

LS2 planning meeting

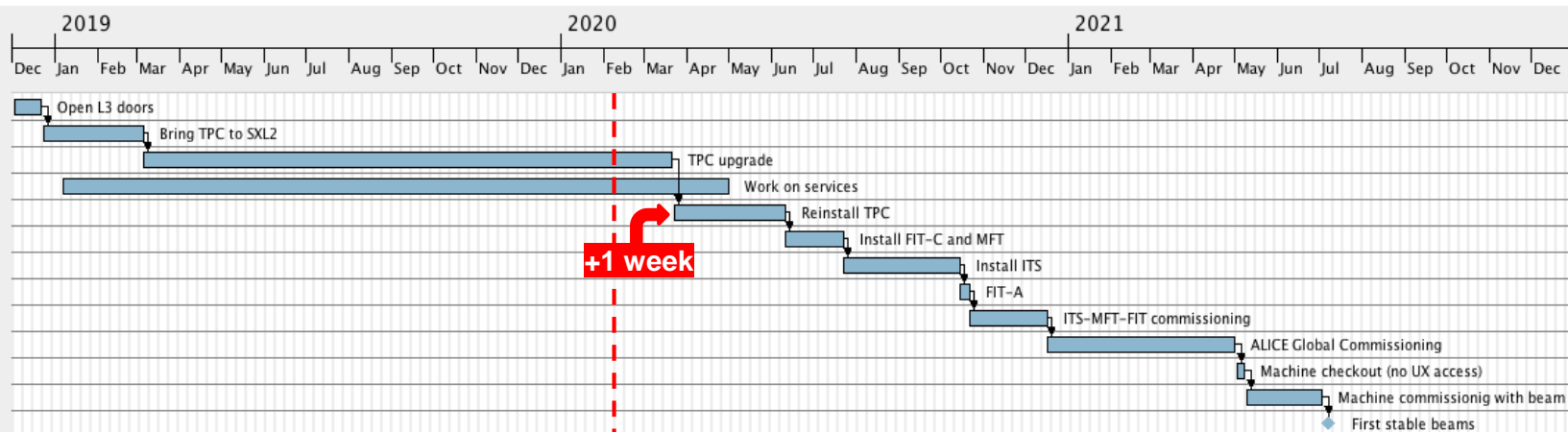
A.Tauro



LS2 master plan (v35)



Begin date	End date	Dur...
3/12/18	21/12/18	15
24/12/18	5/3/19	52
6/3/19	20/3/20	273
7/1/19	30/4/20	344
23/3/20	10/6/20	58
11/6/20	22/7/20	30
23/7/20	14/10/20	60
15/10/20	21/10/20	5
22/10/20	16/12/20	40
17/12/20	30/4/21	97
3/5/21	7/5/21	5
10/5/21	2/7/21	40
5/7/21	5/7/21	0



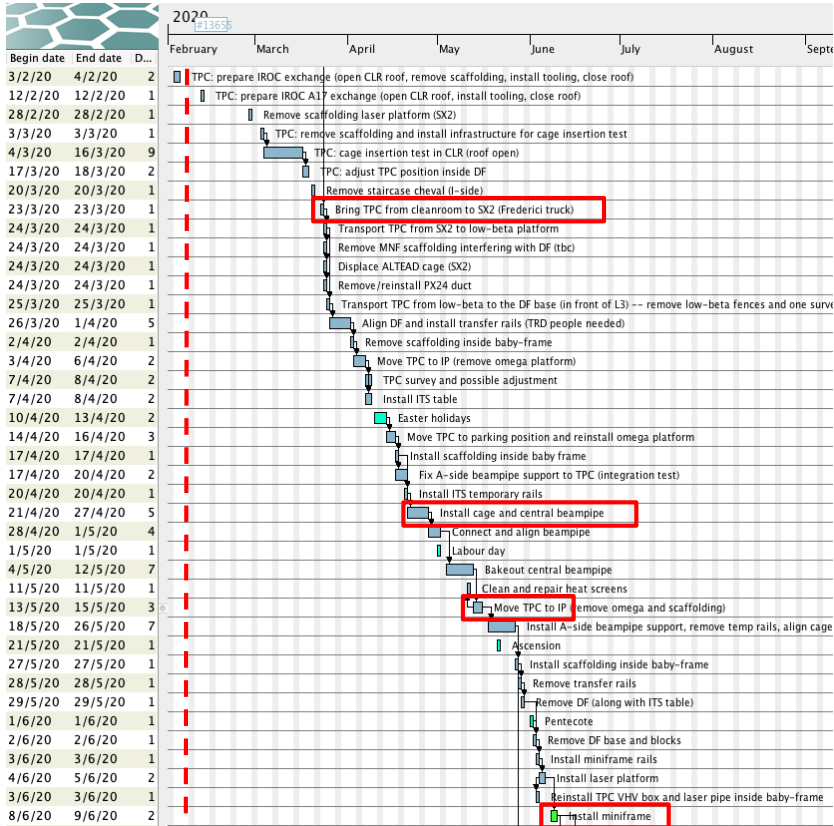
v35: added 1 week delay in 2020 sequence

Key dates

Activity	v34 (old)	v35
Move TPC to SX2	16 Mar 2020	23 Mar 2020
Install TPC (parking position)	17 Mar – 9 Apr	24 Mar – 20 Apr
Install cage and central beampipe	14 Apr – 5 May	21 Apr – 12 May
Move TPC to IP	6 – 7 May	13 – 15 May
Install Miniframe	28 – 29 May	8 – 9 Jun
FIT-C & MFT installation and checks	2 Jun – 13 Jul	11 Jun – 22 Jul
ITS installation and checks	14 Jul – 5 Oct	23 Jul – 14 Oct
FDD-C installation	First half Aug*	
FDD-A installation	1-10 Sep	
FIT-A installation	6 – 12 Oct	15 – 21 Oct
ITS & MFT commissioning time	8w	
ALICE global commissioning time	21w	20w
End of LS2 – stop UX25 access	1 May 2021	
Start commissioning with beam – ALICE in super-safe	10 May 2021	

* we need to redo tightness UX-RB26 before w35 (start cool down S23)

TPC & miniframe reinstallation sequence



Jan 5th - Mar 20th - complete TPC, cage insertion test in SXL2 cleanroom, prepare for TPC transportation, TOF and HMPID activities in the cavern

Mar 23rd - transportation TPC to SX2

Mar 24th - Apr 20th - reinstall TPC
TPC moved to IP, adjusted and put back to parking position

Apr 21st - May 12th - install cage and central beampipe

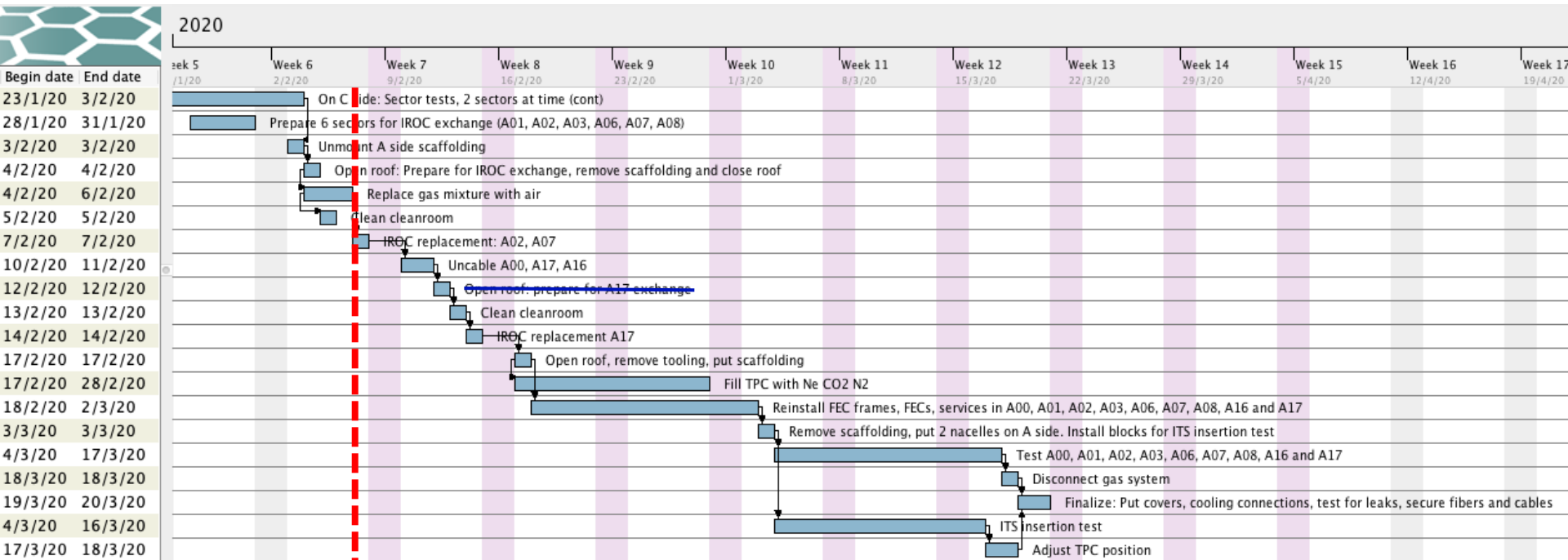
May 13th - 15th - move TPC to IP - start connection TPC to services

May 18th - Jun 5th - prepare miniframe installation

Jun 8th - 9th - reinstall miniframe

TPC upgrade sequence

TPC schedule v42



TPC upgrade sequence



Remove Services and FEE
(outside cleanroom)



Uninstall MWPC ROC



Install GEM ROC



Install new FEC + test



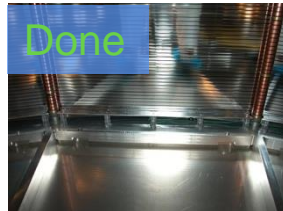
Ready for transportation to
SX2



TPC in cleanroom.
Cleaning & irradiation tests

7 Mar

11 Apr



FC HV infrastructure
modification

25 Apr (A)
5 Aug (C)

13 May (A)
16 Aug (C)



Survey, shimming,
sealing

14 Jun (A)
25 Aug (C)

5 Jul (A)
16 Sep (C)



Pre-commissioning with
cosmic, Laser, pulser, Xray

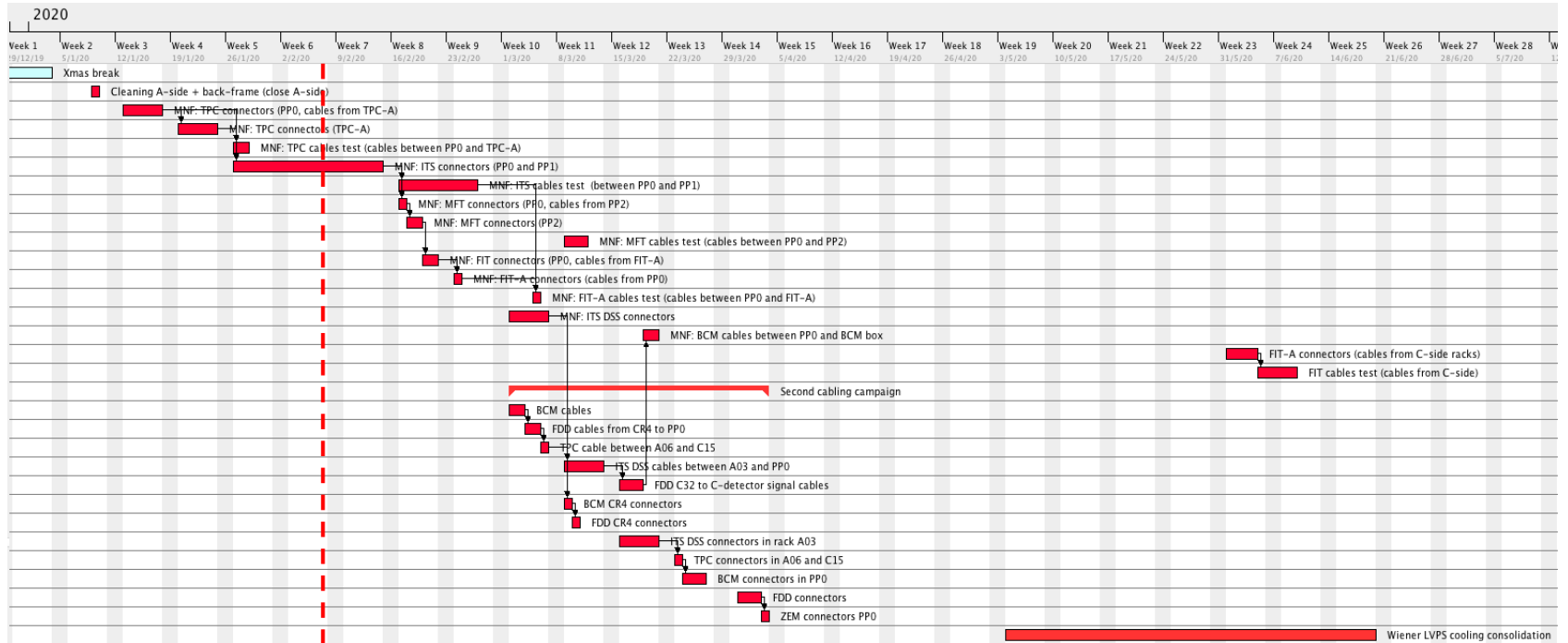
14 Oct (A)
31 Oct (C)

25 Nov (A)
3 Feb (C)

20 Mar 2020

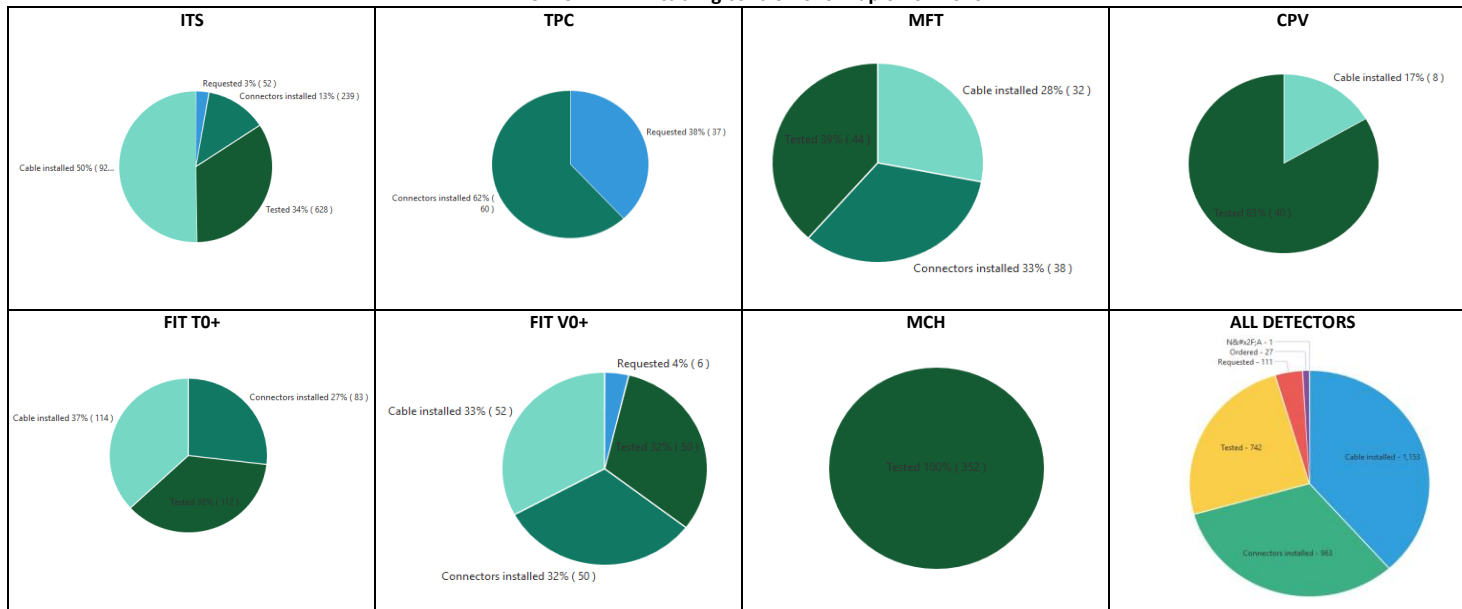
TPC schedule v42

Copper cables (EN-EA)



Copper cables (EN-EA)

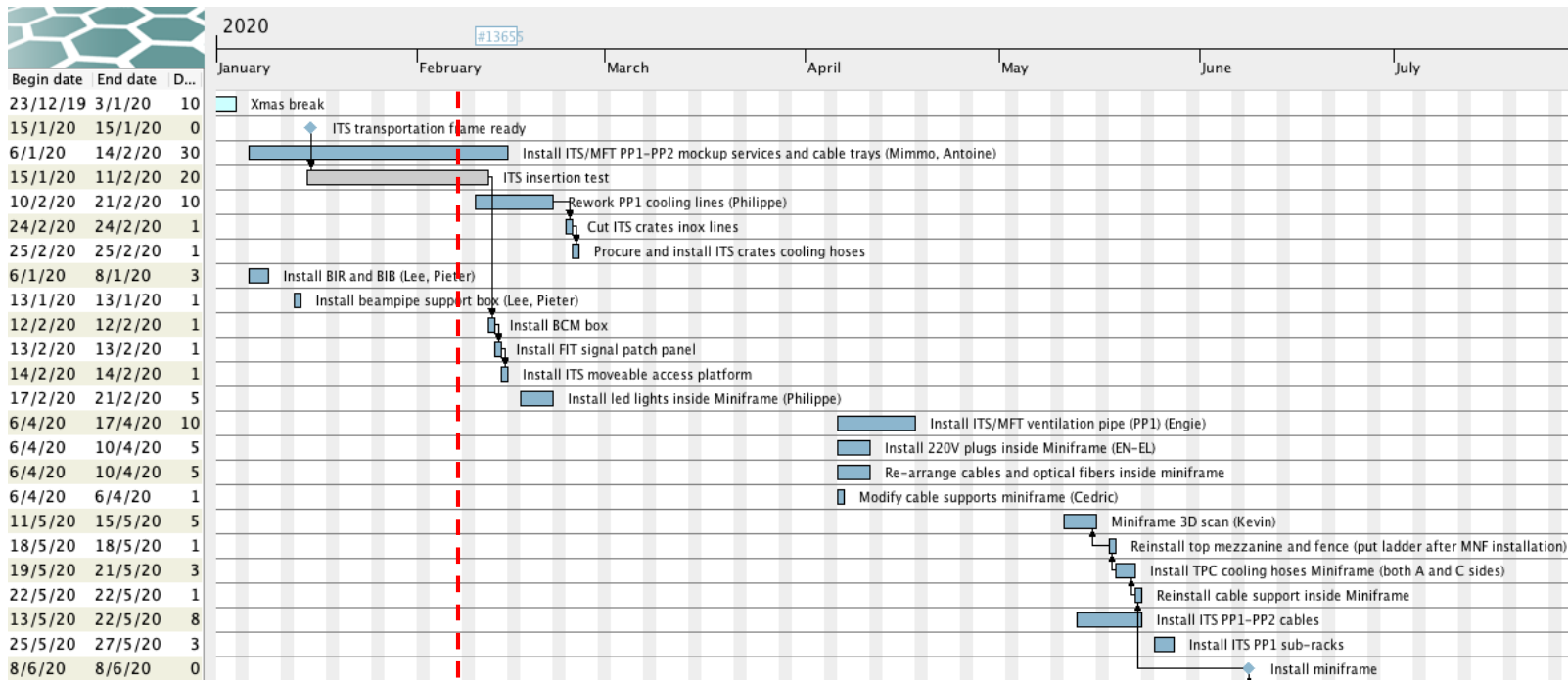
ALICE LS2 - EN-EA cabling control follow-up 07-02-2020



Progress pulling: 96%
Progress connectors: 57%
Progress test: 25%

Miniframe schedule

17 weeks to installation



EN-EL interventions

- 18kV, 3.3kV and LV network maintenance: 20-24 Jan 2020 – Done
- AUG on Monday 27 January 2020 – Done
- Auto transfer test: 27-29 Apr 2020
- Test secours (10 min at 6:00 AM): 26 May 2020

Racks status

- Racks currently powered on:
 - HMPID racks
 - PHOS-CPV: A16, A17
 - CTP: C24, C25 (CTP) (and VME crates on)
 - MCH: C08, C10, C37, C39
 - TOF: O03, O04, O05, O30, O31, O32, I03, I04, I05, I30, I31, I32
 - TRD: O26, O27, O28, O29, C16-18, I08, O08, C19, C29
 - DCal: A14

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 mid Aug 2020 to mid Sep 2020. **Stop mixed water UX** for 1 day in week 37/2020 (September).
 - SF+SU: weeks 45-47/2020: cleaning towers (stop SF 1 week) + 1 day **stop all cooling UX**.
- Renovation transformer UIAC220 in w10/2020 → transparent but need to reduce mixed-water consumption
- **Stop demineralized water from 17 to 20 December 2019**
- **Ventilation:**
 - ~~SG2 (2019): w7/2019~~
 - ~~SG2 (2020): Tue-Wed - w3/2020~~
 - ~~Gas extraction: w8/2019~~
 - ~~UX25 cavern: w2/2020~~
 - ~~MCH and MTG: Mon-Thu - w3/2020~~
 - L3: need to replace extractor → 2 days stop → will cut flammable gases (maybe in week 17)
 - ITS: → will be done before end June
- **Raw water:**
 - Test after Apr 2019. Short interruption (1 day), can be used tap water during the test.

Other tests foreseen in 2020-21

2020:

- LASS functional test: no access to UX25 on Monday 3 Aug 2020 whole day (weekend 8-9 Aug as contingency)
- LASS global verification of entire LHC: 1 day no access to UX25 (date tbc)
- BIW test: no access underground on 5 and 6 Oct 2020 from 18:00 to 00:00

2021:

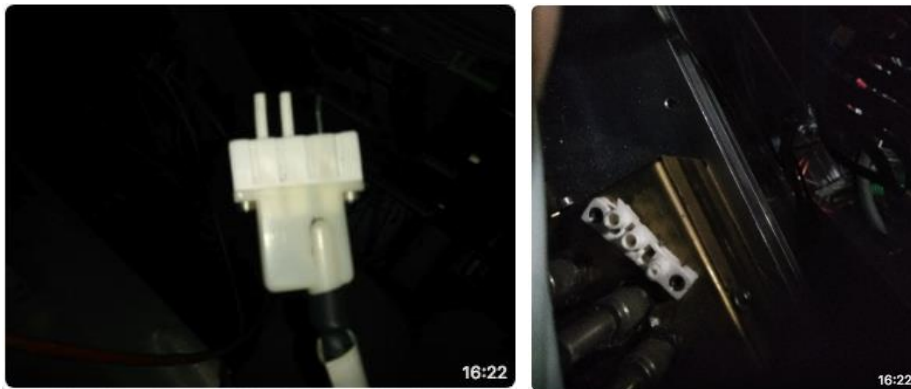
- DSO test: no access to UX25 on 8 and 9 Mar 2021 (tbc)
- LHC sector test (beam through ALICE): no access to UX25 from 26 to 29 March 2021

CR3 status

(A.Augustinus)

- **February**
 - (10.02 – 21.02) Modify water circuit (add TA valves) – will try to keep DCS up and running
 - Extension of main network starpoint outside CR2 (preparation)
 - Arrival of new racks end of February (t.b.c.)
- **March**
 - (02.03 – 20.03) Installation of new racks, water connections
 - (from 23.03) Installation of network fibres (between CR1,starpoint and CR3), electricity
 - Arrival of new servers end of March
- **April**
 - Installation of the servers in the new racks
 - Installation of network infrastructure (some network interruptions to be foreseen, details to be defined with IT-CS)
- **May-June-July**
 - Migration from old servers to new servers (first central systems, then detector systems)
- **July-August**
 - Removal of old servers and last old racks

Issue: damaged TOF HV connectors



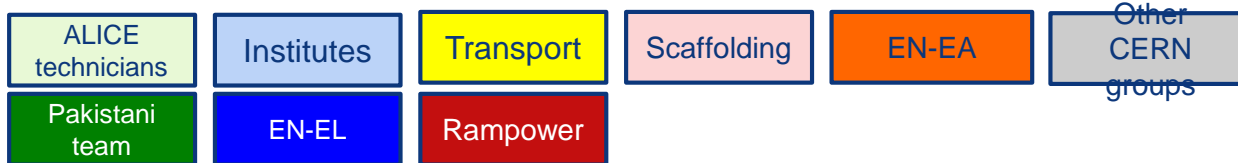
2 found broken in TOF0 (C-side) in 2019

On TOF9, C-side:

- 1 connector broken
- Connector on distribution box damaged

On TOF11, A-side: broken 1m flat control cable

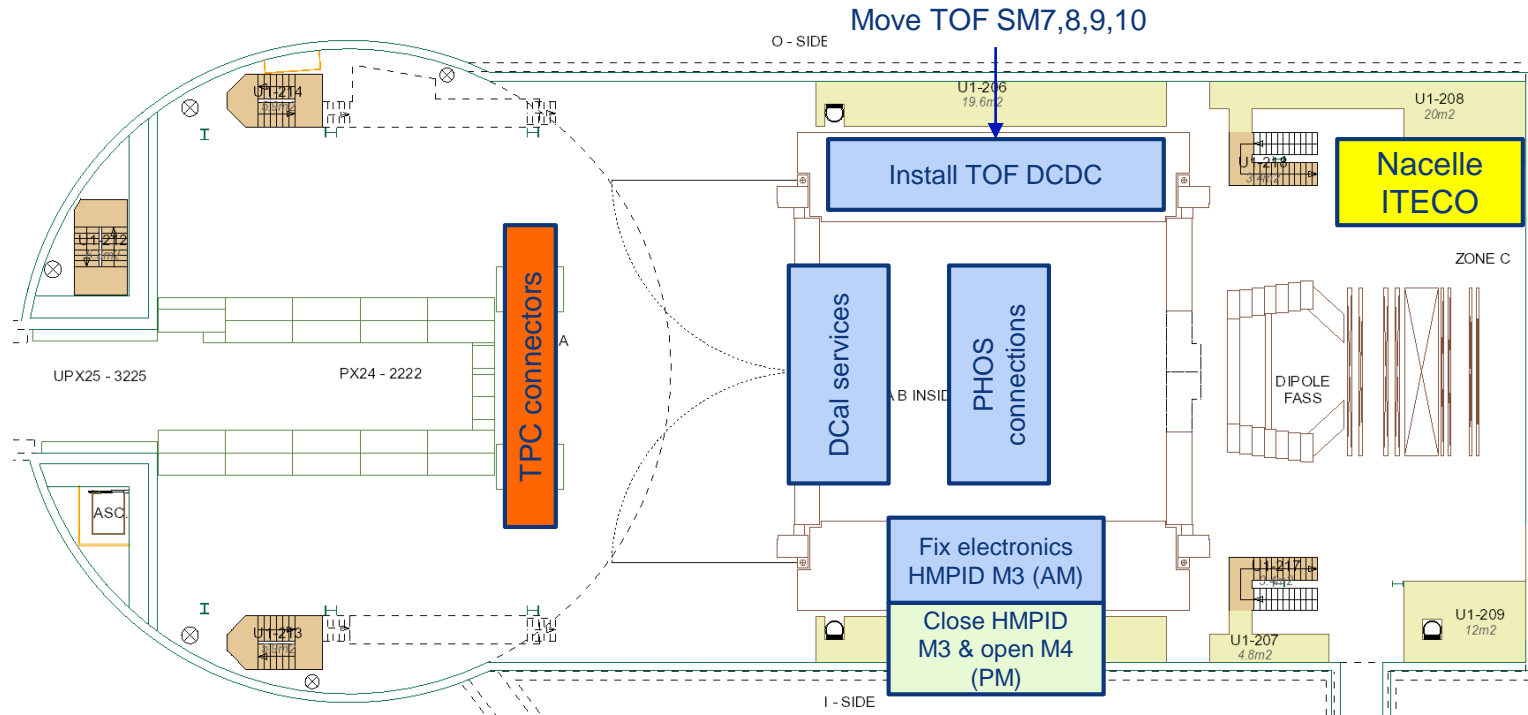
Day-by-day sequence w6



UX25 activities w6 – Mon 3 Feb 2020

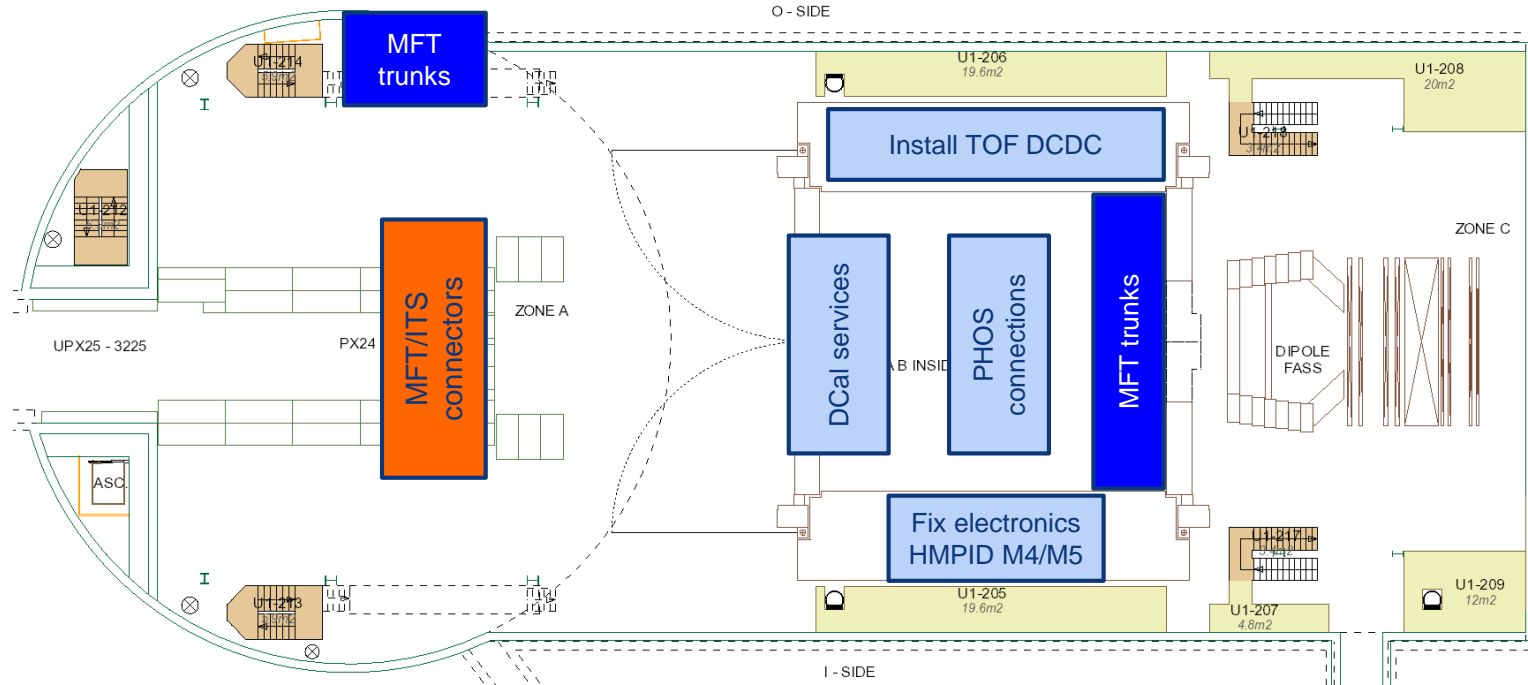
Annual maintenance 2020 fire detection and gas detection (until February 11th)

MID: stop flammable gas



UX25 activities w6 – Tue 4 Feb 2020

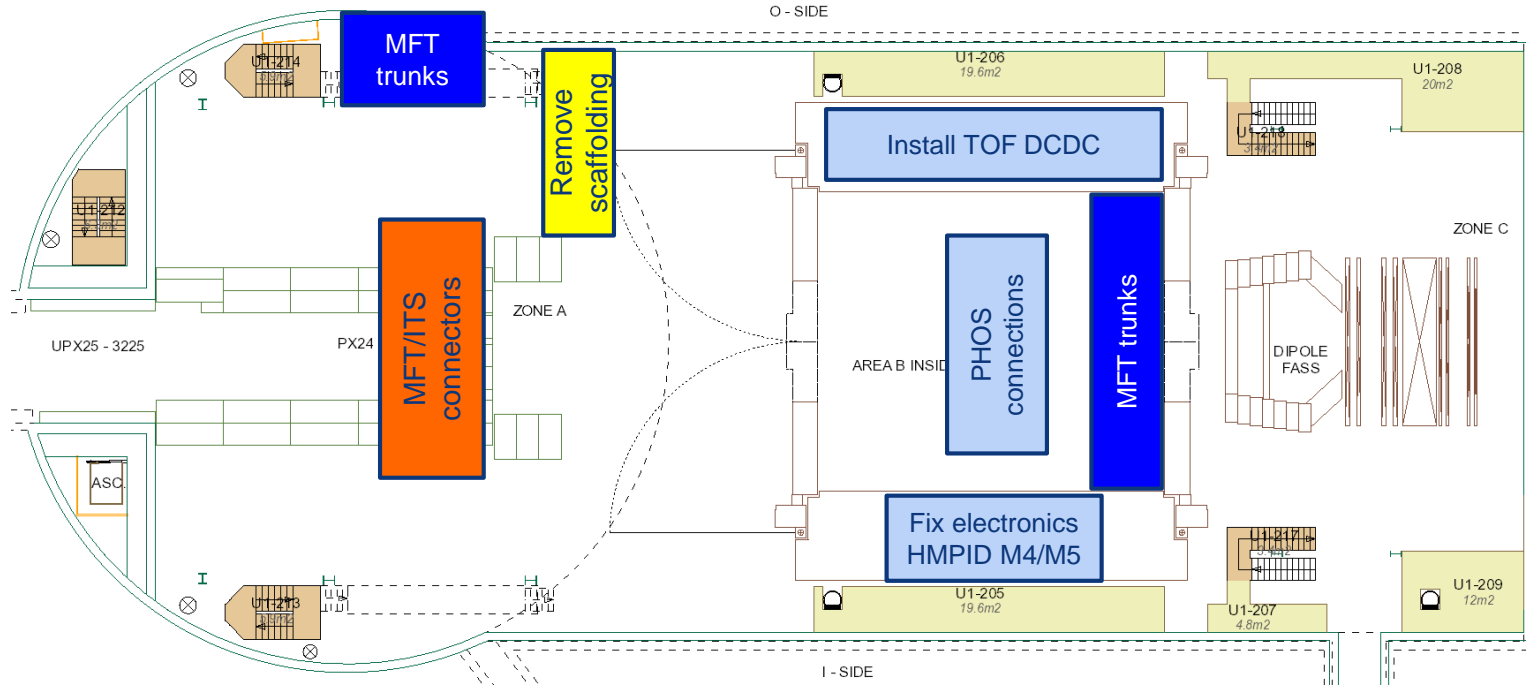
Cleaning cavern (Topnet): 13:00 to 15:00



UX25 activities w6 – Wed 5 Feb 2020

IT: intervention on TN network of point 2, will generate a network cut of few minutes between 8:30 and 12:00

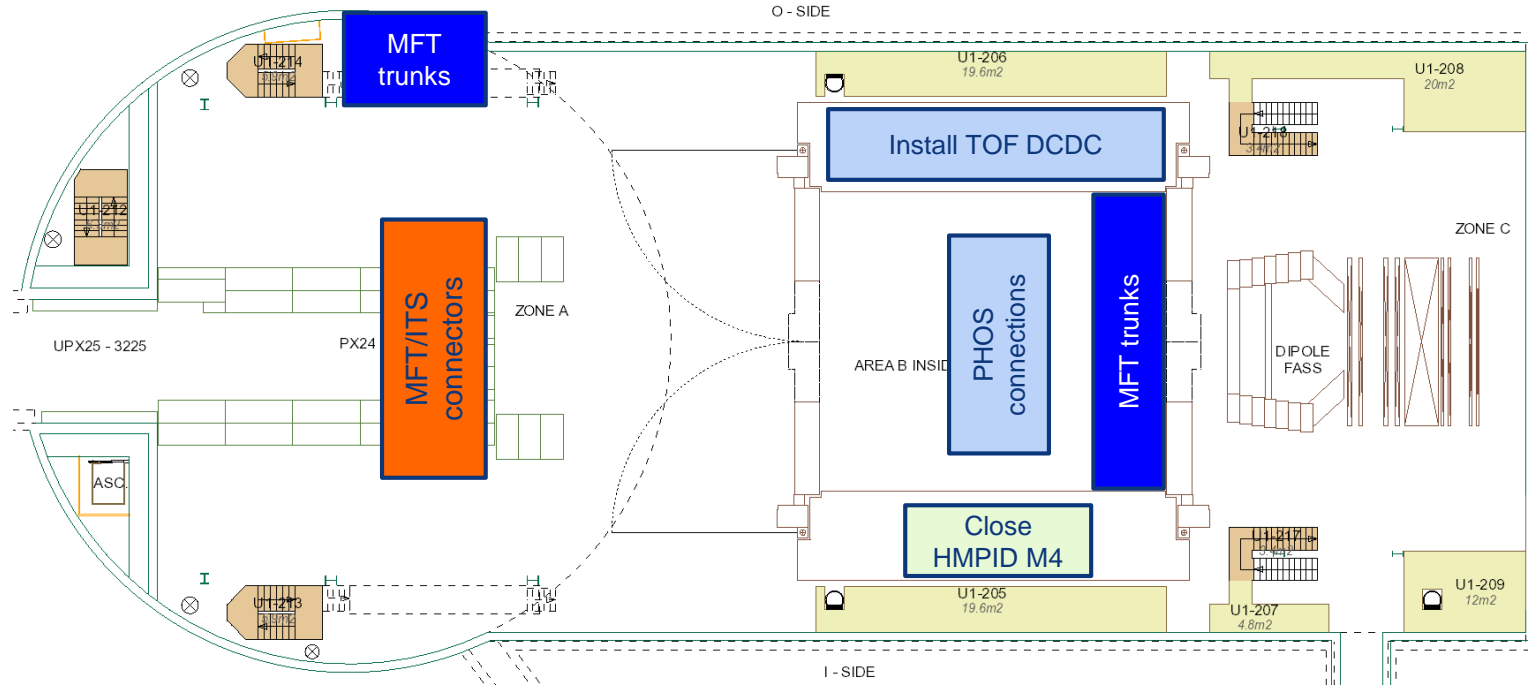
ALTEAD: zoning SX2 crane (MELONI) (from 14:30)



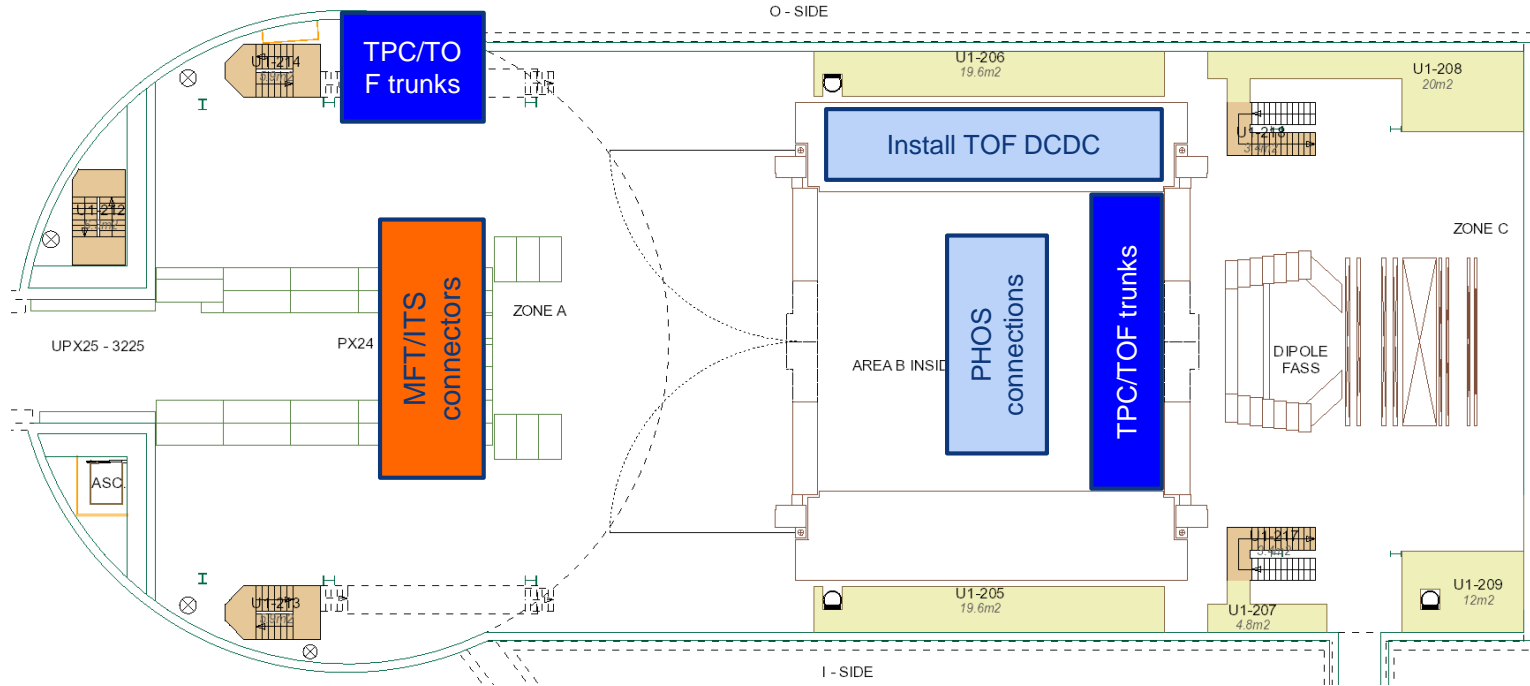
UX25 activities w6 – Thu 6 Feb 2020

ALTEAD: open trench in front of SXL2 (SMB inspection evacuation network)

BE-ICS: siren test PX24 from 7:00 to 7:30

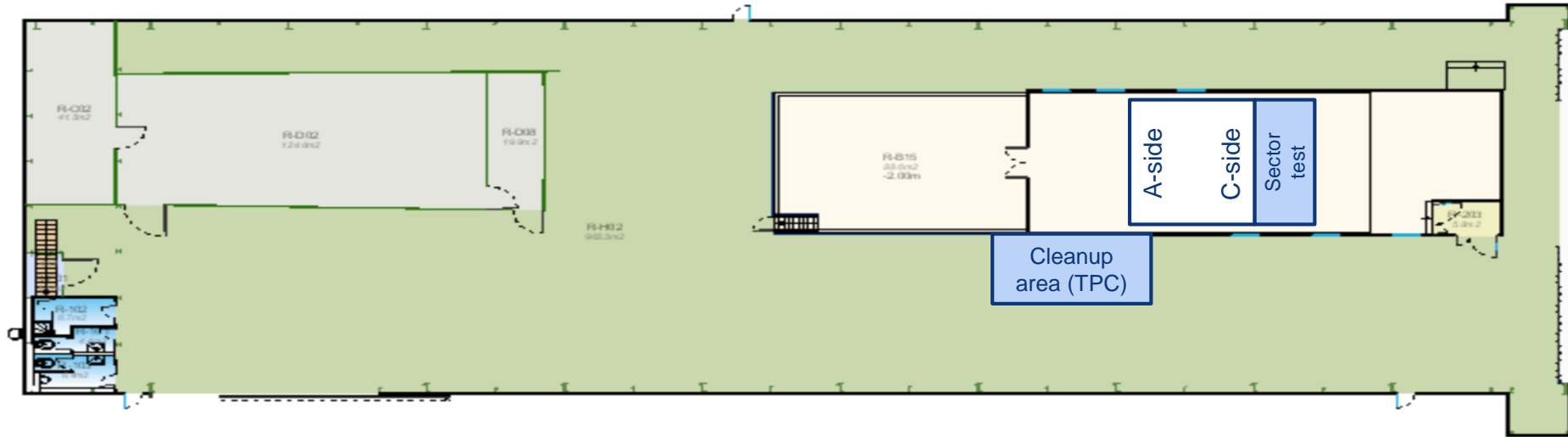


UX25 activities w6 – Fri 7 Feb 2020

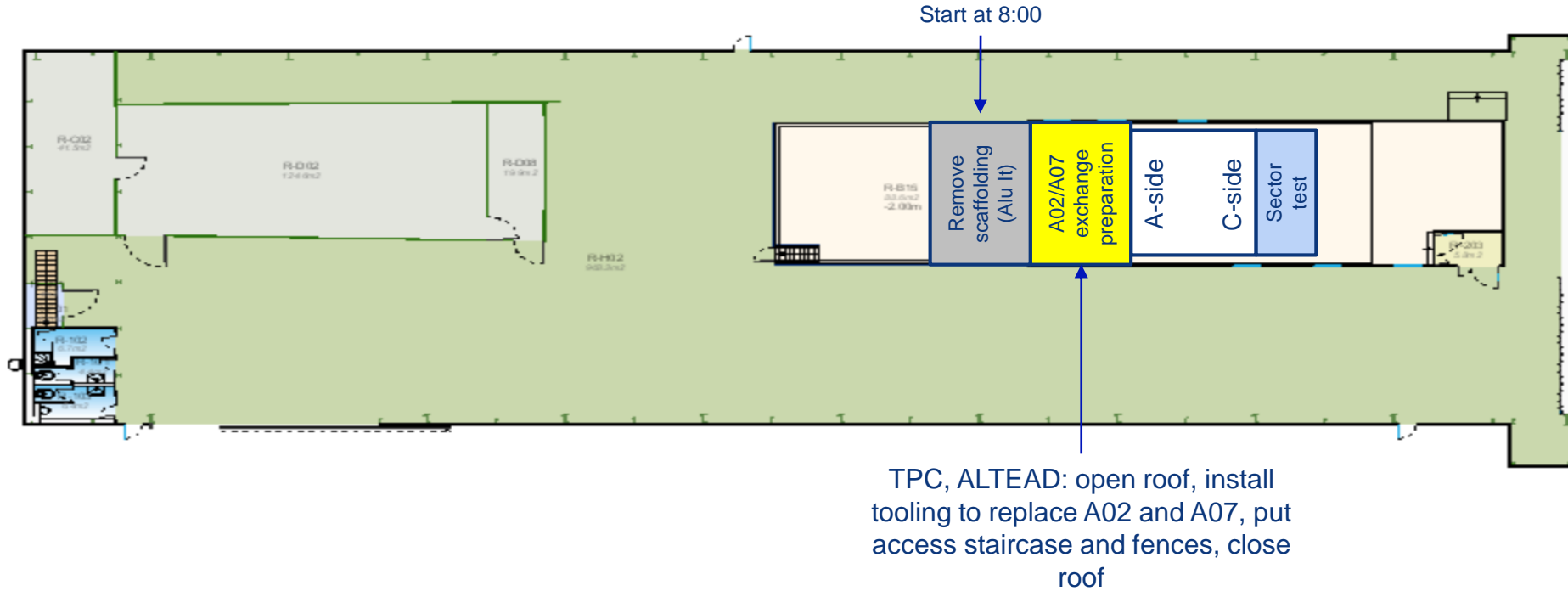


SXL2 activities w6 – Mon 3 Feb 2020

TPC: switch off cleanroom ventilation (PM)

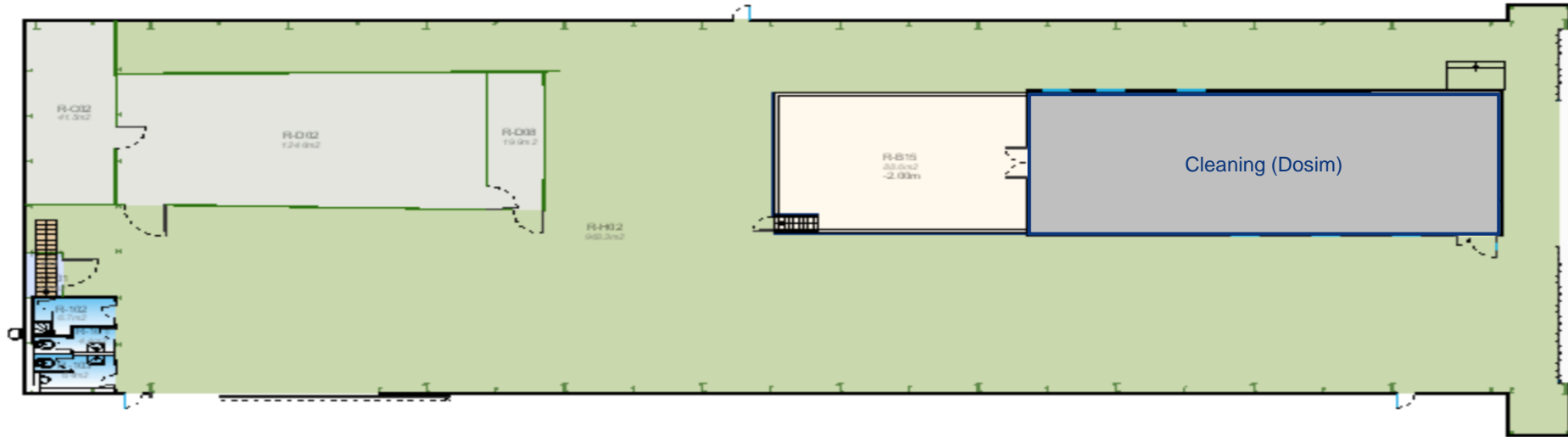


SXL2 activities w6 – Tue 4 Feb 2020



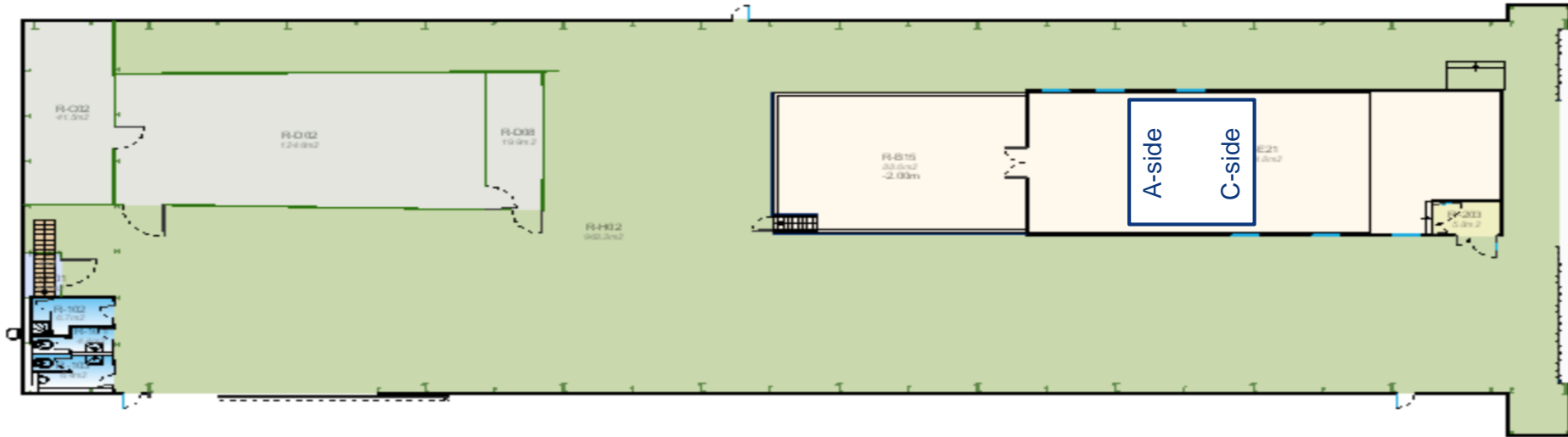
SXL2 activities w6 – Wed 5 Feb 2020

TPC: replace gas mixture with air

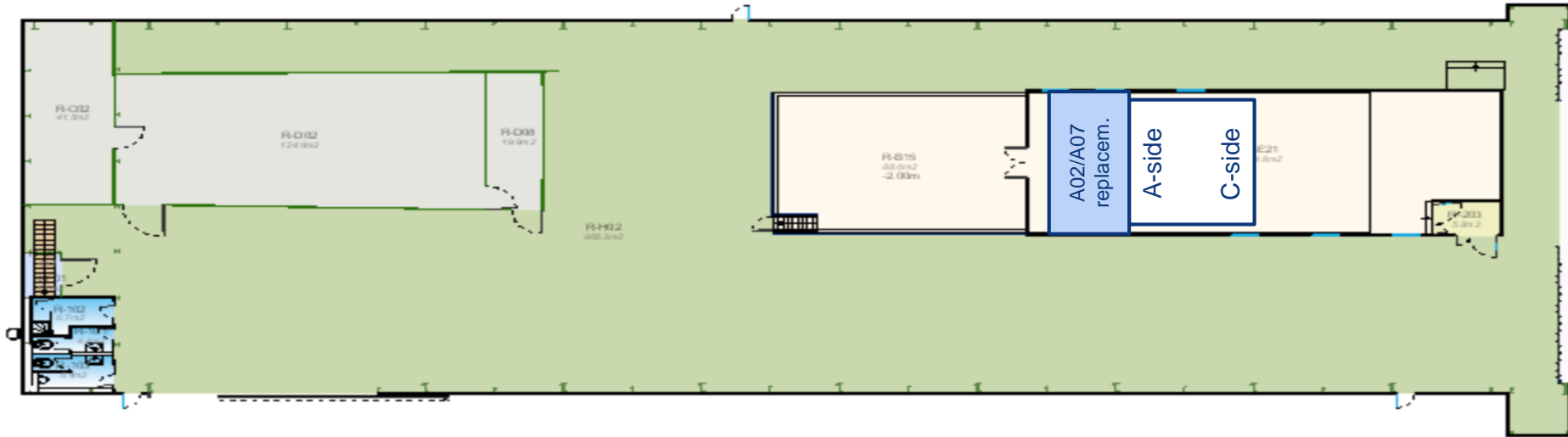


SXL2 activities w6 – Thu 6 Feb 2020

TPC: replace gas mixture with air



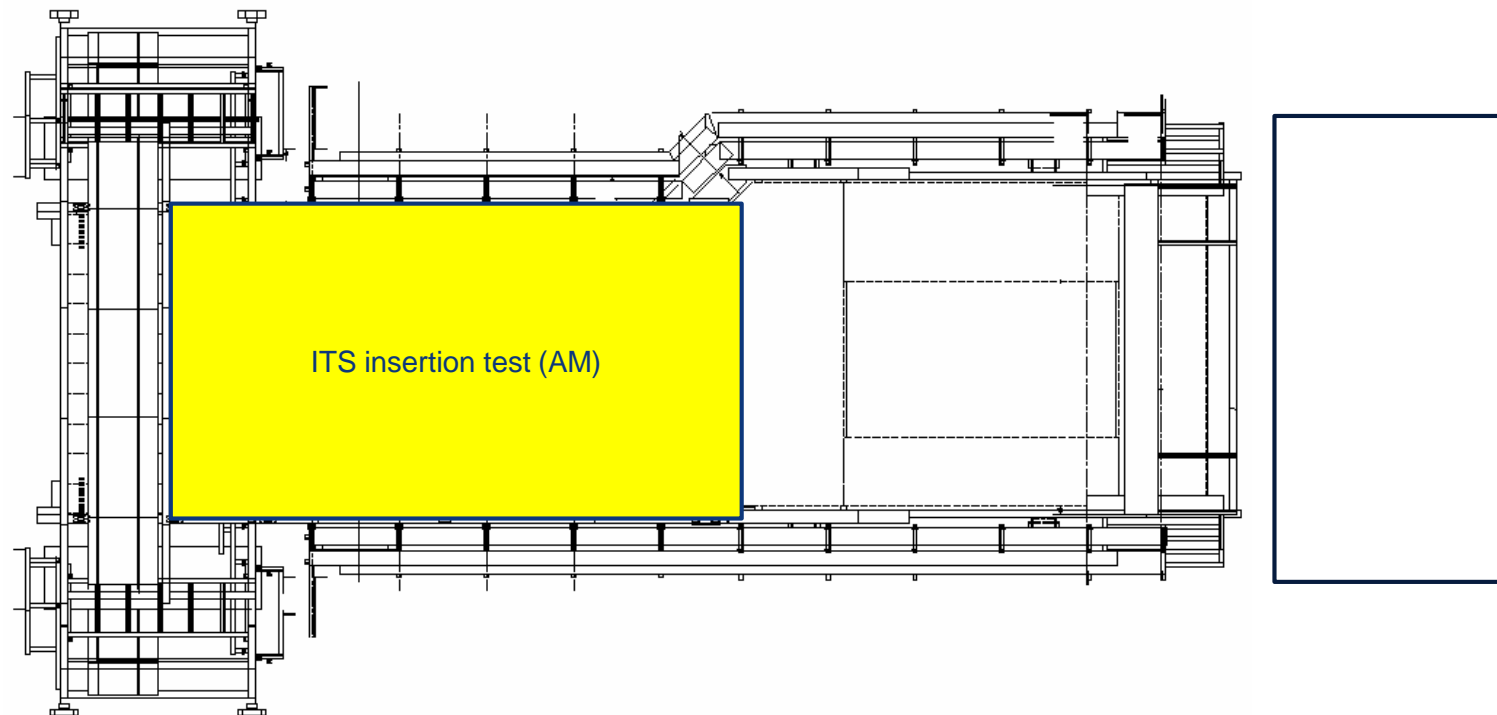
SXL2 activities w6 – Fri 7 Feb 2020



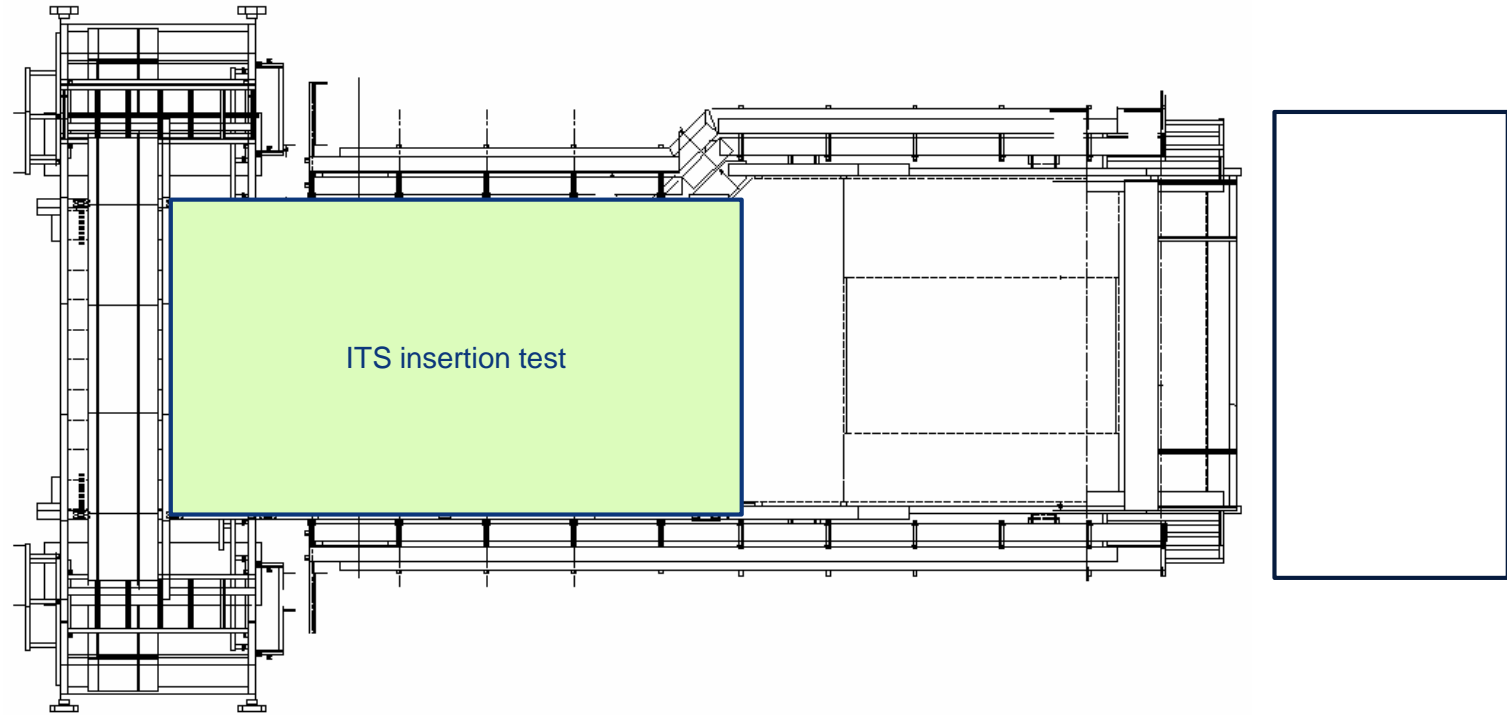
Miniframe activities w6 – Mon 3 Feb 2020

Produce and install steps to protect FO boxes; finish ITS rack supports; build ITS rack trap (Cedric)

ITS PP1-PP2 mockup cables
(Antoine, Mimmo),
PP1 cooling (Philippe)



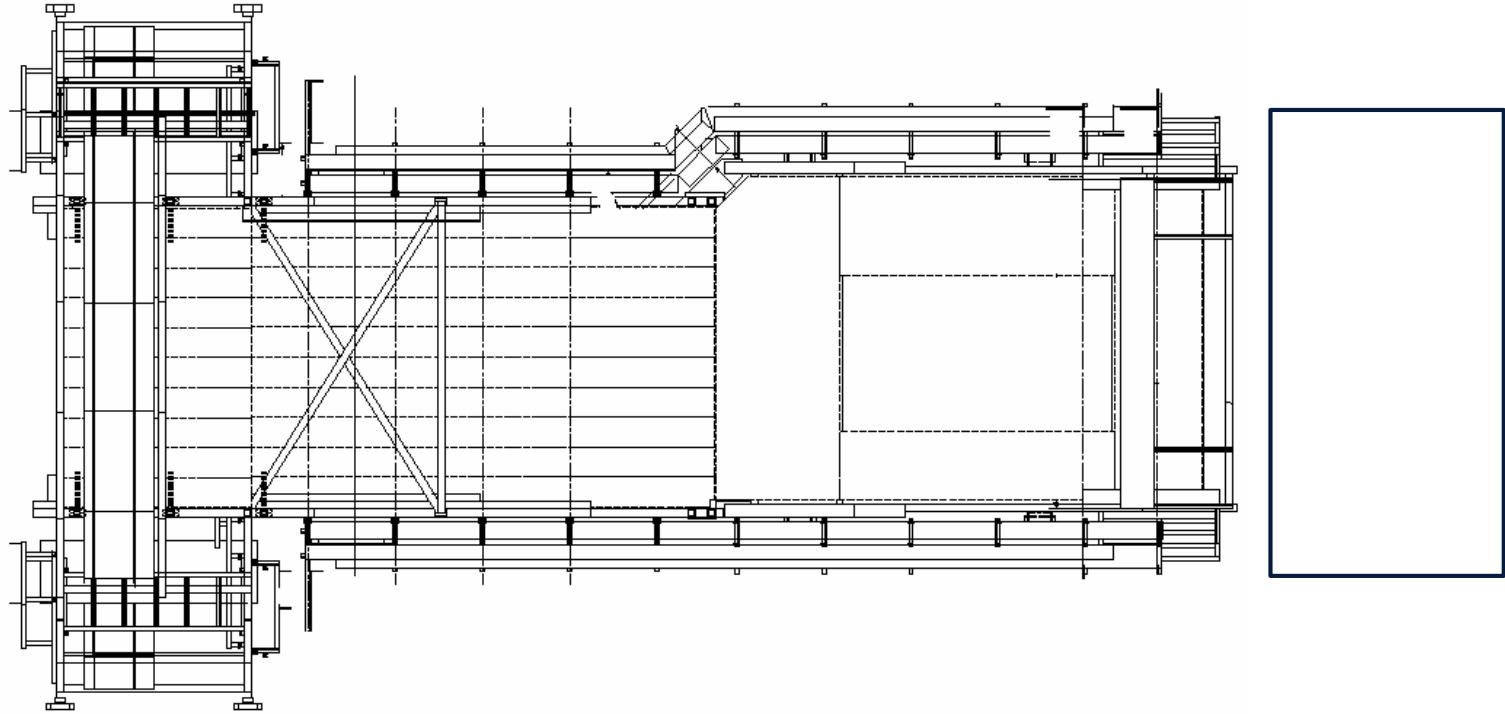
Miniframe activities w6 – Tue 4 Feb 2020



ITS PP1-PP2 mockup cables
(Antoine, Mimmo),
PP1 cooling (Philippe)

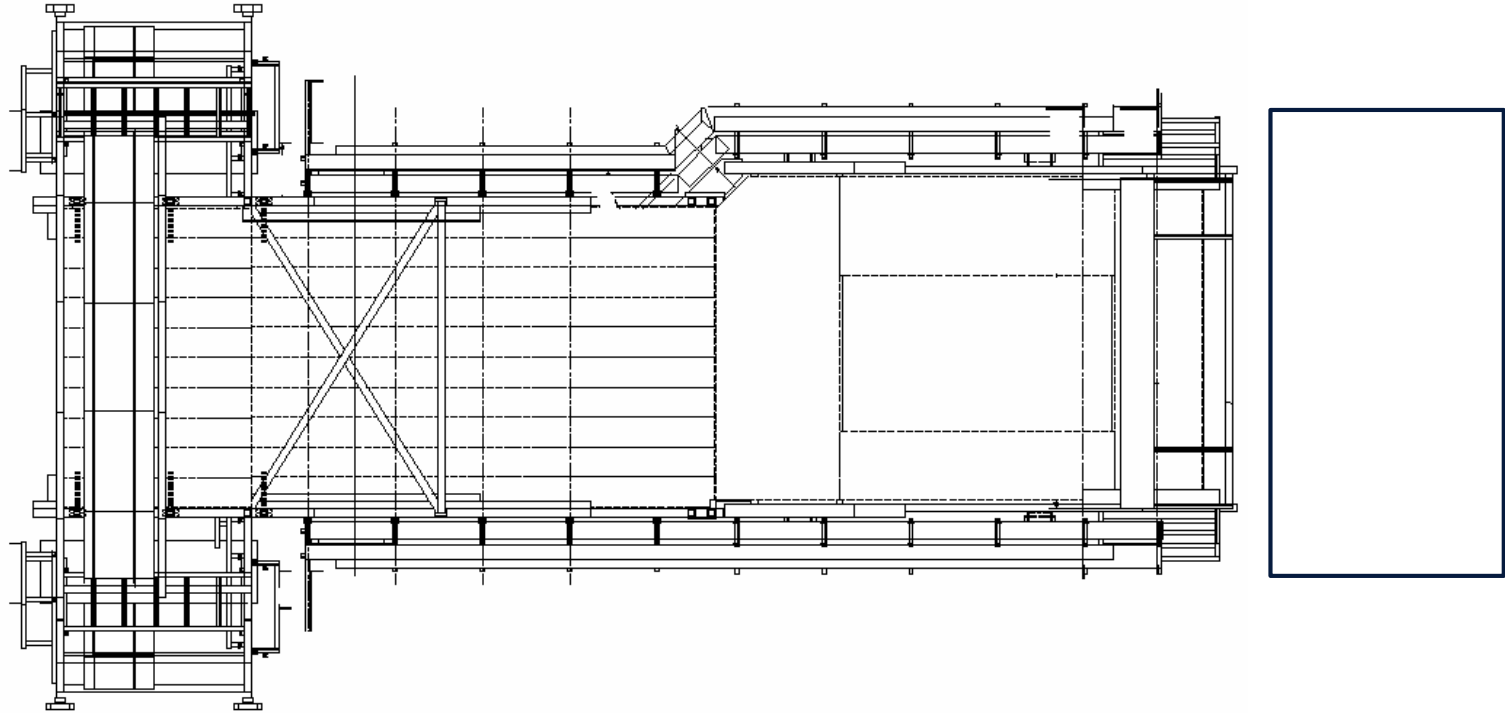
Miniframe activities w6 – Wed 5 Feb 2020

ITS PP1-PP2 mockup cables
(Antoine, Mimmo),
PP1 cooling (Philippe)



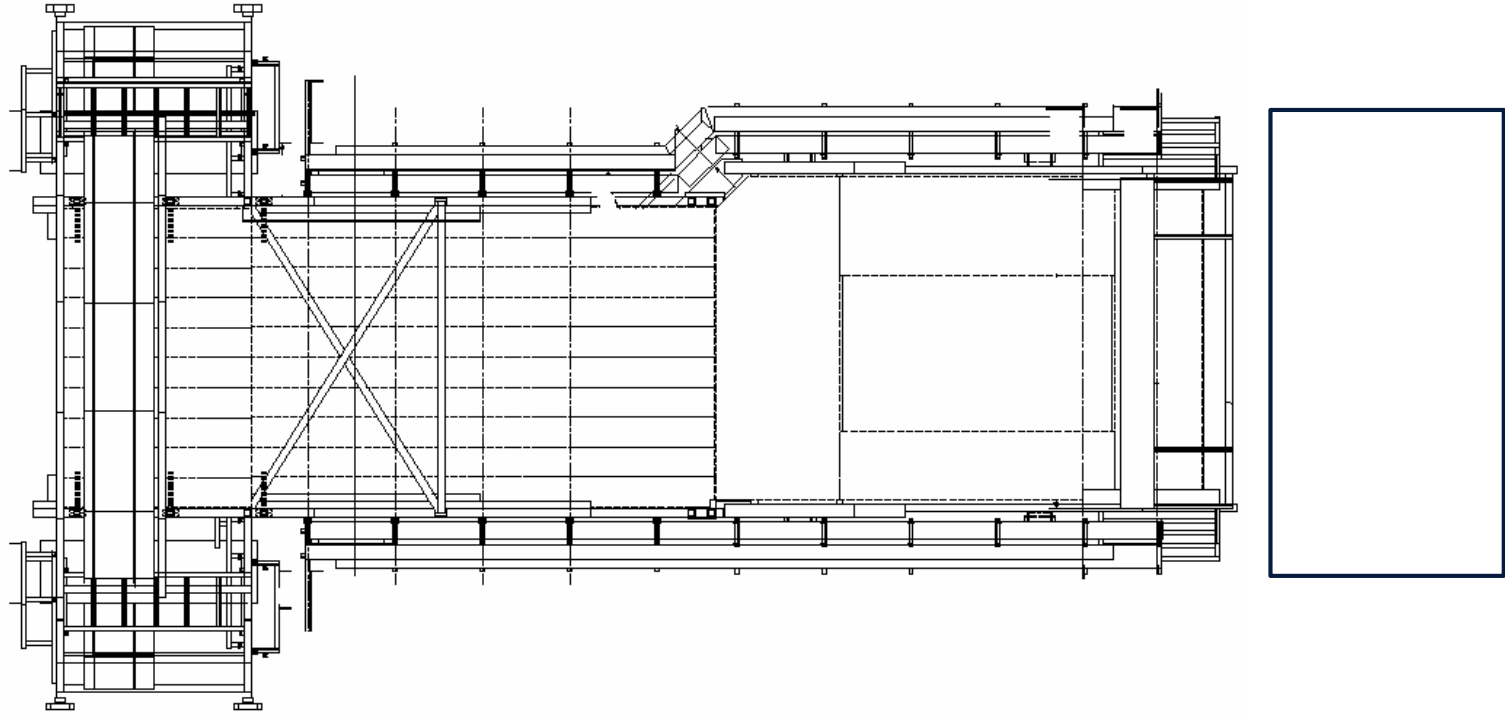
Miniframe activities w6 – Thu 6 Feb 2020

ITS PP1-PP2 mockup cables
(Antoine, Mimmo),
PP1 cooling (Philippe)

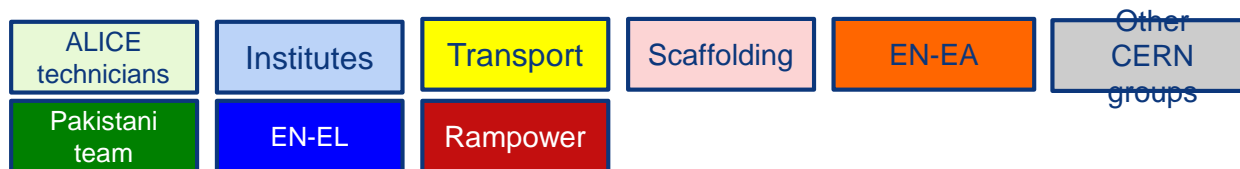


Miniframe activities w6 – Fri 7 Feb 2020

ITS PP1-PP2 mockup cables
(Antoine, Mimmo),
PP1 cooling (Philippe)

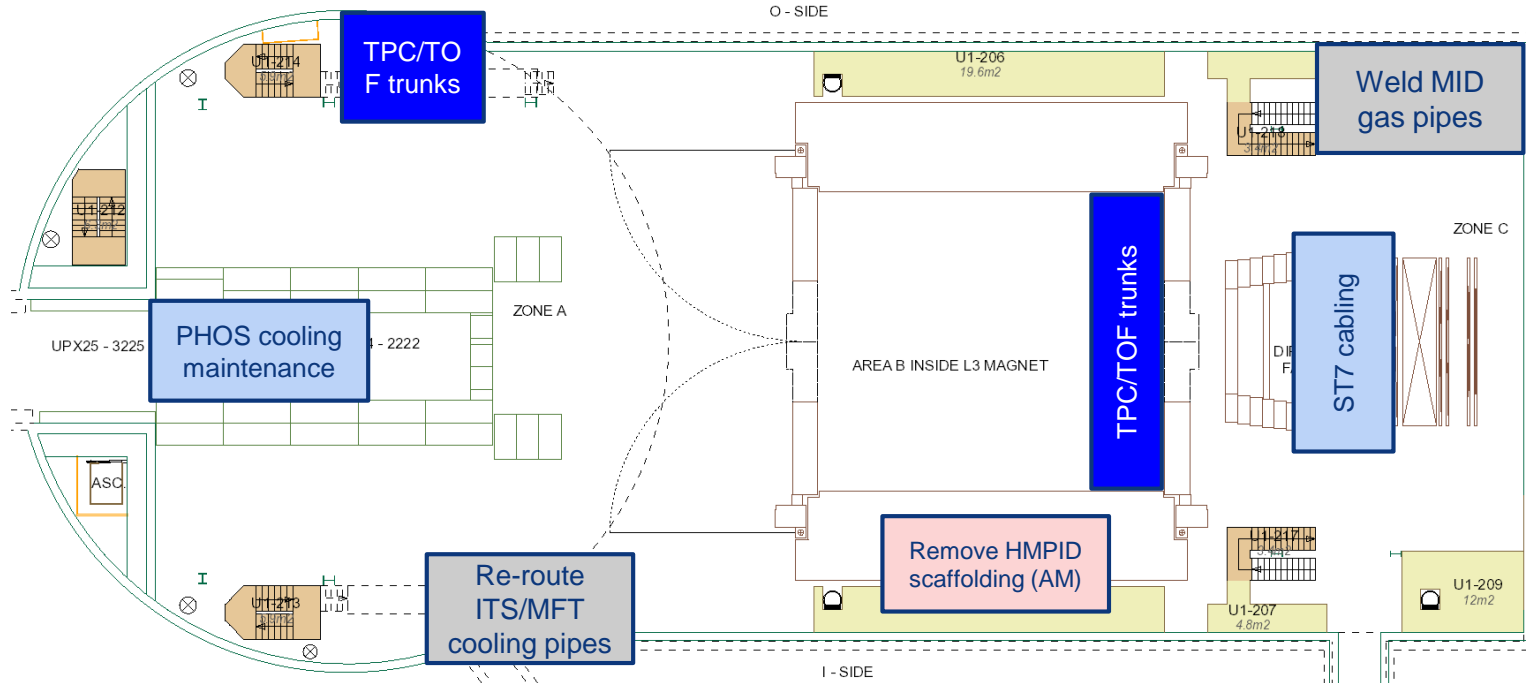


Day-by-day sequence w7



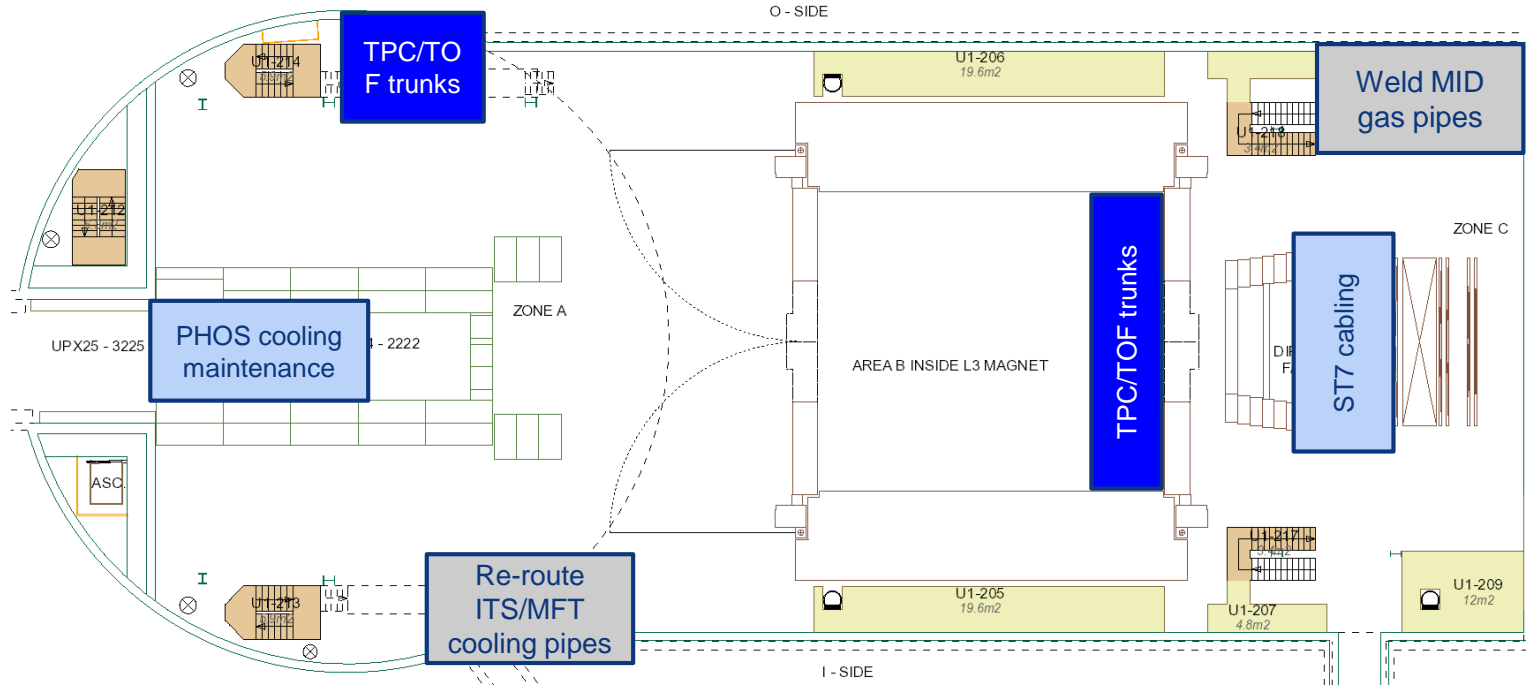
UX25 activities w7 – Mon 10 Feb 2020

Install TA valves CR3-4 – whole week (Bruno, Philippe)

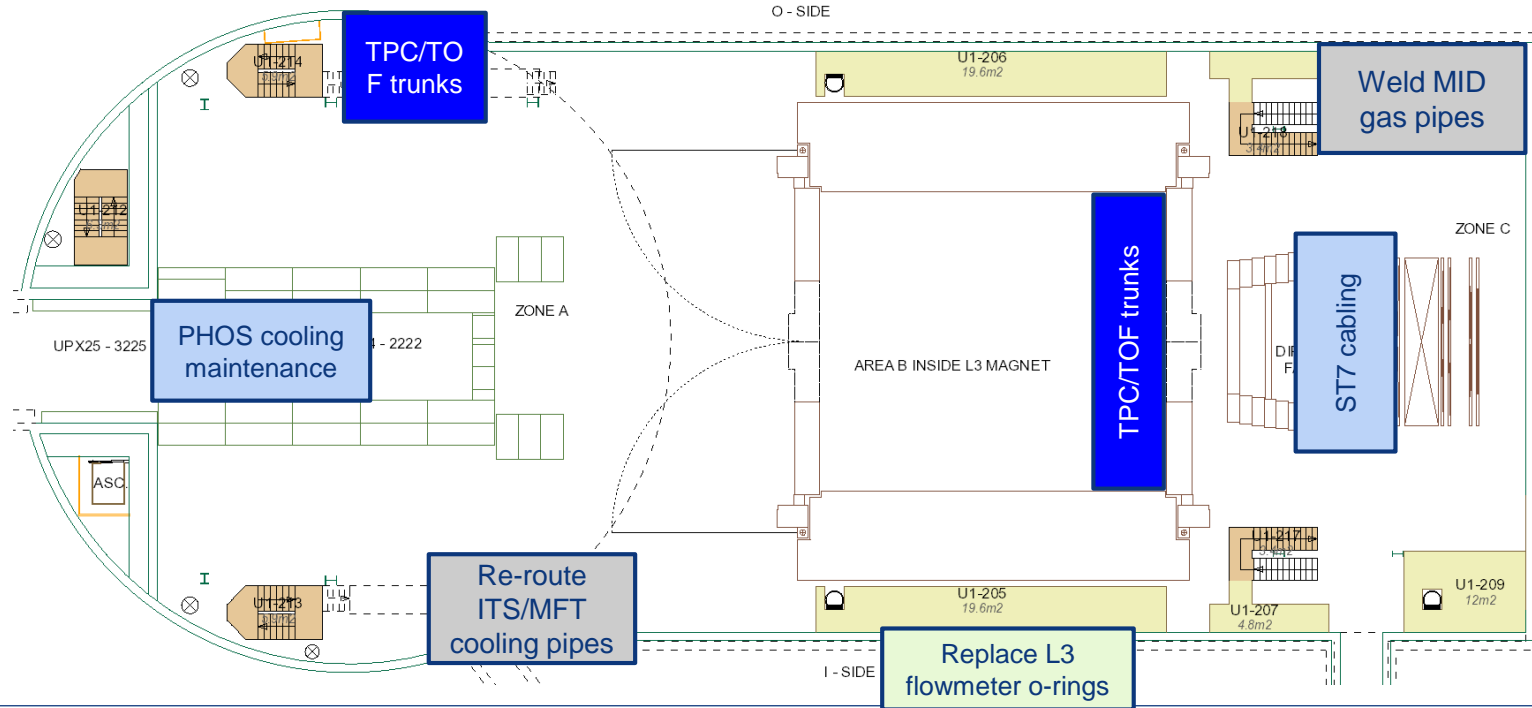


UX25 activities w7 – Tue 11 Feb 2020

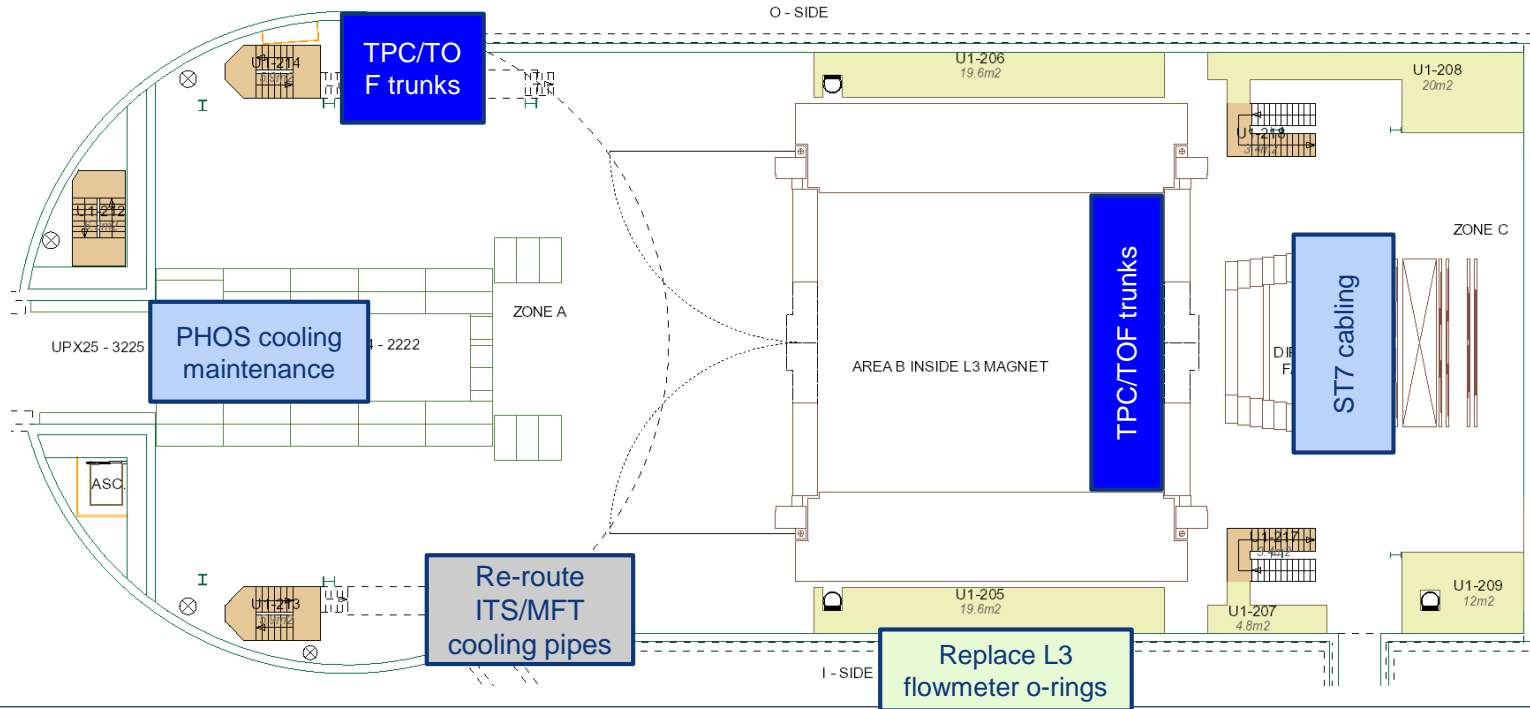
Cleaning cavern (Topnet): 13:00 to 15:00



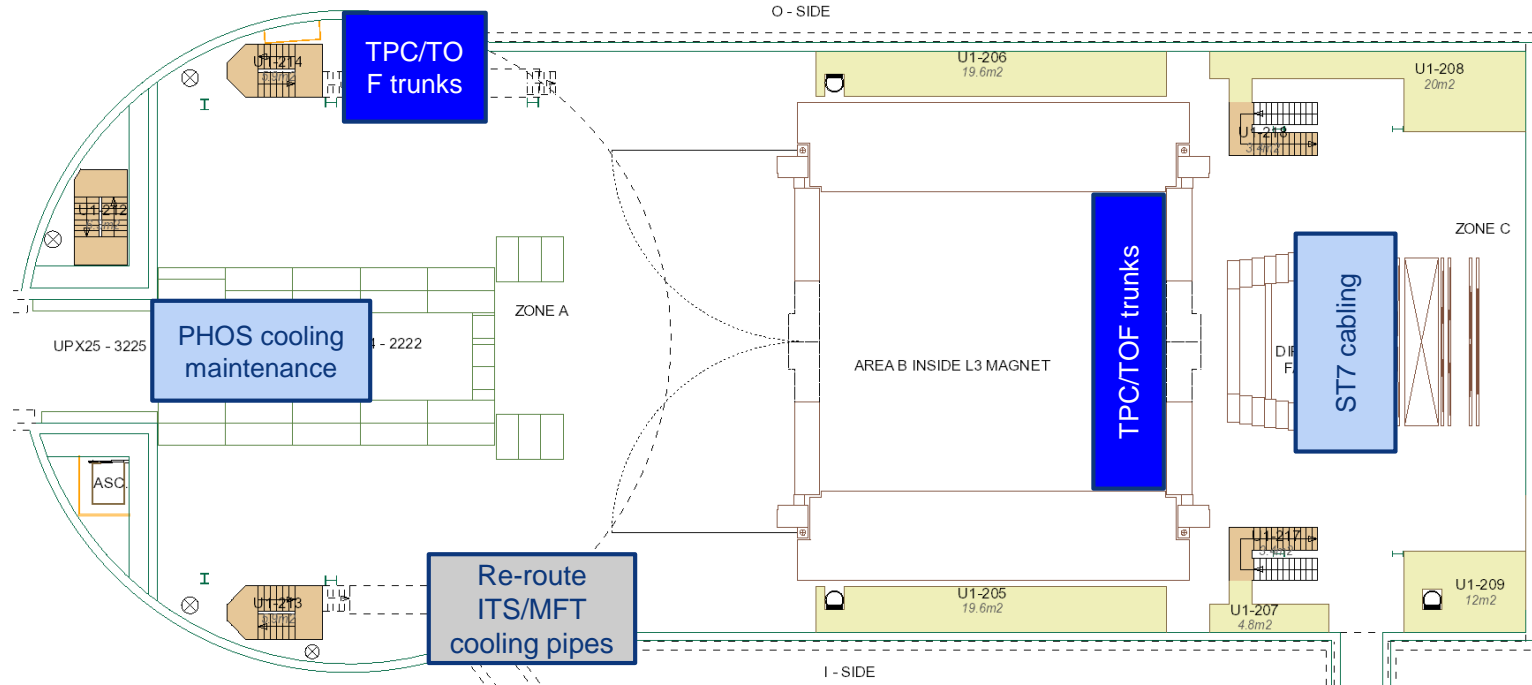
UX25 activities w7 – Wed 12 Feb 2020



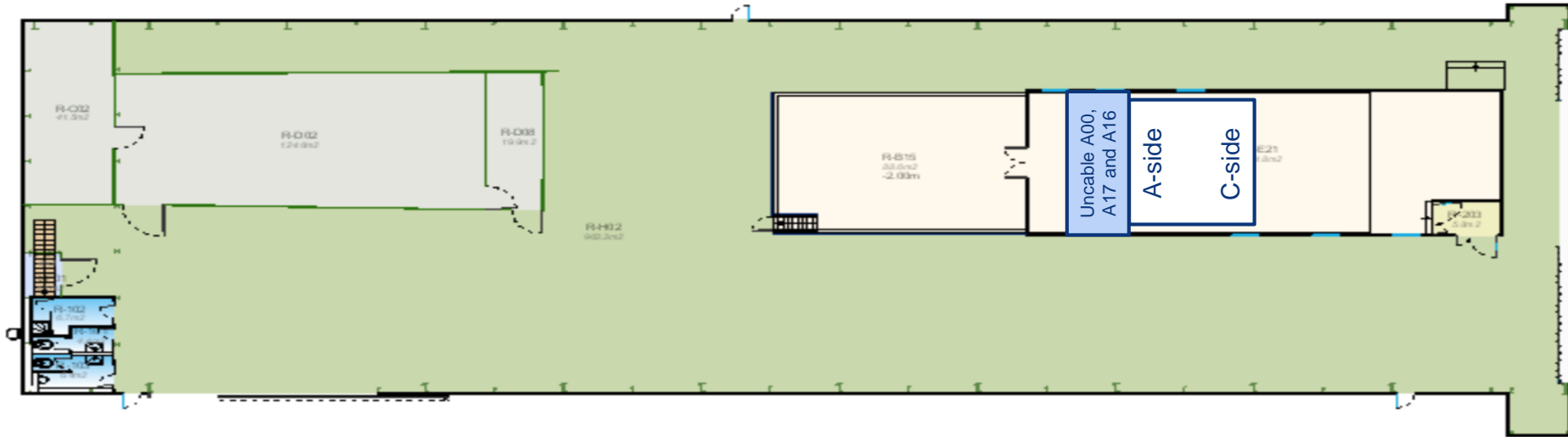
UX25 activities w7 – Thu 13 Feb 2020



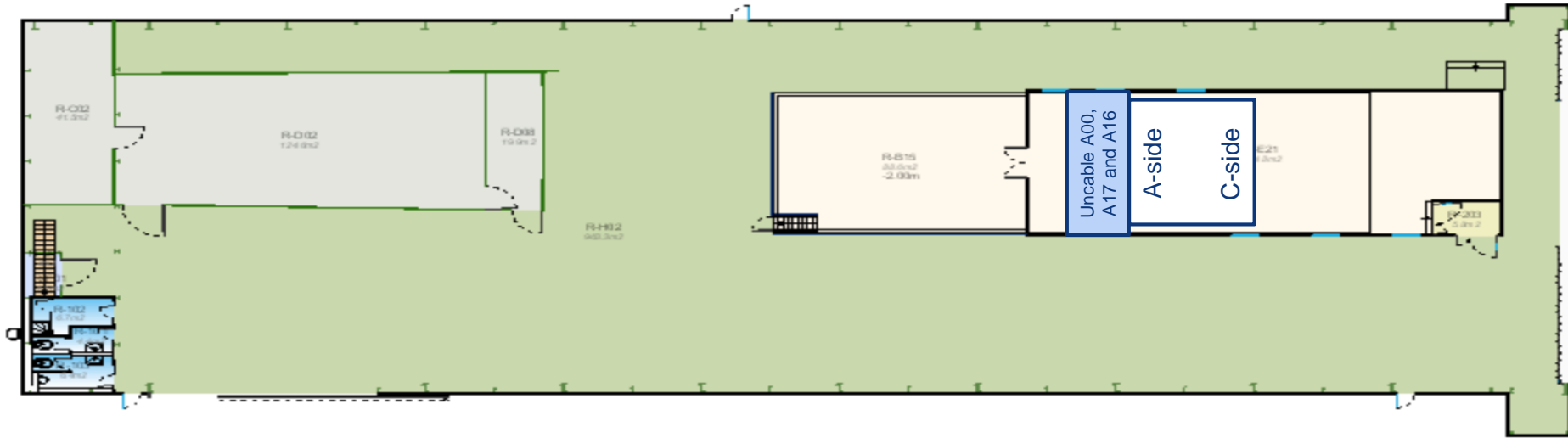
UX25 activities w7 – Fri 14 Feb 2020



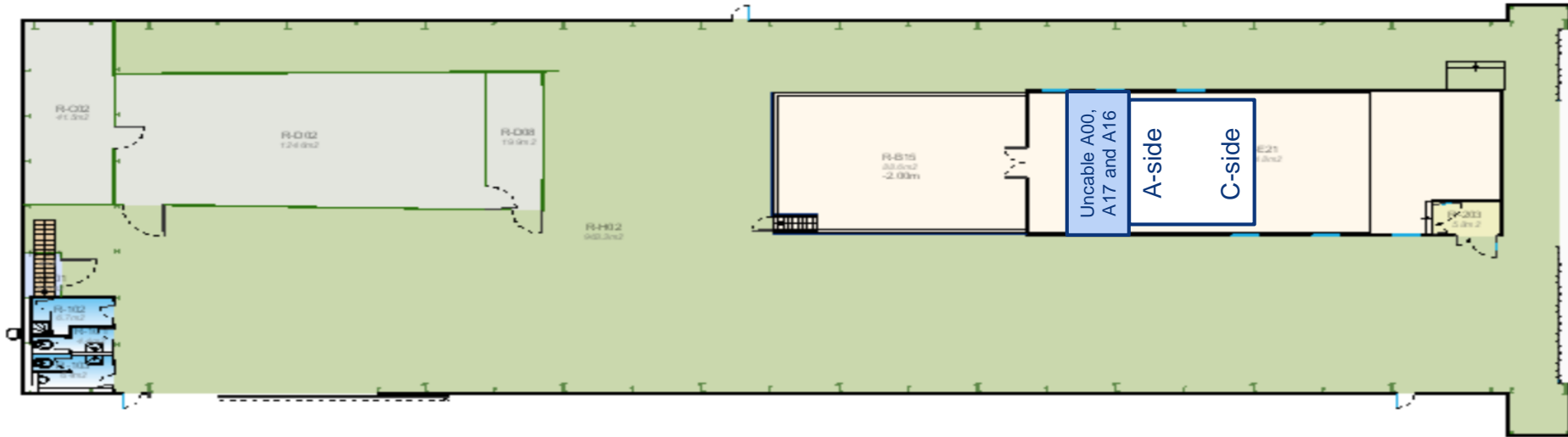
SXL2 activities w7 – Mon 10 Feb 2020



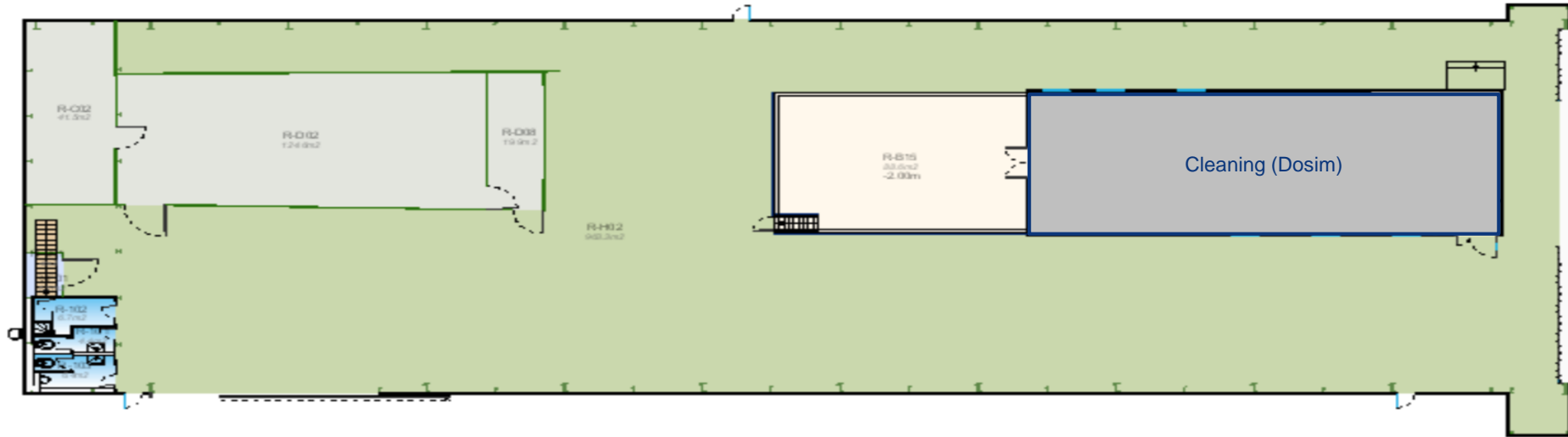
SXL2 activities w7 – Tue 11 Feb 2020



SXL2 activities w7 – Wed 12 Feb 2020

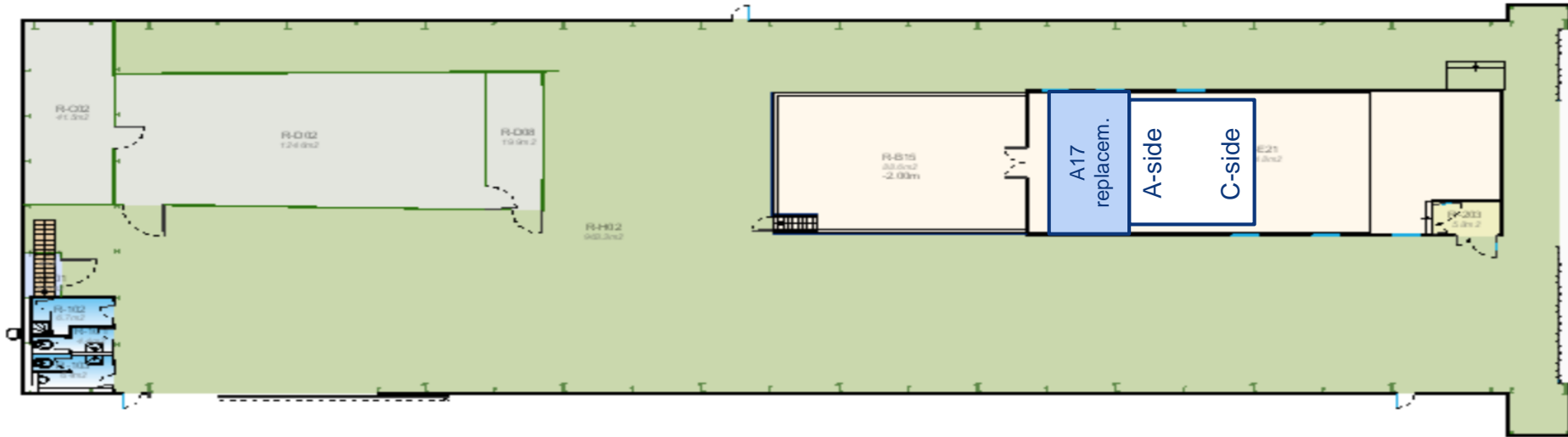


SXL2 activities w7 – Thu 13 Feb 2020



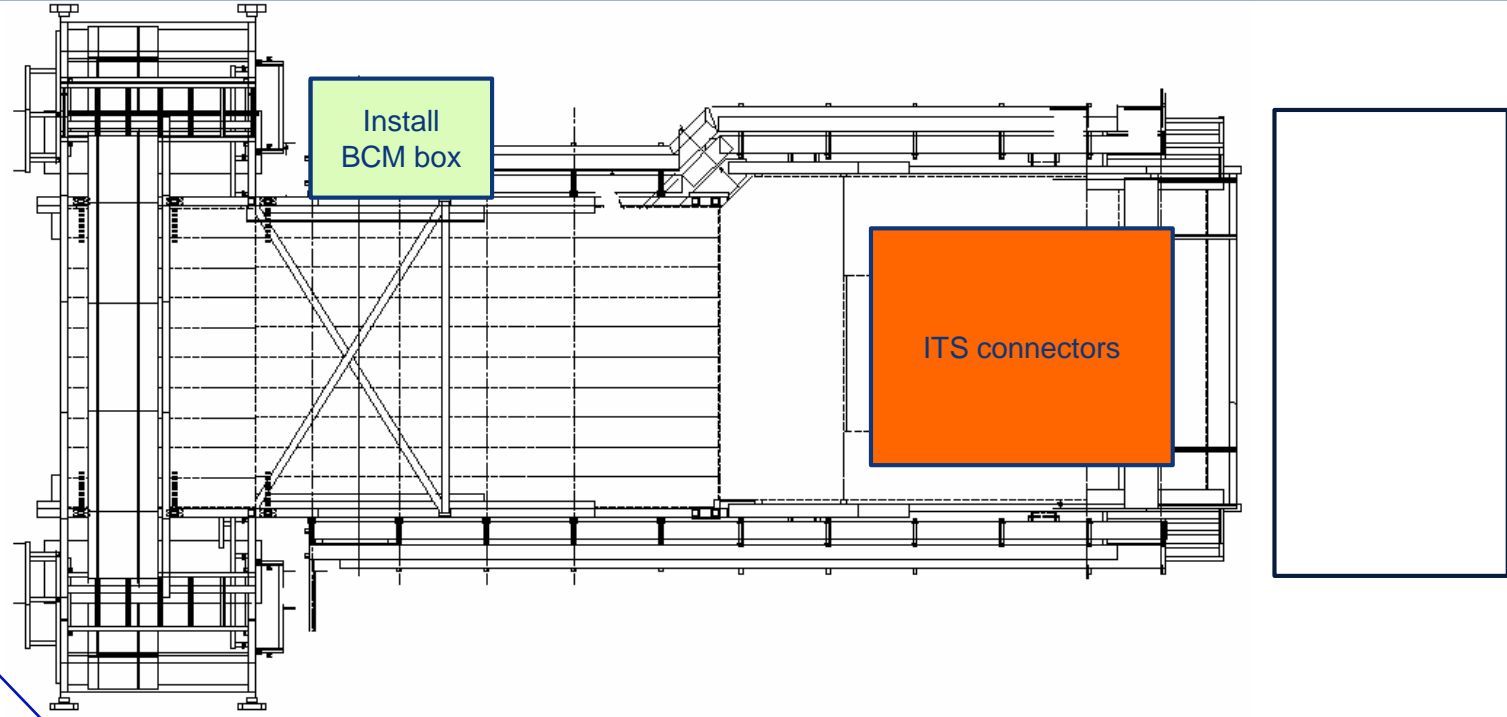
SXL2 activities w7 – Fri 14 Feb 2020

TPC: switch off cleanroom ventilation (PM)



Miniframe activities w7 – Mon 10 Feb 2020

Produce and install steps to protect FO boxes; finish ITS rack supports; build ITS access trap and FIT patch panel (Cedric)

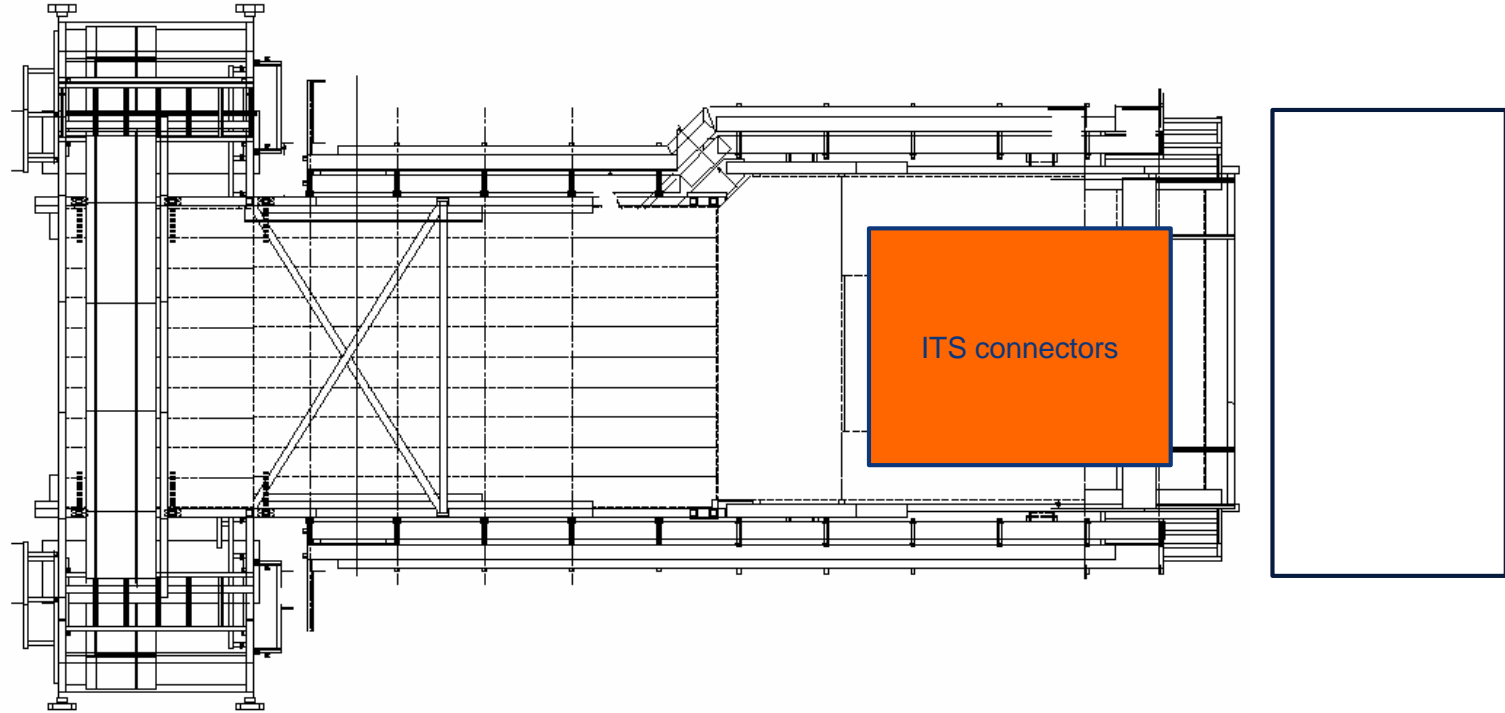


ITS PP1-PP2 mockup cables
(Antoine, Mimmo),
PP1 cooling (Philippe)

Install MFT PP1 PT and filters, cut ITS PP1 cooling pipes and put plate (Philippe)

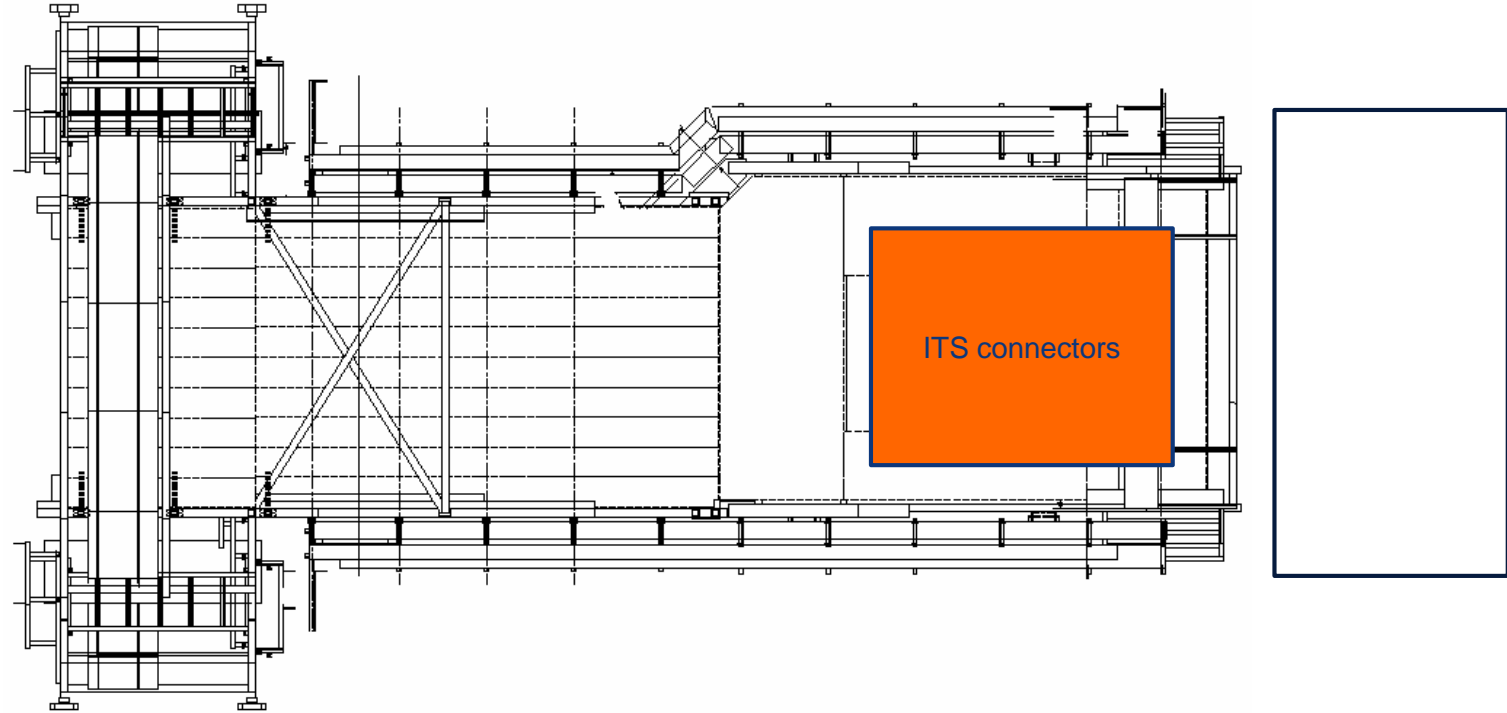
Miniframe activities w7 – Tue 11 Feb 2020

ITS PP1-PP2 mockup cables
(Antoine, Mimmo),
PP1 cooling (Philippe)

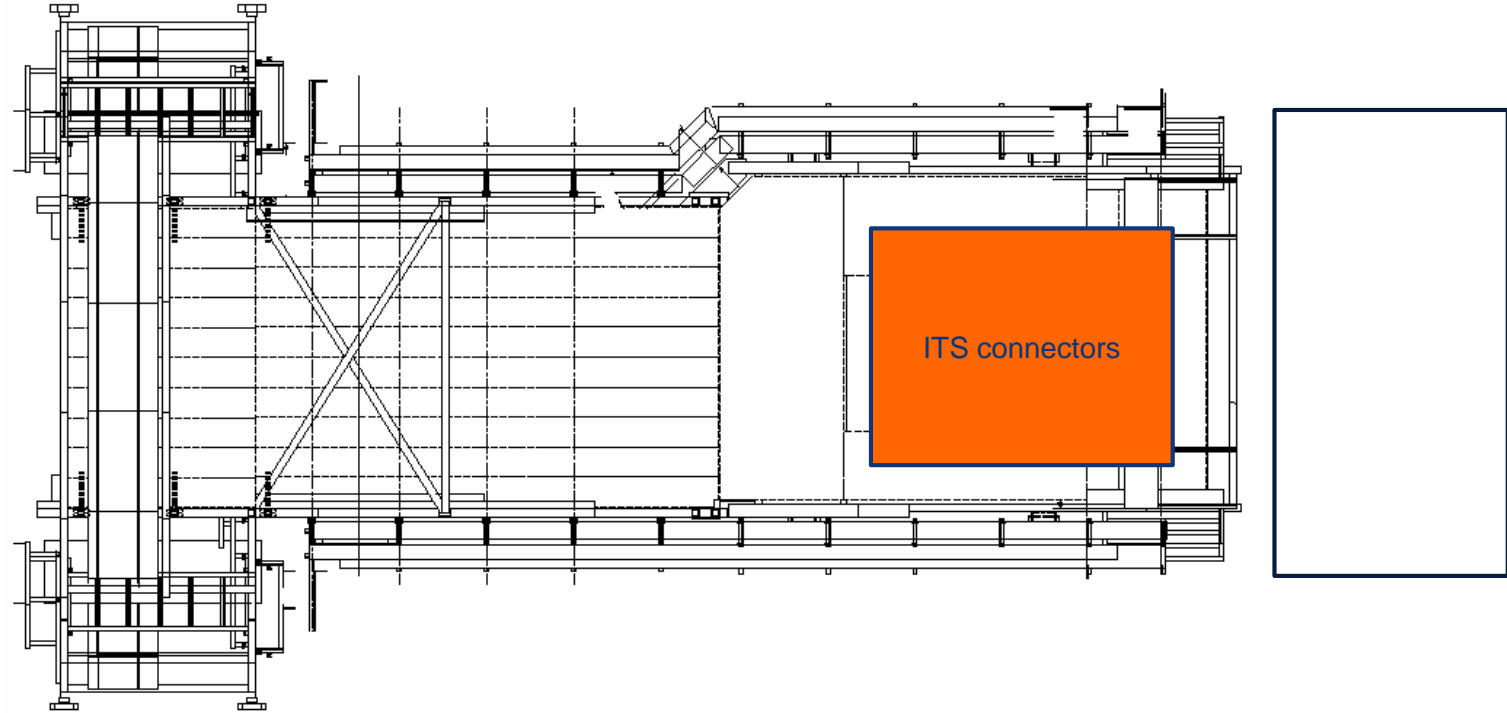


Miniframe activities w7 – Wed 12 Feb 2020

ITS PP1-PP2 mockup cables
(Antoine, Mimmo),
PP1 cooling (Philippe)



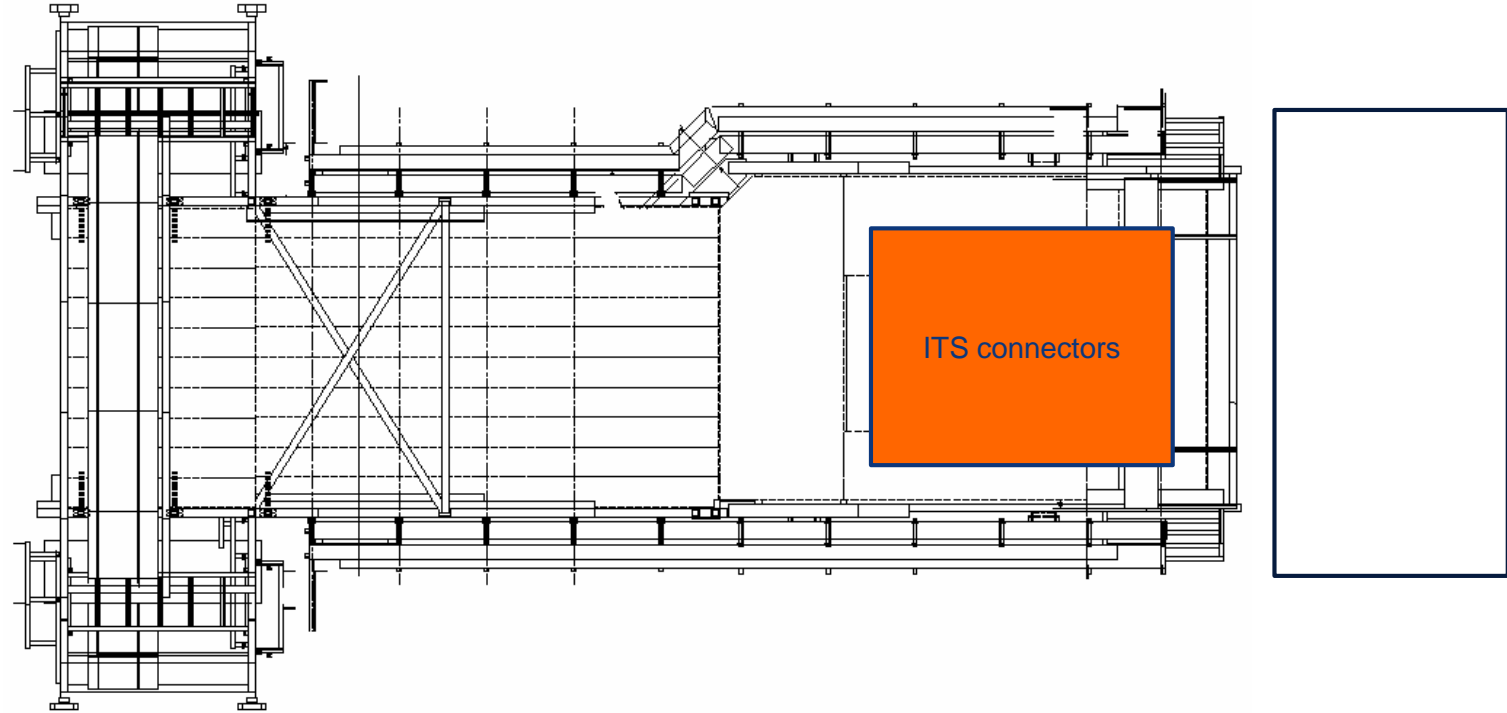
Miniframe activities w7 – Thu 13 Feb 2020



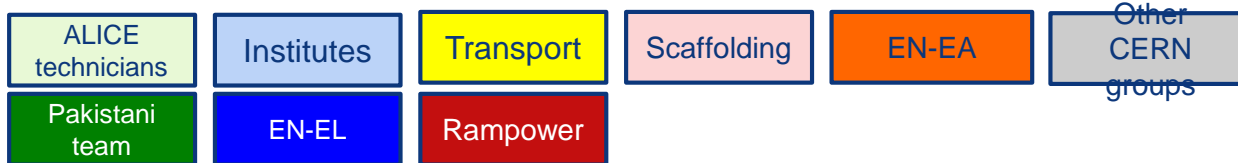
ITS PP1-PP2 mockup cables
(Antoine, Mimmo),
PP1 cooling (Philippe)

Miniframe activities w7 – Fri 14 Feb 2020

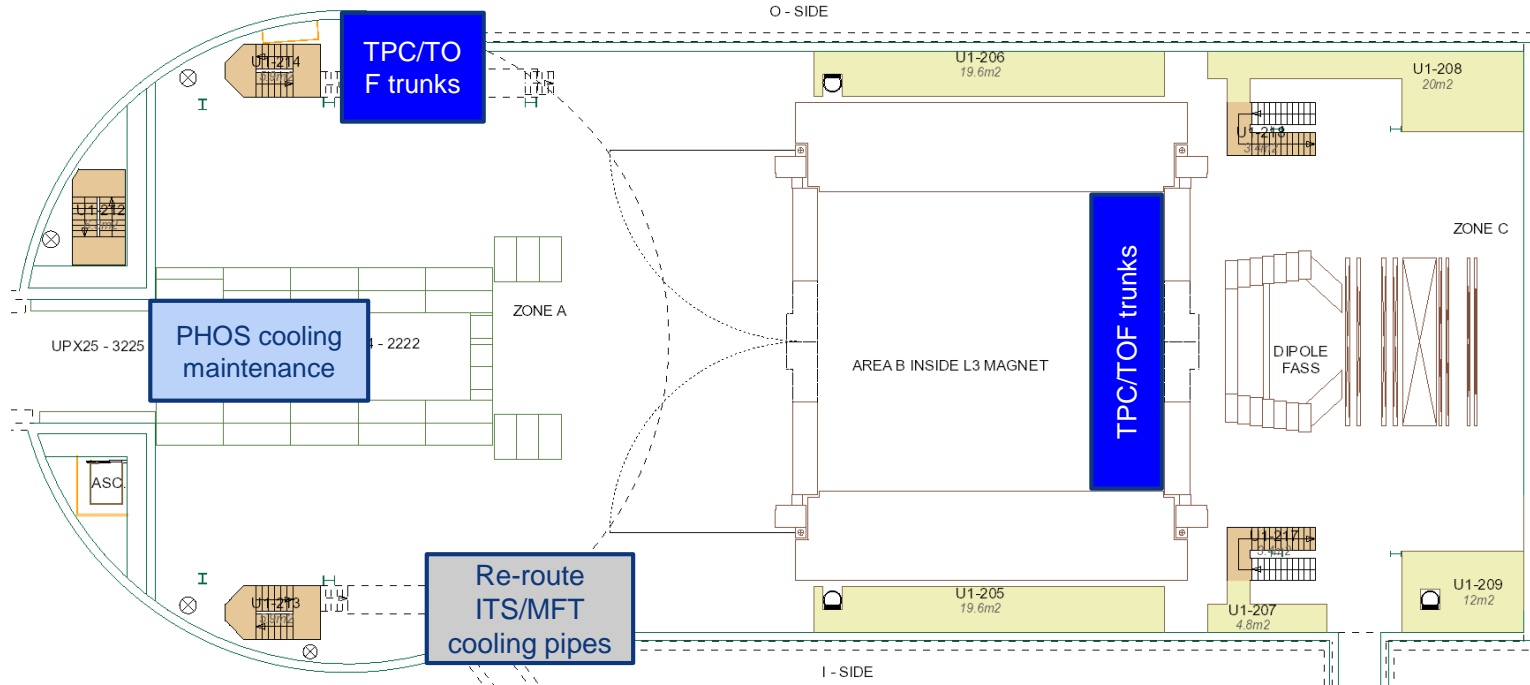
ITS PP1-PP2 mockup cables
(Antoine, Mimmo),
PP1 cooling (Philippe)



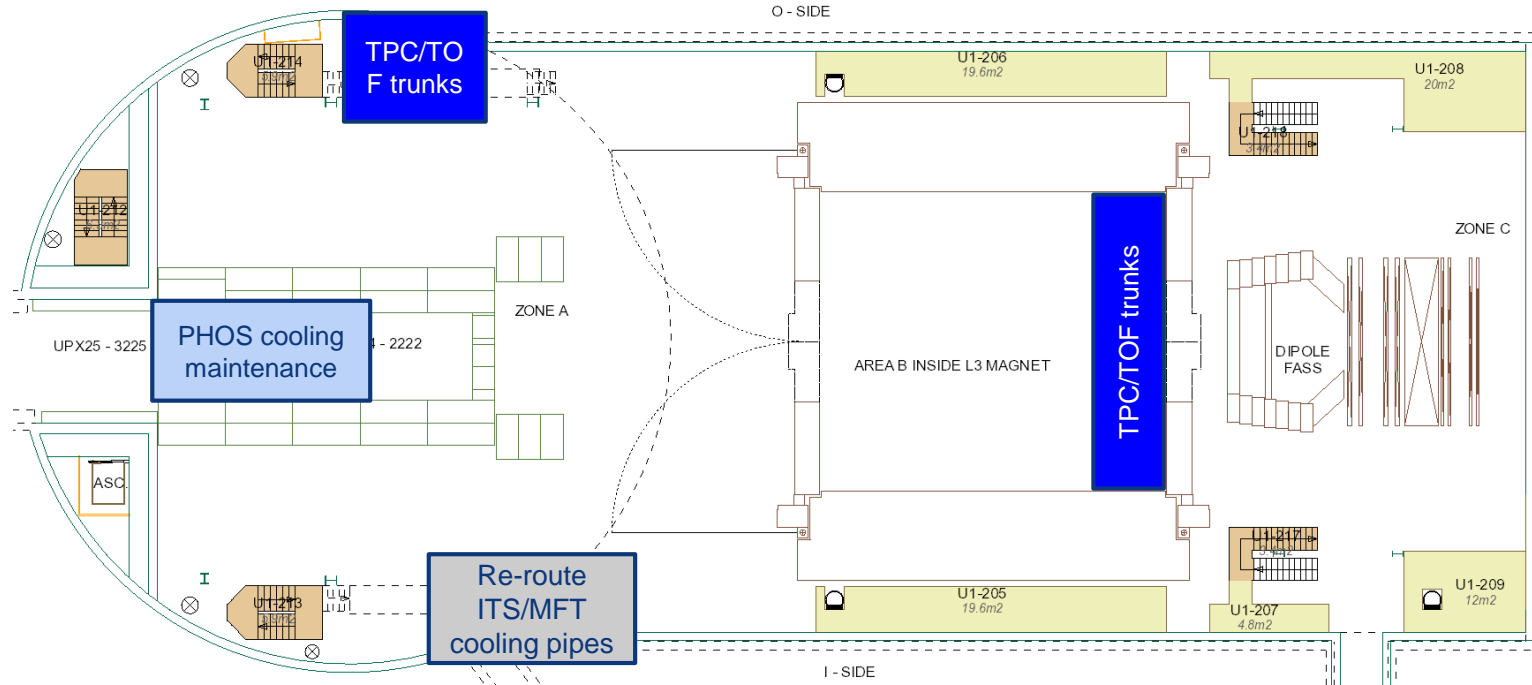
Day-by-day sequence w8



UX25 activities w8 – Mon 17 Feb 2020

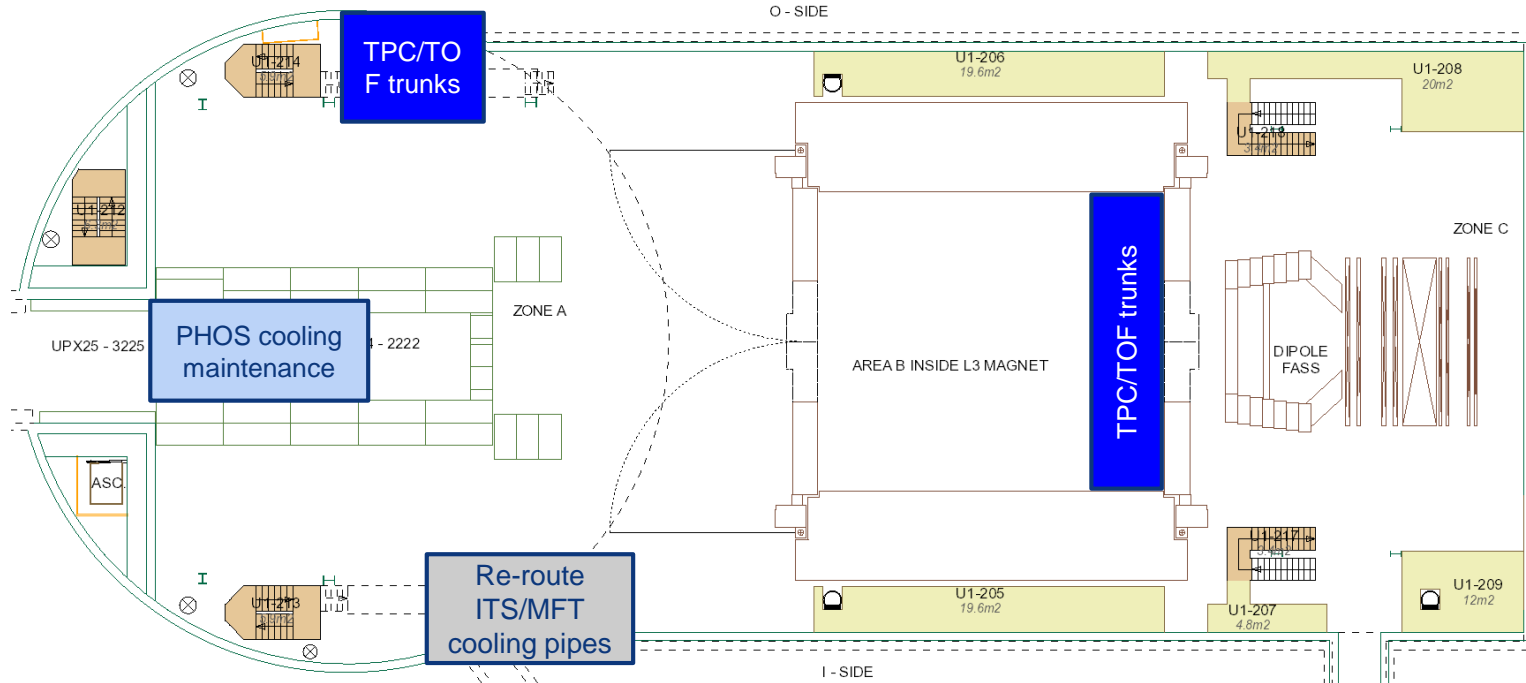


UX25 activities w8 – Wed 19 Feb 2020

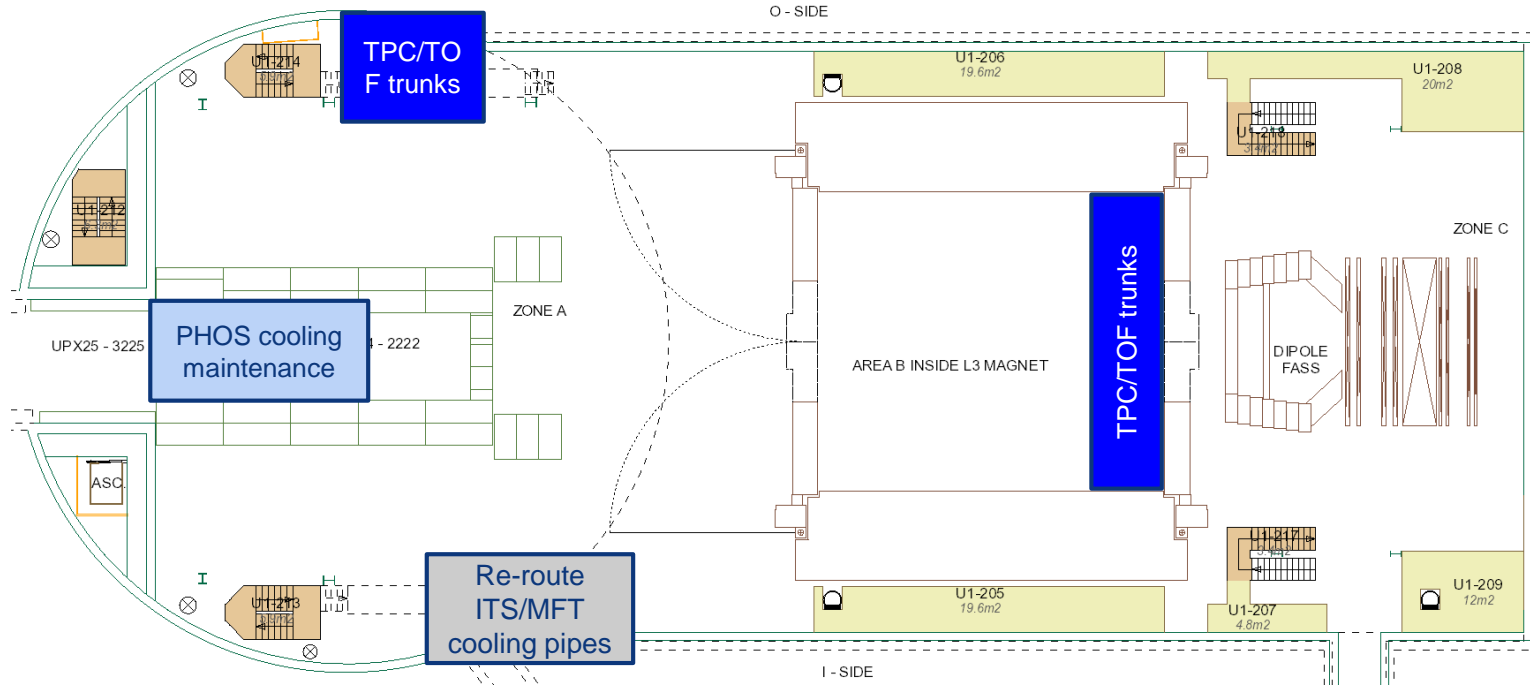


UX25 activities w8 – Thu 20 Feb 2020

Cavern lift maintenance: no access to UX25 from 6:00 AM to 8:00 AM

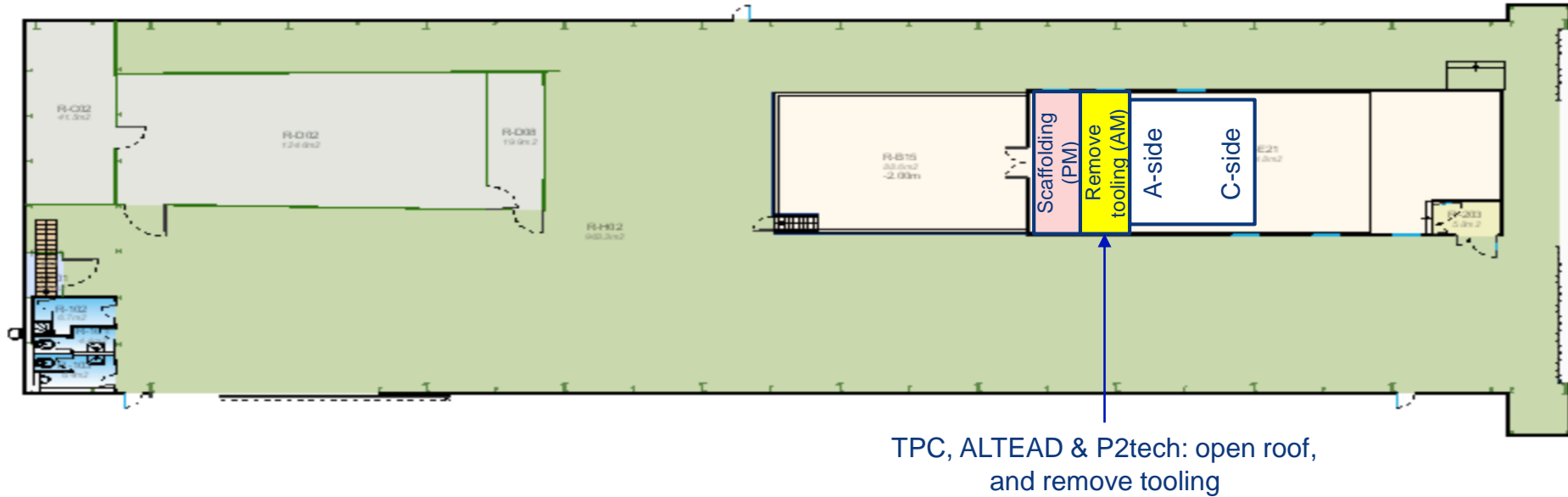


UX25 activities w8 – Fri 21 Feb 2020

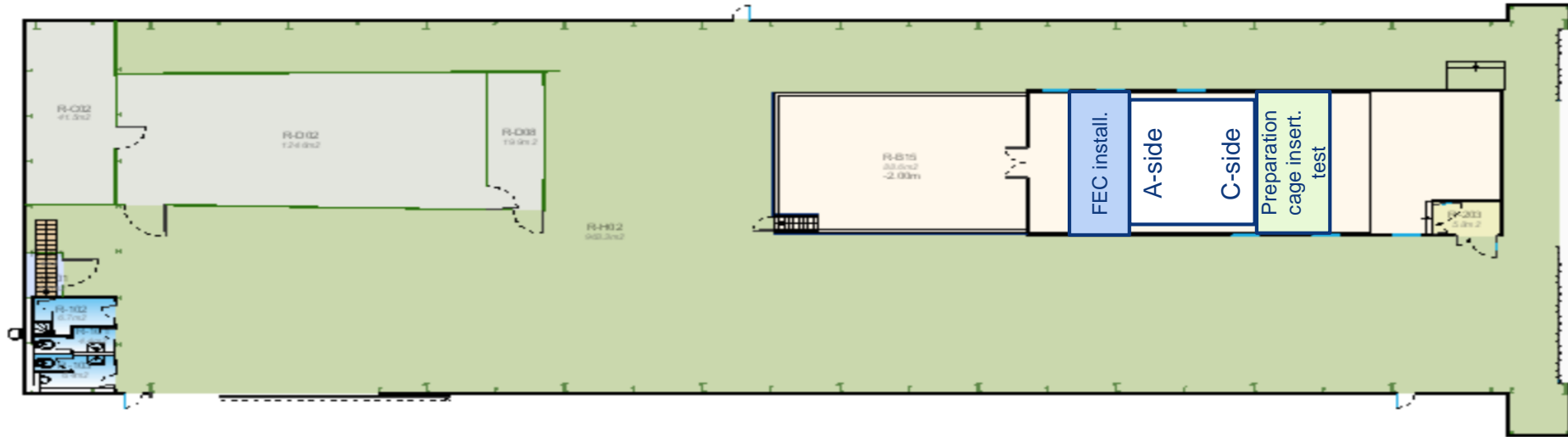


SXL2 activities w8 – Mon 17 Feb 2020

TPC: start replacing gas mixture with Ne-CO₂-N₂

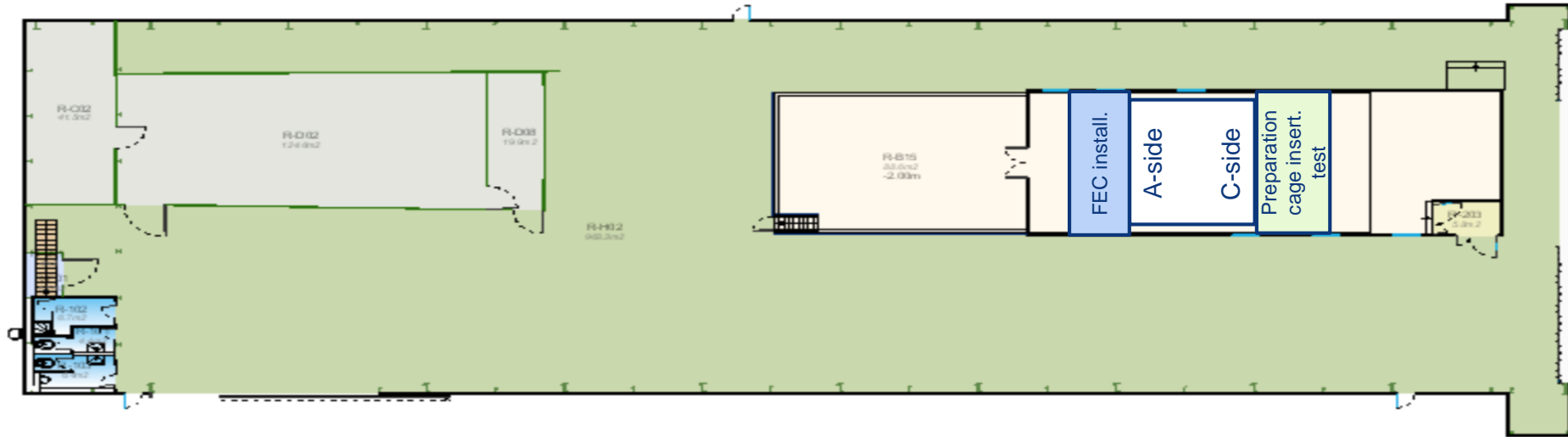


SXL2 activities w8 – Tue 18 Feb 2020

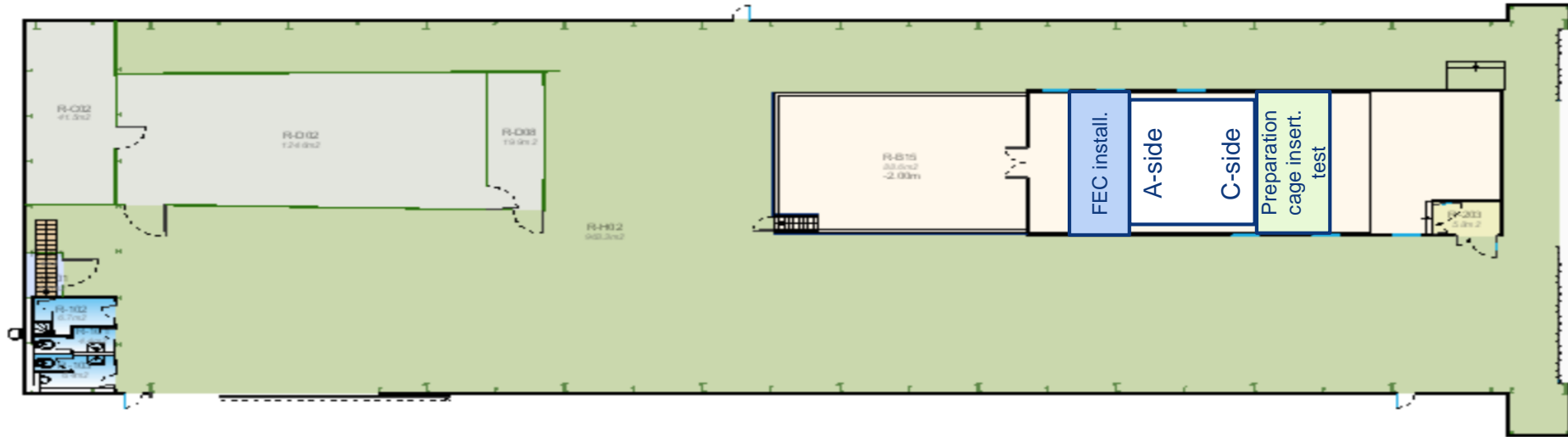


SXL2 activities w8 – Wed 19 Feb 2020

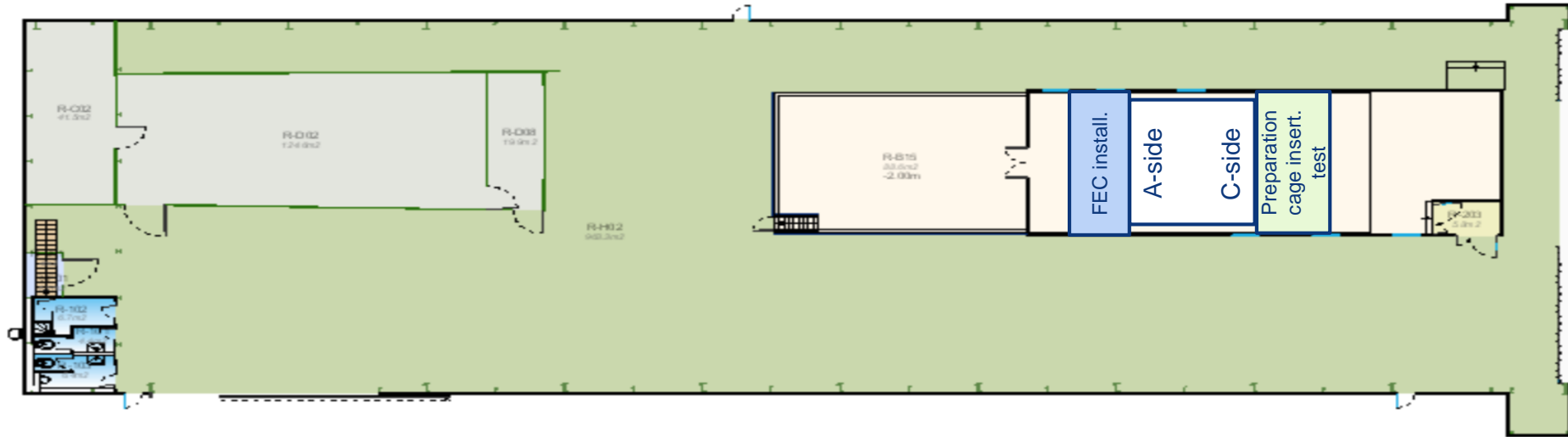
TPC survey from C-side (preparation cage insertion test)



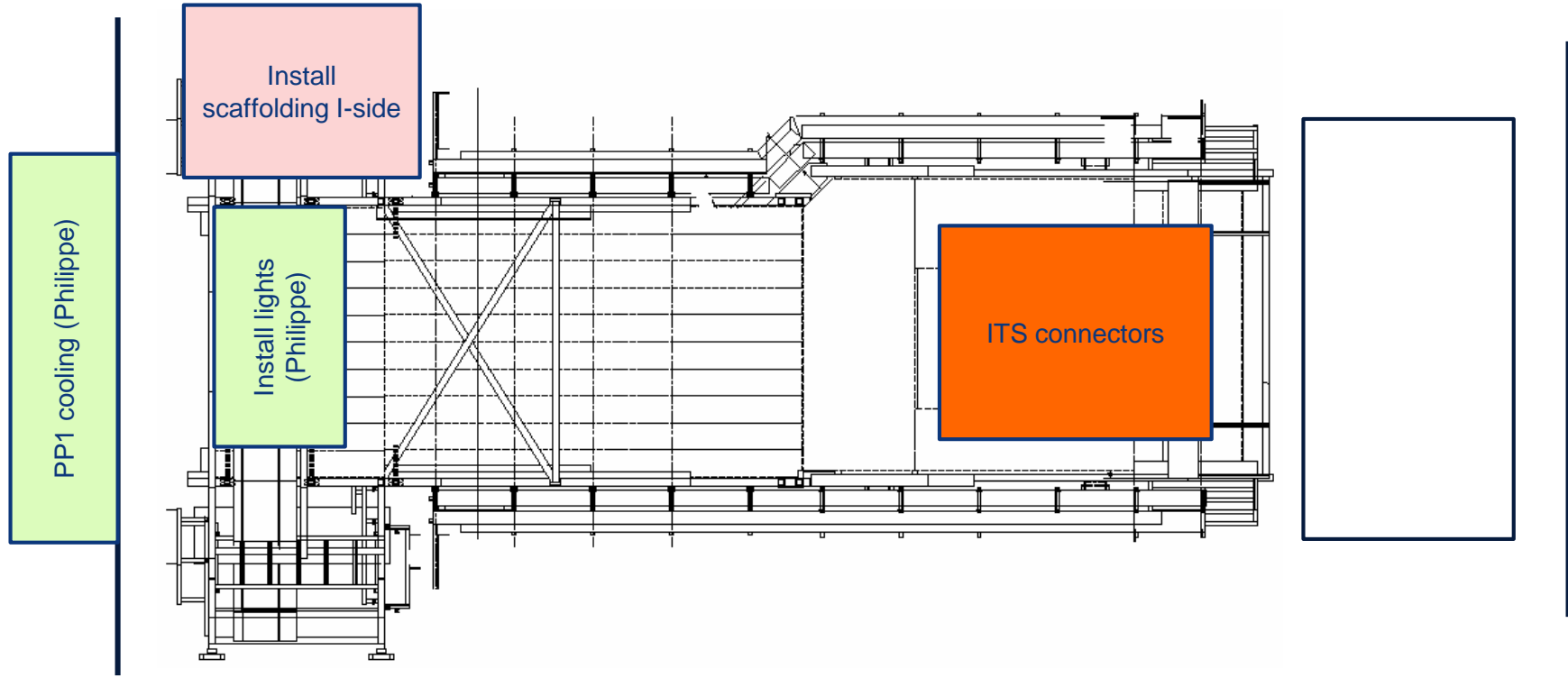
SXL2 activities w8 – Thu 20 Feb 2020



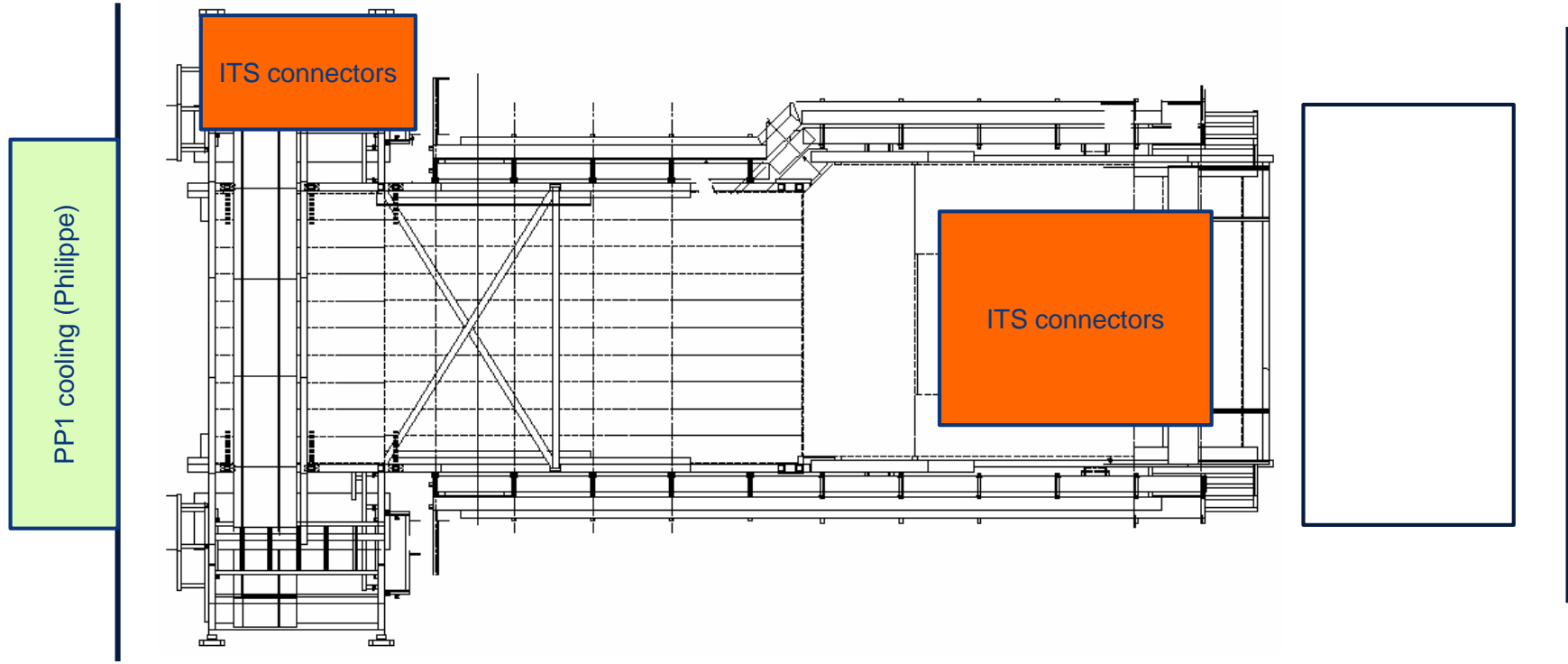
SXL2 activities w8 – Fri 21 Feb 2020



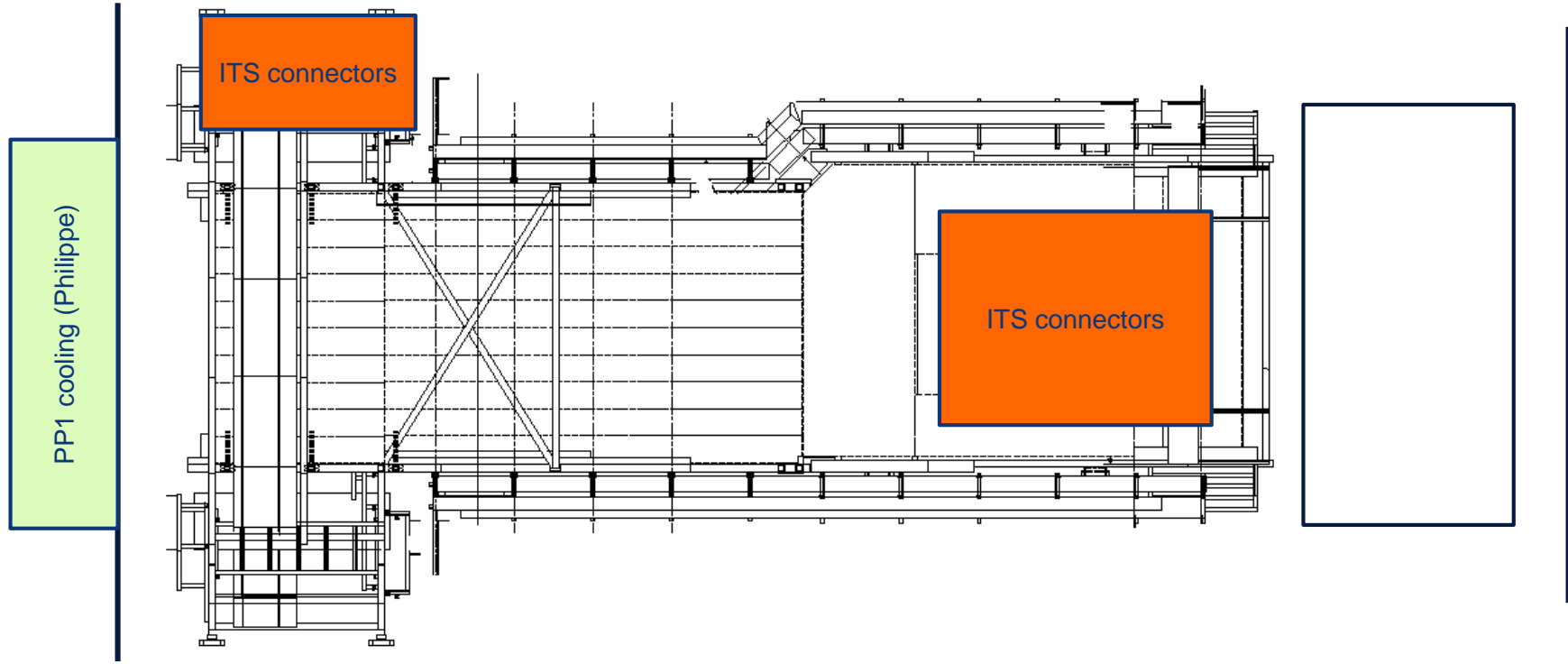
Miniframe activities w8 – Mon 17 Feb 2020



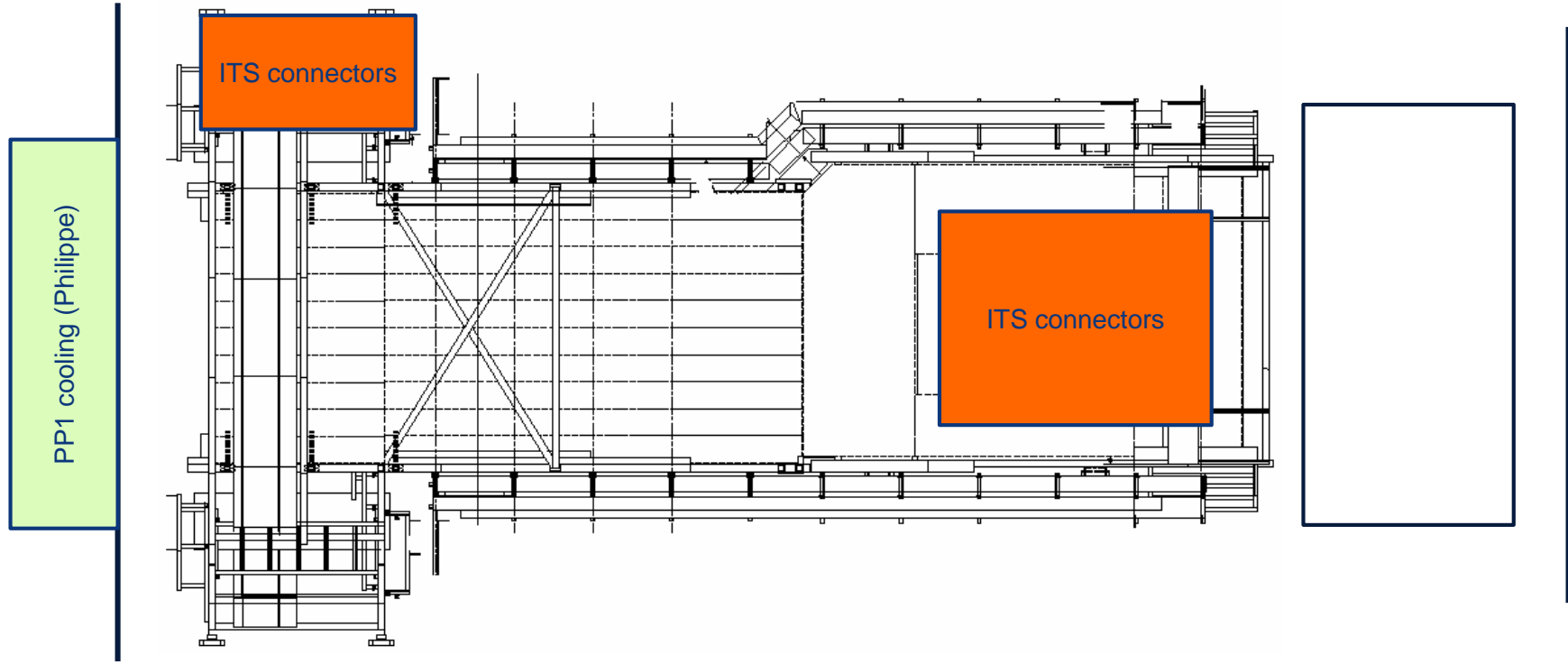
Miniframe activities w8 – Tue 18 Feb 2020



Miniframe activities w8 – Wed 19 Feb 2020



Miniframe activities w8 – Thu 20 Feb 2020



Miniframe activities w8 – Fri 21 Feb 2020

