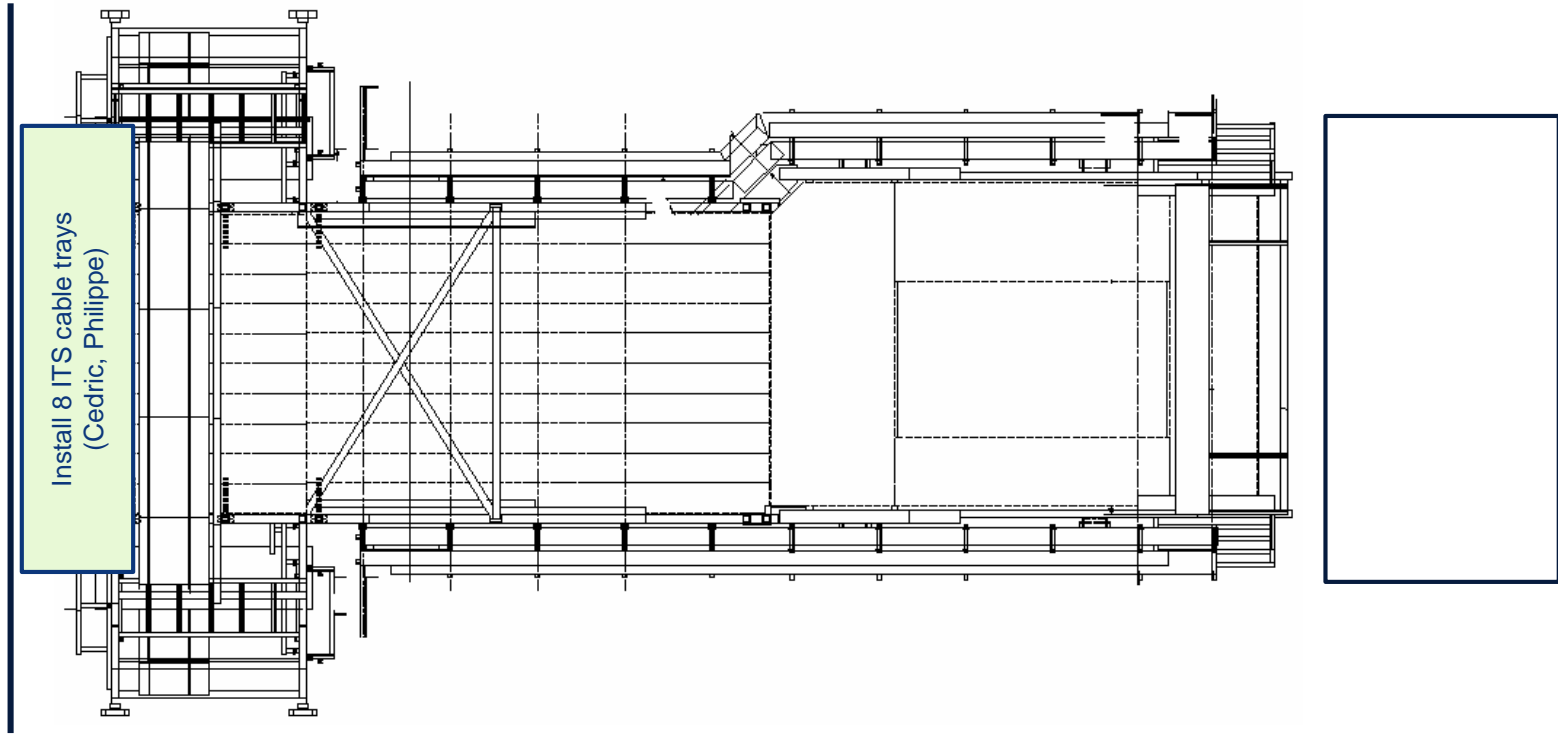
Miniframe activities w44 – Wed 28 Oct 2020



Miniframe activities w44 – Thu 29 Oct 2020



Miniframe activities w44 – Fri 30 Oct 2020



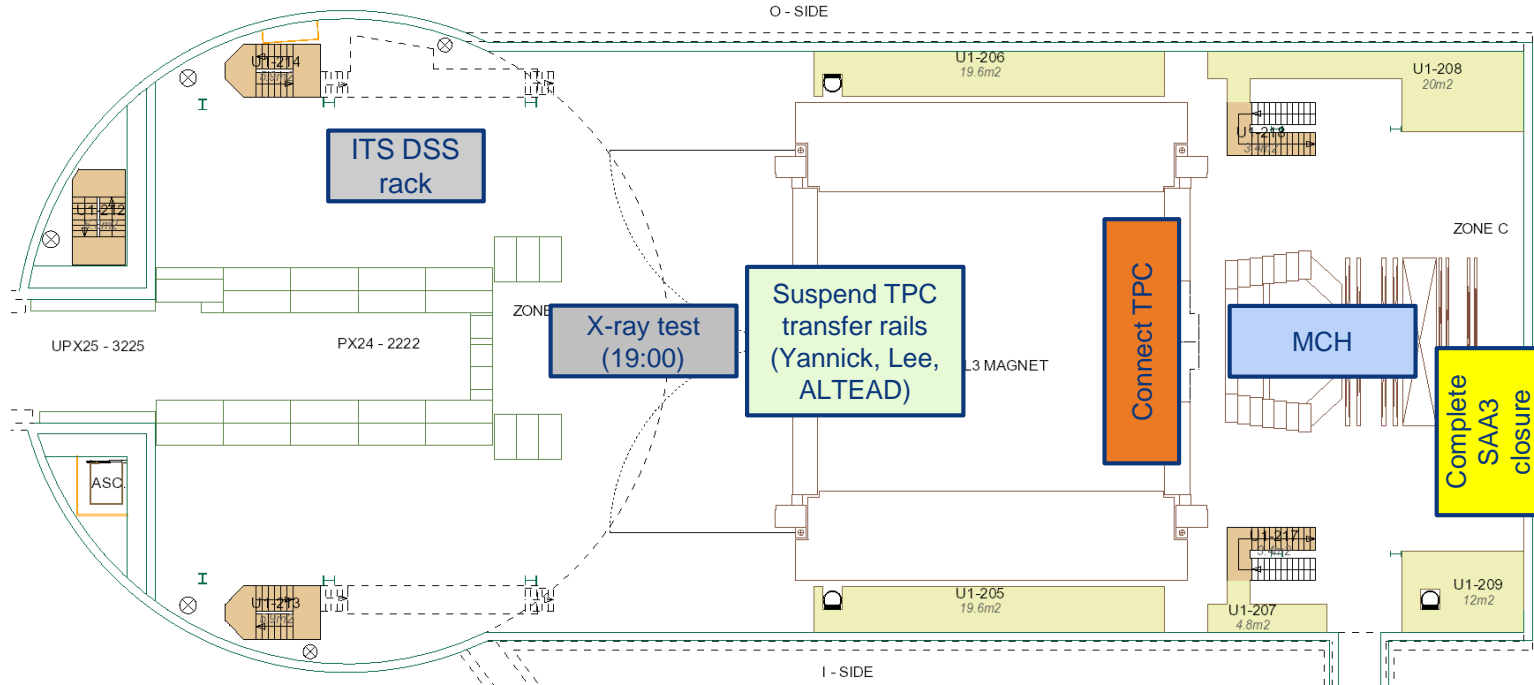
Day-by-day sequence w45



UX25 activities w45 – Mon 2 Nov 2020

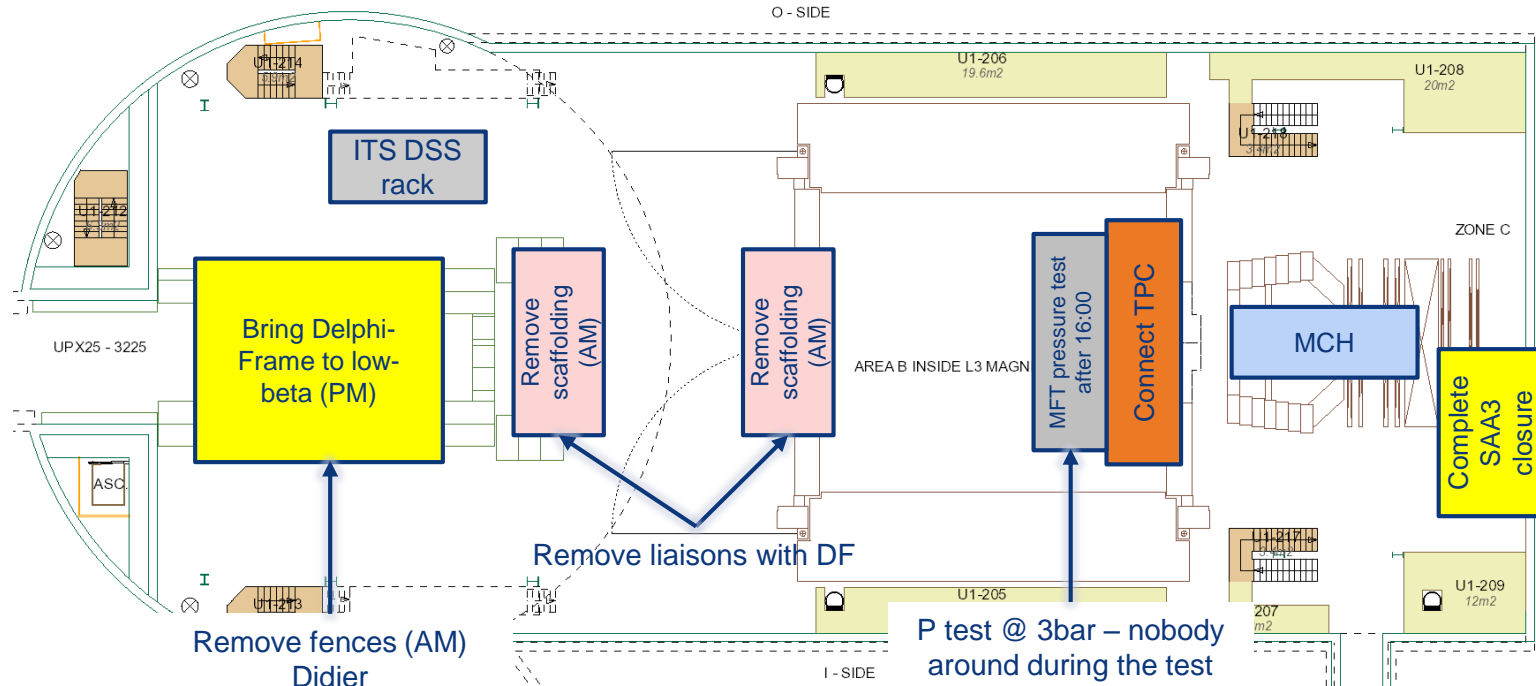
Maintenance SF + SU (EN-CV) (w44-47)

EN-MME: X-ray test beampipe gate valve → cavern closed at 19:00



UX25 activities w45 – Tue 3 Nov 2020

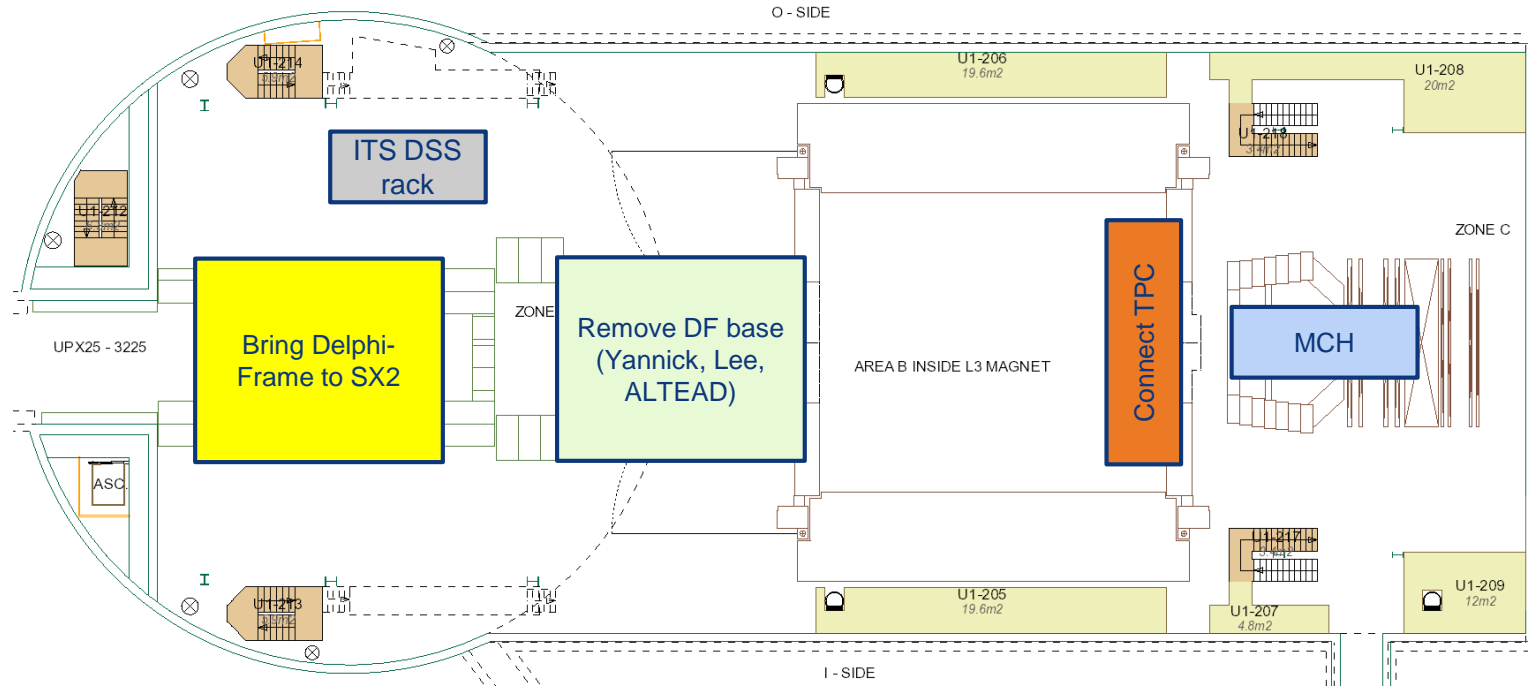
Cleaning cavern (Topnet): 13:00 to 15:00



UX25 activities w45 – Wed 4 Nov 2020

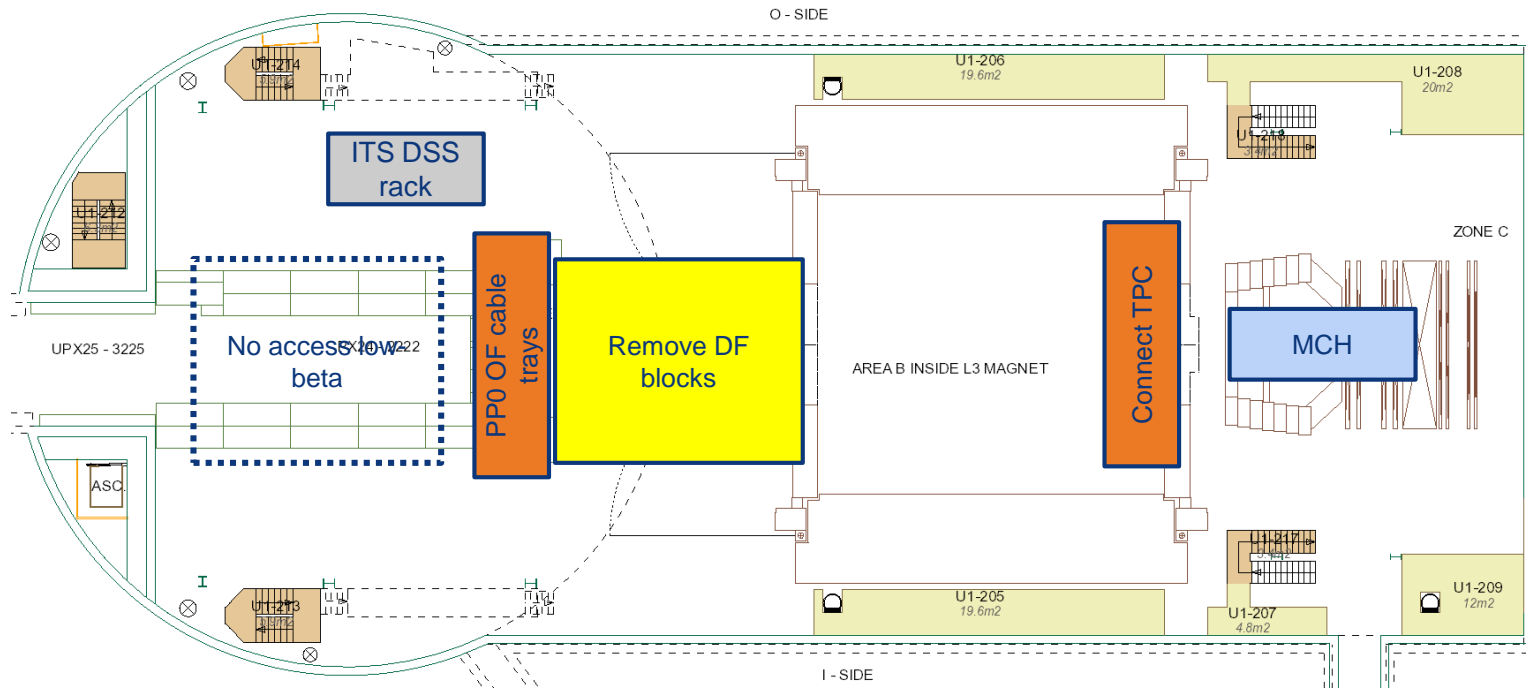
ALTEAD + Didier: remove PX24 ventilation duct for the passage of the DF → start at 7:00

No access UX25 A-side during transportation of DF



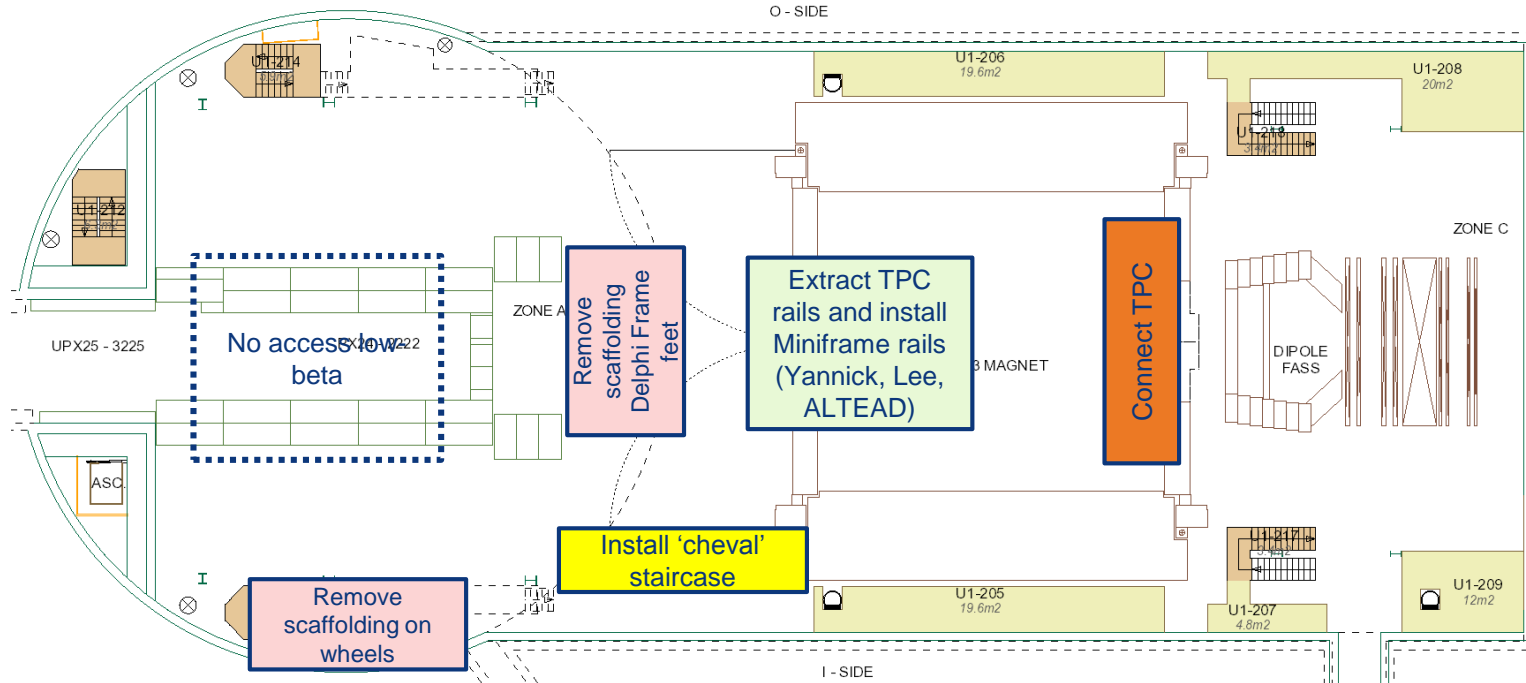
UX25 activities w45 – Thu 5 Nov 2020

ALTEAD: bring Delphi-Frame to SXL2 (TPC to remove chiller)



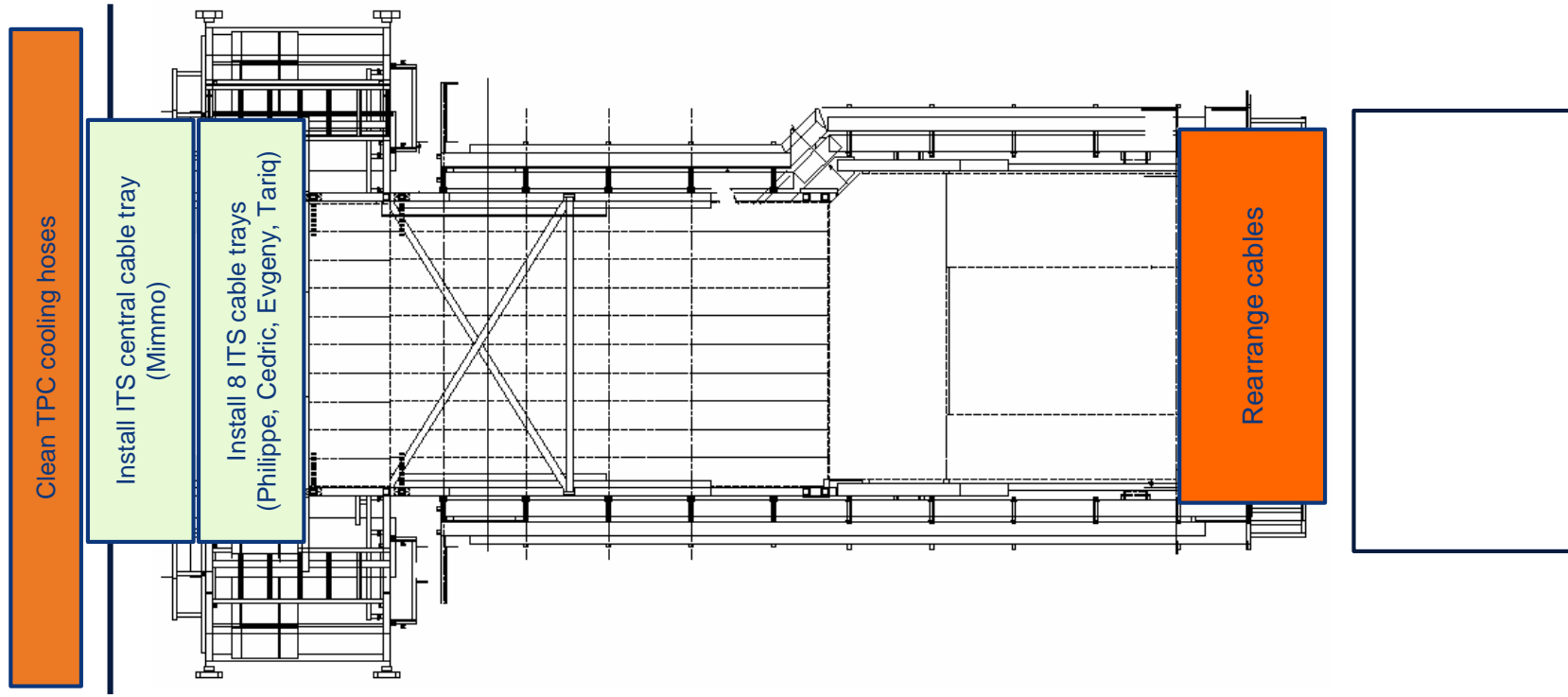
UX25 activities w45 – Fri 6 Nov 2020

ALTEAD: open 2 blocks CR0 (for OF installation next week)

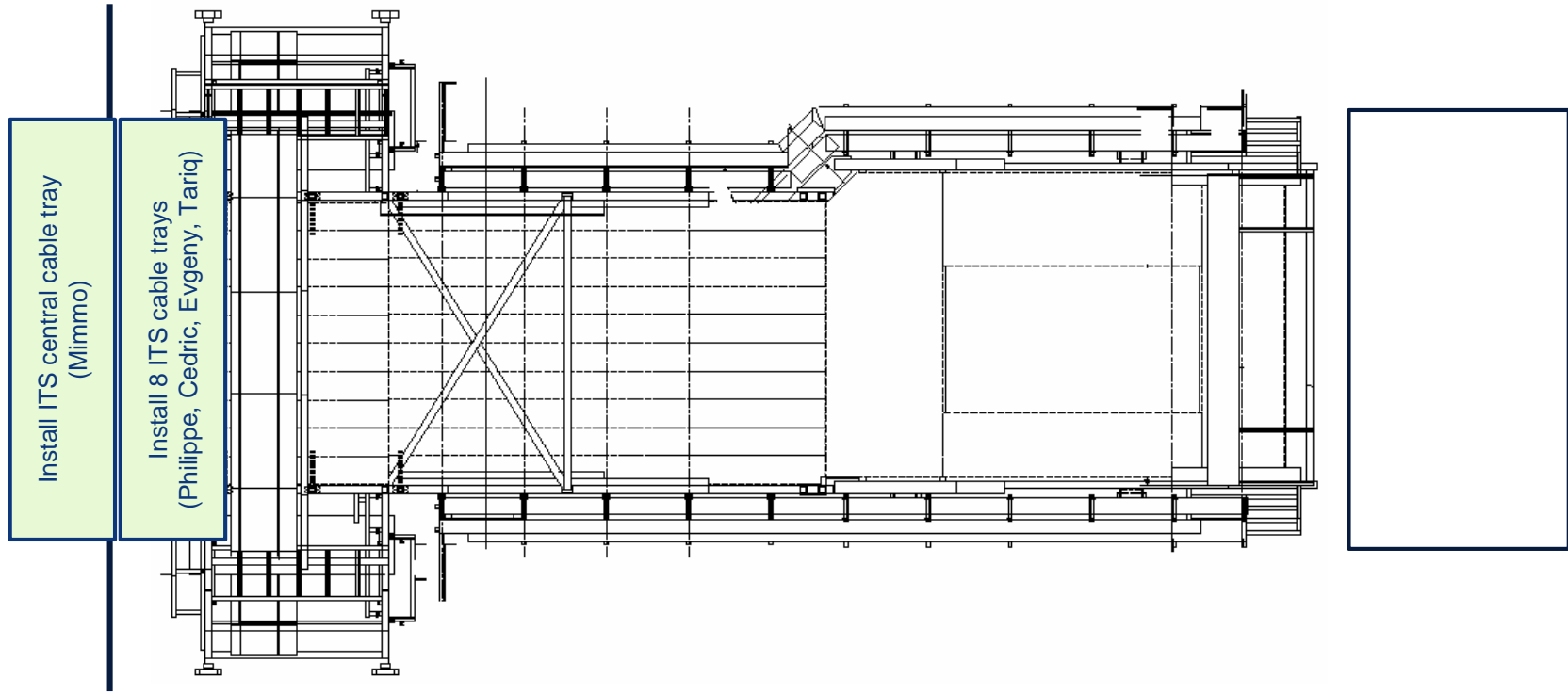


Miniframe activities w45 – Mon 2 Nov 2020

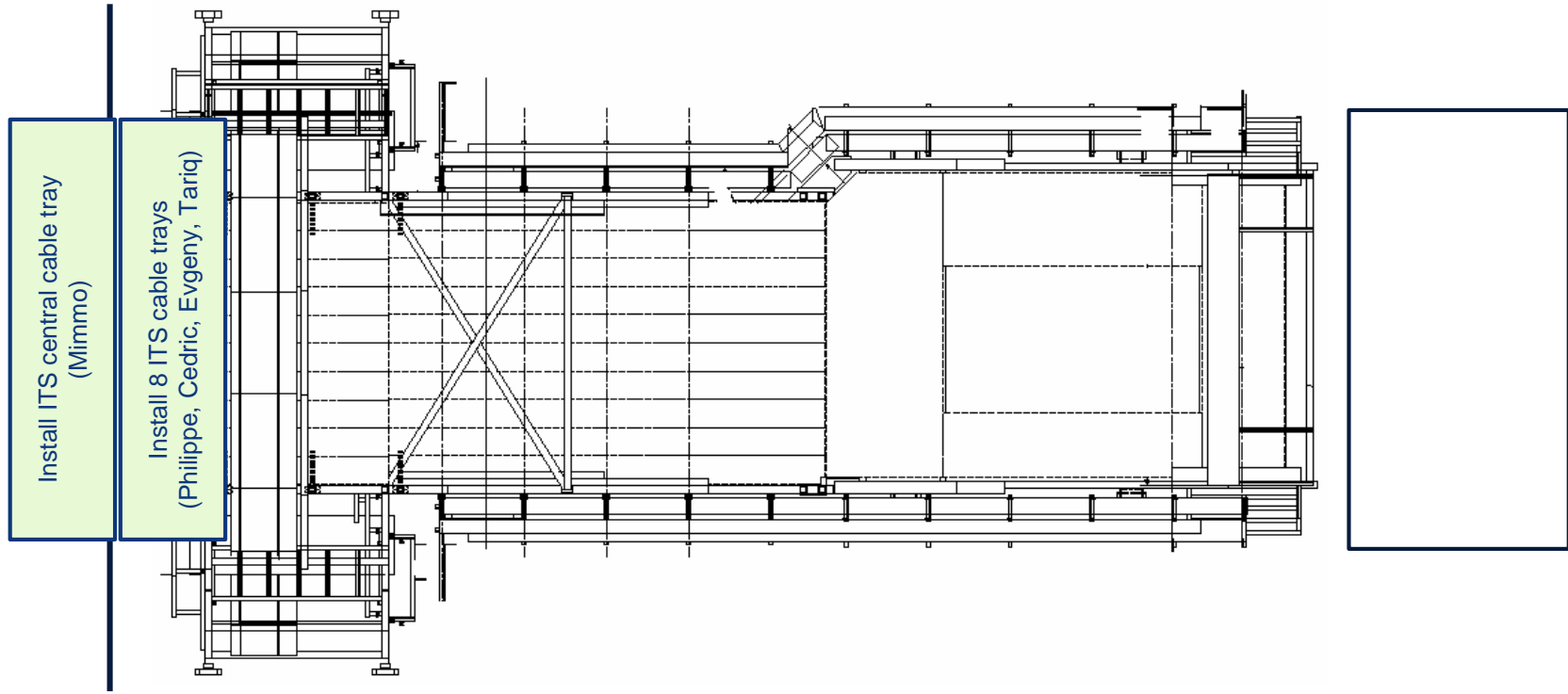
Cleaning Miniframe (Elior)



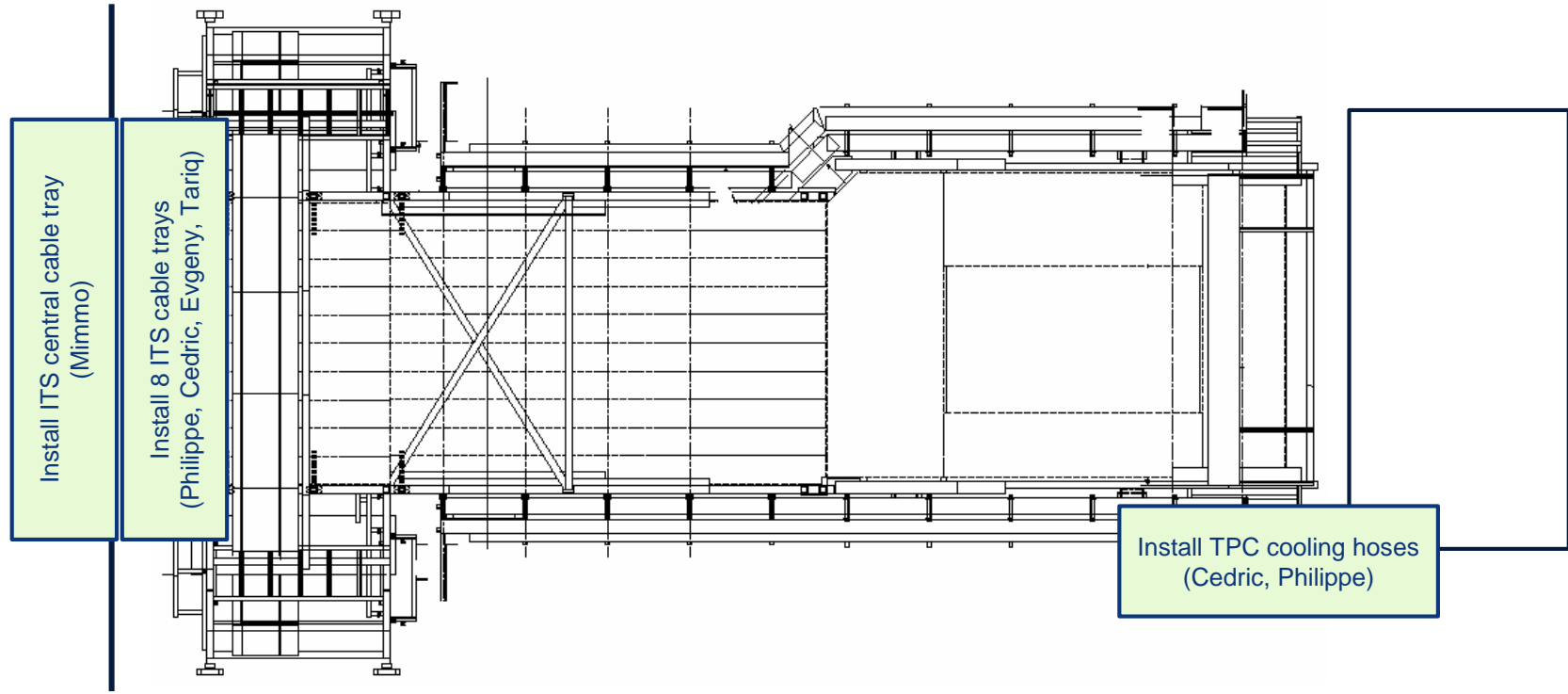
Miniframe activities w45 – Tue 3 Nov 2020



Miniframe activities w45 – Wed 4 Nov 2020



Miniframe activities w45 – Thu 5 Nov 2020



Miniframe activities w45 – Fri 6 Nov 2020

