# LS2 planning meeting A.Tauro





### Safety files

CERN

10.7.2020

- **HSE memo and instructions:** ٠
  - HSE Covid-19 directive EDMS 2370902 .
  - HSE Covid-19 directive contractors EDMS . 2373120

			DG/2020-10	3 EDMS : 2370402	1
DG/2020-103			DG/2020-10	S EDMS : 2370902 MÉMORANDUM	
	EDHS: 2370902 MEMORANDUM		De :	F. Gianotti, directrice générale D. Forkel-Wirth, chef de l'unité HSE	
	MEMORANDUM		۵.	Directoire élarai	
From:	Fabiola Gianotti, Director-General, 'Fabiola Gianotti		A:	Coordinateurs techniques des grandes expériences LHC	
Te:	Doris Forkel-With, Head of the HSE Unit @055 Todd_ With		Cc :	Président du SAPOCO, Présidente de l'Association du personnel, membres de HSE-MB, Président de l'ACCU	
	Technical Coordinators of the large LHC experiments,		Objet :	Mesures de santé et de sécurité relatives au COVID-19 pour la période de renéries des activités du CERN	
Cc: Ref:	SAPOCO Chair, President of SA, HSE-MB members, Chair of ACCU		Date :	5 mai 2020	
Ket	COVID-19-related health and safety measures for the period covering the restart of CERN's activities				
Date:	5 <sup>th</sup> May 2020		concernant cours de la	t mémorandum définit les principes généraux et les responsabilités t les mesures de santé et de sécurité relatives au COVID-19 applicables au a période de reprise progressive des activités à la suite de la mise en mode	
the COVID-1	nemorandum defines the general principles and responsibilities regarding 19-related health and safety measures applicable during the period of			u CERN en réponse à la pandémie de COVID-19. Il est complété par les s détaillées figurant à l'annexe 1, qui seront réexaminées régulièrement pour	
pandemic. It i	had restart following CERN's safe mode in response to the COVID-19 is complemented by detailed instructions given in Annex 1, which will be		tenir com réglementa	pte de l'évolution de la pandémie et des évolutions scientifiques et aires. Une fois le redémarrage du CERN mené à bien, les mesures de santé et	
regularly re-	anna ar adar aranan af dar and dar af dar analandr and ann adardfa	·	de sécu mémoral		
measures fo	05.05.2020 E	DM5 : 2373120 v.1	Conform	05.05.2020	FDM5 : 2373120 v.1
In accordan ensuring the	07070000		ont pour	03/02.020	000012010120111
Organisation	CERN Instruction on COVID-19 Health and Safety Me	easures for	sécurité ( présente	Instructions du CERN concernant les mesures de	santé et de
contractor's	contractors		d'entrepi	sécurité relatives au COVID-19 pour ce qui concerne	
States, by th Health Orga	CERN has defined specific COVID-19 related health and safety measure		recomma des États	contractantes	
Health Orga	CERN has defined specific COVID-19 related health and safety measure measures") applicable during the period of CERN's gradual restart following		internati	to see a second s	
The principl the planning	in response to the COVID-19 pandemic.		Les princ	Le CERN a défini des mesures spécifiques de santé et de sécurité rela après « mesures COVID-19 ») applicables au cours de la période de re	tives au COVID-19 (cl- porise progressive des
will require	In accordance with the CERN Safety Policy, the COVID-19 measures aim at possible protection in health and safety matters of all persons, independent		planificat	activités à la suite de la mise en mode sécurisé du CERN en réponse à la	
maintained.	participating in the Organization's activities or present on its site. The		pouvoir	<ol> <li>Conformément à la Politique de sécurité du CERN, les mesures CO</li> </ol>	MD-10 est neur but
	relevant regulations and recommendations issued by authorities or other		équivaler	d'assurer la meilleure protection possible en matière de santé et de	
1. General	of CERNs Host States or the European Union or by international bodies, Health Organization.	such as the World	1 1	personnes, quel que soit leur statut, qui participent aux activités de l	
The implem			1. Géné	présentes sur son domaine. Ces mesures tiennent compte des recommandations pertinentes émises par les autorités ou d'autres ors	
account the 1 89/391/EEC	The COVID-19 measures will apply as from the 5 <sup>th</sup> of May 2020 until they will be regularly reviewed to take account of the evolution of the pandem	(re revoked. They	La mise e	États hôtes du CERN, ou encore par l'Union européenne ou	
in the health	and regulatory developments related to COVID-19.	ic and of scientific	compte o	internationaux tels que l'Organisation mondiale de la santé.	
design of ap over collecti			89/391/0 mise en d	Les mesures COVID-19 s'appliqueront à compter du 5 mai 2020 et just	qu'à ce qu'elles soient
over collecti	Contractors shall ensure that the COVID-19 measures are taken into accor and execution of their activities at CERN and all relevant contractual safet be updated accordingly. Contractors shall ensure that their activities and	y documents shall	des trav	abrogées. Elles seront réexaminées régulièrement pour tenir compti pandémie et des évolutions scientifiques et réglementaires liées au CO	e de l'évolution de la
	with the COVID-19 measures. Compliance shall be monitored by CERN in ac			Les entreprises contractantes doivent veiller à ce que les mesures COV	ID-19 solent prises er
70002 v.1.8 status Rei OVID-19, health_safe	applicable procedures, it being understood that compliance with the CC shall be without prejudice to compliance with all other applicable Safety rul and with applicable national regulations, as the case may be.		EDMS 2279922 v.1.8 status Memo_COVID-19_Mesure	compte lors de la planification et de l'exécution de leurs activité documents de sécurité contractuels concernés doivent être adap entreorises contractantes doivent veiller à ce que leurs activités	s au CERN. Tous les tés en ce sens. Les
	1. Individual Responsibility			conforment aux mesures COVID-19. Le respect de ces règles sera conformément aux procédures applicables, étant entendu que Tapp COVID-19 est sans préluidre du respect des autres réales et procédure	lication des mesures
	Each person present on the CERN site shall comply with COVID-19 hereunder and any instruction given by CERN in relation to their implement			des règlementations nationales applicables, le cas échéant.	o o seconce una que
	1.1 Access to CERN:			1. Responsabilité individuelle	
	a) Contractor personnel shall come on-site only upon agreement with	CERN.		Toute personne présente sur le domaine du CERN doit se conformer a énoncées ci-après, ainsi qu'aux instructions données par le CERN con œuvre.	ux mesures COVID-19 Icemant leur mise en
	1.2 Hygiene measures:			1.1 Accès au CERN	
	<ul> <li>Masks<sup>1</sup> shall be worn indoors when other persons are present (share)</li> </ul>		I	a) Le personnel des entreprises contractantes ne peut venir su	r le domaine qu'avec
	can be encountered (public spaces). Masks shall also be worn outdi distance of two meters cannot be respected. Masks are co			laccord du CERN.	
	Protective Equipment (PPE) and shall be used and disposed of in ac			1.2 Mesures d'hyziène	
	relevant instructions.			a) Le port du masque est obligatoire' en intérieur guand d'a	trat personner cont
	b) Hand-shaking and other close contacts with colleagues are not allo	wed;		présentes (espaces de travail partagés) ou peuvent être croisée	
	<sup>1</sup> Unless otherwise specified, or where a risk assessment has concluded differently, mask at minimum surgical masks of type 1 according to EN 3483 standard	s to be worn shall be		Sauf indication contraire, ou si une évaluation des risques a abouti à une conclusion porter sont au minimum des masques chirurgicaux de type 1 conformes à la norme E	différente, les masques à N 14683.
	CDMS 2373120 v.1.00 status Released access Public CERN_COVID_Instructions_contractors_EN.pdf modified 2020-05-13 14:04			EDVG 2273120 v.1.00 status Released access Public CERN_COVID_Instructions_contractants_FR.pdf modified 2020-06-13 14.04	
			12		
		_			
	EN version	S		FR versio	ns



#### LS2 planning meeting

## HSE memo and instructions:

**Safety files** 

- HSE Covid-19 directive EDMS 2370902
- HSE Covid-19 directive contractors EDMS 2373120
- HSE FAQ: https://hse.cern/content/faq-covid-19

Health and Safety	
Hygiene	
How do I eliminate my waste linked to COVID-19?	+
How should workstations that are used successively be cleaned (in labos or workshops for example)?	+
How often do we need to clean/disinfect workshops and laboratories?	+
For machines and devices, what disinfectant should be used to avoid damaging material, paint, plastic? How do I apply it?	+
What SCEM code should I use to order these bins?	+







### **Safety files**

- HSE memo and instructions:
  - HSE Covid-19 directive EDMS 2370902
  - HSE Covid-19 directive contractors EDMS 2373120
- HSE FAQ: https://hse.cern/content/faq-covid-19
- ALICE specific instructions:
  - EDMS 2369007

	ALICE TC -	Safety Office
EDMS Document No: 236	9007 Created: 06.05.2020	Page: 1 of 7
	Modified:	Rev. No.: 0.8
	on of the General Safety Insi to the COVID19 Hazard for t	
Prepared by:	Checked by:	Approved by:
K. Barth , EP-AIO	A. Augustinus, EP A. Tauro, EP C. Gargiulo, EP	W. Riegler, EP
	Distribution List	
	ALICE Members	



## **Safety files**

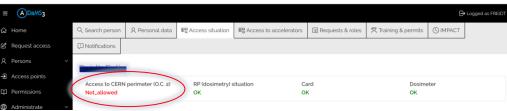
- HSF memo and instructions: •
  - HSE Covid-19 directive EDMS 2370902 .
  - HSE Covid-19 directive contractors EDMS . 2373120
- HSE FAQ: https://hse.cern/content/faq-covid-19 •
- ALICE specific instructions: ٠
  - EDMS 2369007 .
- Mandatory to come to CERN: ٠
  - **Covid-19 safety course** • https://learninghub.cern.ch
  - Valid IMPACT .

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:ÉRN

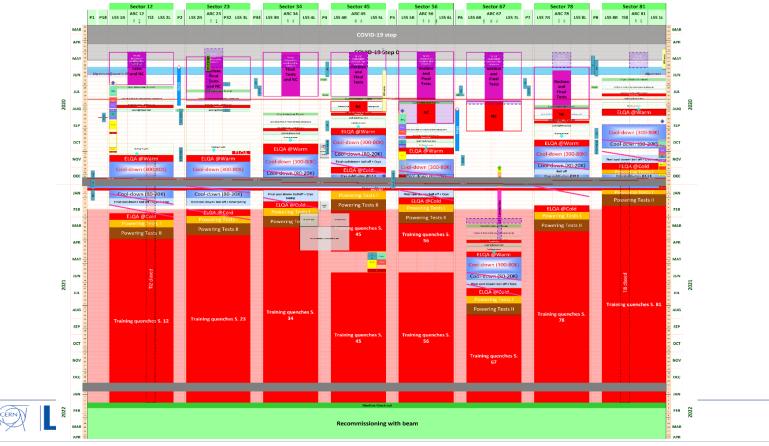
Being in ALICE white list (check O.C. 2 in . ADAMS)







### LHC LS2 Baseline V2.5 FRAME 12th June LHC-PM-MS-0018 V.2.5



10.7.2020

CERN

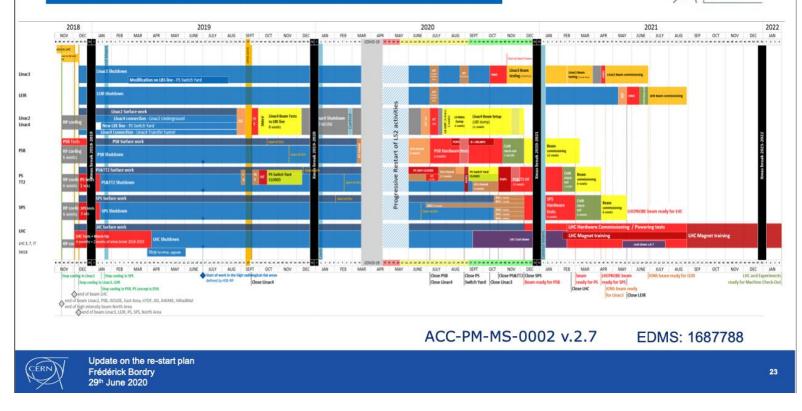
#### LS2CS220620200Marziali Bernardini



LS2 2015 2020

Coordination

### LS2 Master Schedule V2.7 approved on 12th June 2020





### **Detector installation sequence v41**



- Schedule v41:
  - 3 additional weeks in July for TPC x-ray tests
  - TPC moved to SX2 on August 4<sup>th</sup>
  - Cage insertion test done in the UX25 cavern instead of SXL2 cleanroom
  - 16w global commissioning at the end (7 June to 24 September 2021)
- RB24 beampipe reinstalled by end May 2021  $\rightarrow$  OK to inject low intensity beam by September 2021
- This plan foresees 1 and 4 months contingency with respect to the LS2 end date of 1<sup>st</sup> November 2021 and 1<sup>st</sup> February 2022 respectively

GADT			2020		2021	2022
Begin date	End date	Dur	Mar Apr	May Jun Jul Aug Sep Oct Nov	Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct	Nov Dec Jan Feb Mar Apr May Jun Jul
6/3/19	31/7/20	368		TPC upgrade		
7/1/19	23/11/20	491			Work on services	v41
4/8/20	27/11/20	84			h Reinstall TPC/beampipe/Miniframe	
30/11/20	22/1/21	40		1	Install FIT-C and MFT	
25/1/21	16/4/21	60			nstall ITS	
19/4/21	23/4/21	5			Ĩ <u>h</u> FIT−A	
26/4/21	4/6/21	30		Aug 4 <sup>th</sup> : move TPC to	ITS-MFT-FIT commissioning	
7/6/21	24/9/21	80		SX2	ALICE	Global Commissioning
1/11/21	1/11/21	0			1m •	LS2 end 1st November
1/2/22	1/2/22	0			→	4m S2 end 1st February (baseline)

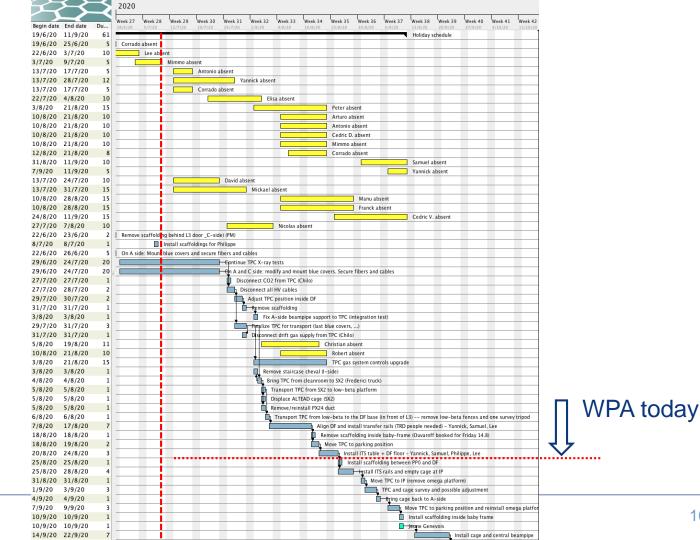


## **TPC/beampipe/Miniframe reinstallation sequence (v41)**

202	20	
Begin date End date Du	August September October November December	
29/6/20 24/7/20 20	Continue TPC X-ray tests	
29/6/20 24/7/20 20	- On And C side: working and mount blue covers. Secure fibers and cables	
27/7/20 27/7/20 1	Disconnect CO2 from TPC (Chilo)	
27/7/20 28/7/20 2	h Disconnect all HV cables	
29/7/20 30/7/20 2	Adjust TPC position inside DF	
31/7/20 31/7/20 1	Remove scaffolding A-side	Jun 29 <sup>th</sup> - Jul 31 <sup>st</sup> - complete TPC commissioning, X-ray tests, pack TPC
29/7/20 31/7/20 3	T finalize TPC for transport (last blue covers,)	
31/7/20 31/7/20 1	🖬 disconnect drift gas supply from TPC (Chilo)	
3/8/20 21/8/20 15	TPC gas system controls upgrade	
3/8/20 3/8/20 1	Fix A-side beampipe support to TPC (integration test)	
3/8/20 3/8/20 1	Remove staircase cheval (I-side)	
4/8/20 4/8/20 1	H Bring TPC from cleanroom to SX2 (Frederici truck)	Aug 4 <sup>th</sup> - transportation TPC to SX2
5/8/20 5/8/20 1	Transport TPC from SX2 to low-beta platform	
5/8/20 5/8/20 1	Displace ALTEAD cage (SX2)	
5/8/20 5/8/20 1	🗓 Remove/reinstall PX24 duct	
6/8/20 6/8/20 1	Transport TPC from low-beta to the DF base (in front of L3) remove low-beta fences and one survey tripod	
7/8/20 17/8/20 7	Align DF and install transfer rails (TRD people needed) – Yannick, Samuel, Lee	
18/8/20 18/8/20 1	Remove scaffolding inside baby-frame (Ouvaroff booked for Friday 14.8)	Aug 5th - Sep 9th - reinstall TPC
18/8/20 19/8/20 2	Move TPC to parking position	
20/8/20 24/8/20 3	Install ITS table + DF floor - Yannick, Samuel, Philippe, Lee	<ul> <li>cage insertion test, TPC moved to IP, adjusted and put back to</li> </ul>
25/8/20 28/8/20 4	ITS rails and empty cage at IP	parking position
31/8/20 31/8/20 1	h Move TPC to IP (remove omega platform)	
1/9/20 3/9/20 3	TPC and cage survey and possible adjustment	
4/9/20 4/9/20 1	Fring cage back to A-side	
7/9/20 9/9/20 3	Move TPC to parking position and reinstall omega platform	
10/9/20 10/9/20 1	Install scaffolding inside baby frame	
10/9/20 10/9/20 1	- jaune Genevois	
14/9/20 22/9/20 7	Install cage and central beampipe	Sep 14 <sup>th</sup> - Oct 9 <sup>th</sup> install cage and central beampipe
23/9/20 29/9/20 5	Connect and align beampipe	
30/9/20 9/10/20 8	Bakeout central beampipe	
8/10/20 8/10/20 1 12/10/20 15/10/20 4	Glean and repair heat screens	Oct 12 <sup>th</sup> - 15 <sup>th</sup> - move TPC to IP - start connection TPC
16/10/20 28/10/20 9	Move TPC to IP (renove omega and scaffolding)	
29/10/20 29/10/20 1	nstall A-side beampipe support, remove ITS	
30/10/20 2/11/20 2	Remove transfer rails	
3/11/20 4/11/20 2	Remove transfer rais	Oct 40th New 10th preserve miniference installation
5/11/20 5/11/20 1	Remove DF (along with it's table)	Oct 16 <sup>th</sup> - Nov 12 <sup>th</sup> - prepare miniframe installation
6/11/20 9/11/20 2	Install miniframe rails	
10/11/20 12/11/20 3	Install laser platform	
9/11/20 9/11/20 1	Reinstall TPC VHV box and lase:	
13/11/20 17/11/20 3	Install miniframe	Nov 13 <sup>th</sup> - 17 <sup>th</sup> - reinstall miniframe
,,20,22,20		

10.7.2020

#### LS2 planning meeting





## Key dates



Activity	v36 (pre-Covid)	v39 (June TB)	v41		
Open cleanroom roof, cage insertion test	16 Mar 2020	29 Jun 2020	• • •		
Move TPC to SX2	6 Apr	21 Jul	4 Aug		
Install TPC (parking position)	7 – 30 Apr	22 Jul – 31 Aug	5 Aug – 9 Sep		
Install cage and central beampipe	4 May – 1 Jun	1 – 30 Sep	14 Sep – 9 Oct		
Move TPC to IP	2 – 4 Jun	1 – 6 Oct	12 – 15 Oct		
Install Miniframe	25 – 26 Jun	4 – 6 Nov	13 – 17 Nov		
FDD-C installation	First half Aug	Before	e 6 Nov*		
FDD-A installation	1 – 10 Sep	30 Nov – 7 Dec	4 – 11 Jan 2021		
MFT & FIT-C installation and checks	30 Jun – 10 Aug	16 Nov – 8 Jan 2021 Disconnect MFT 12 Oct	<b>30 Nov – 22 Jan</b> Disconnect MFT 26 Oct		
ITS installation and checks	11 Aug – 2 Nov	11 Jan – 2 Apr Disconnect ITS 5 Oct	25 Jan – 16 Apr Disconnect ITS 12 Oct or 26 Oct (+2w installation)		
FIT-A installation	3 – 9 Nov	5 – 9 Apr	19 – 23 Apr		
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 May 2021 0 months	1 Feb 2022 4.5 months	1 Feb 2022 4 months		
End of LS2 – stop UX25 access (option 1) Contingency option 1	-	1 Nov 2021 1.5 months	1 Nov 2021 1 month		

\* Requires LHC tunnel access → to be done before cool down S23 (starting in w46 2020) or between w1 and w5 2021



## CR3 status (A.Augustinus)



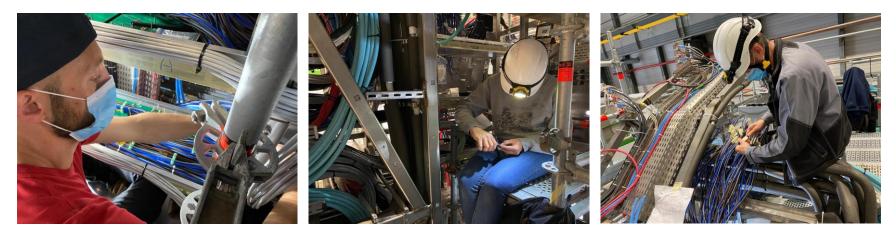
- February
  - Modify water circuit (add TA valves CR3 and CR4) kept DCS up and running DONE (10.02 21.02)
  - Additional rack installed for extension of main network starpoint outside CR2
  - Arrival of new racks (25.02)
  - Installation 1<sup>st</sup> row of racks (26.02)
- March, April, May
  - COVID 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 week 28
  - Reconnection new racks to electricity week 29
  - Installation of network infrastructure (some network interruptions to be foreseen, details to be defined with IT-CS) dates t.b.c.
    - Working on alternative, temporary, network solution available in August to not delay commissioning of new servers too much
  - Migration from old servers to new servers (first central systems, then detector systems)
- October November
  - Removal of old servers and last old racks



## **Cabling progress**



- EN-EA cabling team back at work since May 18 (5 people 100% dedicated to ALICE)
- Currently working 3d/w in miniframe and 2d/w in UX25 cavern
- 1<sup>st</sup> cabling campaign (500kCHF) started in March 2019 completion by mid July 2020
- 2<sup>nd</sup> cabling campaign (120kCHF) started in May 2020:
  - 80% cable pulling by end July
  - Assembly connectors in Miniframe in August (reduced team)
  - Complete connectors and test: September October





## **Cabling: new planning**



	2020																									
	Week 26	Week 27	Week 28	Week 29	Week 30	0 Week 31	Week 32	Week 33	Week 34	Week 35	Week 36	Week 37	Week 38	Week 39	Week 40	Week 41	Week 42	Week 43	Week 44	Week 45	Week 46	Week 47	Week 48	Week 49	Week 50	Week 51 W
Begin date End date Du	21/6/20	28/6/20	5/7/20	12/7/20	19/7/20	26/7/20	2/8/20	9/8/20	16/8/20	23/8/20	30/8/20	6/9/20	13/9/20	20/9/20	27/9/20	4/10/20	11/10/20	18/10/20	25/10/20	1/11/20	8/11/20	15/11/20	22/11/20	29/11/20	6/12/20	13/12/20 20
1 1 2 21 1 2	09		MNF: ITS o		_			_			_	_	_											_		
6/7/20 15/7/20	8			,	MNF: ITS c	ables test (l	etween PP	) and PP1)																_		
22/6/20 10/11/20 1	02				_			_		_		_			_		_	_		_	Se	cond cablin	g campaign	_		
22/6/20 30/6/20	7	ITS	DSS cables I	_				_				_	_											_		
6/7/20 7/7/20	2			_		oling plant an	d PPO																			
8/7/20 10/7/20	3			MNF: ITS	& MFT PS	cables																				
13/7/20 14/7/20	2			MI	FT cables	between coo	ling plant a	nd PP0					_													
14/7/20 14/7/20	1			📕 FD	D C32 to	FDD-C signa	l cables						_													
15/7/20 15/7/20	1			<b>i</b> ,	MNF: BCM	l cables																				
16/7/20 17/7/20	2		- i	<b>i</b>	TPC ca	bles betwee	n TPC-A sid	e and minifr	ame (part 1	/2)																
20/7/20 21/7/20	2		1		i i i i i i i i i i i i i i i i i i i	FDD cables f	om CR4 to	DD-C																		
22/7/20 23/7/20	2				i i	FDD cable	s CR4 to C3	2-34																		
27/7/20 28/7/20	2					<b>—</b> 1 8	CM cables I	etween CR4	and PP0																	
29/7/20 31/7/20	3		- i				FDD cab	les from CR	4 to PPO																	
3/8/20 3/8/20	1		1				TP	cable betw	een A06 an	d C15																
3/8/20 6/8/20	4							MNF: ITS D	SS connecto	ors																
17/8/20 26/8/20	8										MNF: ITS PS	connectors	+ test													
31/8/20 1/9/20	2		- i								<u>ι</u> Π	S cables be	tween CR4 a	nd A03												
2/9/20 3/9/20	2										<u> </u>	MFT cable	s between c	ooling plant	and MFT C	-side										
7/9/20 16/9/20	8													Connectors a	and test ITS	DSS cables	in CR4, PP0	and A03								
21/9/20 23/9/20	3														Connectors a	nd test MF	T PS cables	in UX25 and	miniframe							
25/9/20 25/9/20	1														BCM CR4	connectors										
28/9/20 29/9/20	2														BC	M connecto	ors and test	in PP0								
29/9/20 6/10/20	6															L FD	D connecto	rs and test								
7/10/20 15/10/20	7																	ITS PS conn	ectors and	test UX25 a	nd minifram	ne				
19/10/20 20/10/20	2		1															ZE	M connecto	rs PP0						
5/11/20 10/11/20	4																				h TP	C cables be	tween TPC-	A side and	miniframe (	part 2/2) + tes
11/11/20 16/11/20	4																					h FIT-	A connector	s (cables fr	om C-side r	acks)
17/11/20 19/11/20	3																						FIT-A cable	es test (cab	les from C-	side racks)
	60		- i														Wiener L	VPS cooling	consolidati	on						



### **Cabling progress**





## **EN-EL interventions**



- 18kV, 3.3kV and LV network maintenance: 20-24 Jan 2020 Done
- AUG P2: Monday 27 January 2020 Done
- Auto transfer test: 17 July 2020 → not affect LHC (we will be repowered from the machine network)
- Test secours (10 min at 6:00 AM): 30 July 2020
  - Will cut everything that is not on UPS (max. 10 minutes CERN-wide cut)
  - At P2 the racks in UX and CR are not affected, nor CR0
  - Only general services will be cut
  - This will affect all P2 buildings including SX2 and SXL2 (cleanroom)
  - Services like gas, circulation of mixed and iced water and ventilation will be affected
  - As this is CERN-wide, also offices, labs etc. in Meyrin will be affected.
- AUG Meyrin (zone administrative): 4 Sep 2020 (tbc)



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

ALICE

- 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 ordered but not yet received
  - Optical measurement fibers SR2-SX2
- To be done:
  - Test HMPID fibers (probably 13.7)
  - Installation 6 trunk cables between IT1-IT2 (CR0) → Sept-Oct
  - Cleaning TRD trigger fibers connectors and replacement of damaged ones
  - Installation TPC optical fiber in the cavern between A and C-sides
  - Unfold and connect ITS and TPC trunk cables → after Miniframe installation in November



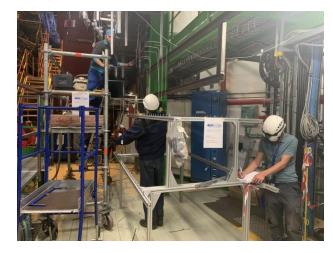




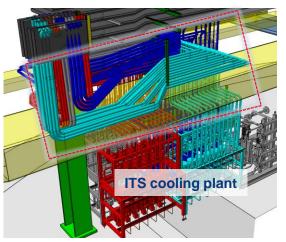
## **ITS and MFT inox pipes**



- Work restarted in June: finalize ITS and MFT connections to cooling plant
- Rampower pipework will take ~2 more weeks
- Installation of 8 MFT pipes (MFT RO crates) will be done by ALICE technicians (Philippe, Cedric)
- P test of all lines will be done by ALICE technicians (Philippe, Cedric)
- Verified ITS cooling plant installation sequence (transport at Meyrin, P2, installation in the pit)







Remaining pipework to be done



### **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) not done

#### 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

  - MCH and MTG: Mon-Thu w3/2020
  - \* L3: need to replace extractor  $\rightarrow$  2 days stop  $\rightarrow$  will cut flammable gases (maybe in week 17) Done
  - 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.



### **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, C10, C37, C39
  - TOF: O03, O04, O05, O30, O31, O32, I03, I04, I05, I30, I31, I32
  - TRD: 006, 008, 026-29, 106, 108, 126-29, 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)
- 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 tbc)
- BIW test: no access underground on 5 and 6 Oct 2020 from 18:00 to 00:00

#### 2021:

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



## Work regie des eaux Gessiennes





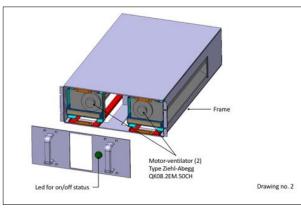
- Dans le cadre du renouvellement du réseau d'assainissement des eaux usées, mené par la Régie des Eaux Gessiennes à SAINT-GENIS-POUILLY, le chemin de la Tatte sera en travaux à compter du 22/06/2020 et pendant les mois de juillet et août 2020.
- Il est prévu de maintenir l'accès au point 2 ALICE pendant toute la durée du chantier. Vous êtes toutefois invité à la réunion de chantier du mercredi 24/06/2020 à 14h00.
- → Access to P2 won't be blocked at any time ←



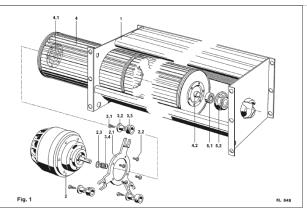
## New rack turbines



- All 85 units (200kCHF) ordered: <a href="https://edh.cern.ch/Document/SupplyChain/MAG/8289388">https://edh.cern.ch/Document/SupplyChain/MAG/8289388</a>
- Technical specifications: EDMS 1963491
- ALICE units will be made available from end-August 2020
- Installation immediately afterwards, transparent for users (ALTEAD + P2 tech.)



Ventilation unit front view



Pluggable motor



## **Consolidation Wiener LVPS**



193 water cooled power supplies in total (LV and VME)
14 MCH LVPS already shipped to EN-EA
Rework in batches (1/week), to be started in the coming days:
1. Disconnection and deinstallation $\rightarrow$ detectors
2. Conditioning $\rightarrow$ ALTEAD + P2tech
3. Transport to EN-EA (Meyrin)
<ol> <li>Rework and test → EN-EA + P2tech (Evgeny and Philippe)</li> </ol>
5. Transport to P2
6. Reinstallation $\rightarrow$ detectors

- Preliminary plan is to start week 30, finishing end September, early October •
  - Andre will contact each detector to establish a detailed planning



6 modules Wiener LVPS



Training with Wiener (June 4<sup>th</sup>)



Repair campaign in 2016

	LV	VME
СТР		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



10.7.2020

## IMPACT list (1/2)



Activity	Status	Resp. Group	Facility	System	Title
156563 ↓ ⇒	In progress	EP-UAI	Alice	TPC	TPC Upgrade in the SXL2 cleanroom (Covid Restart Phases 1 and 2)
156549 ↓ ⇒	Approved	BE-ICS-AS	Alice	S - General Safety	Annual Maintenance Red Emergency Phones (Point 2 - ALICE)
156519 ↓ ⇒	In progress	EN-EA-AS	Alice	Tech. Infrastructure	ALICE - Cabling activities EA - connectors assembly
156496 ↓ ⇒	In progress	EP-UAI	Alice	TPC	CR1 - add additional server to TPC setup
156490 ↓ ⇒	In progress	EP-UAI	Alice	HLT	CR0 - Infiniband cable tests and installation preparations
156451 ↓ ⇒	In progress	EP-UAI	Alice	TOF	TOF DRM2 installation
156378 ↓ ⇒	In progress	EP-UAI	Alice	Muon Tracker	ALICE MUON TRACKING: work in cavern (renewal)
156248 ↓ ⇒	In progress	EN-EA-AS	Alice	Tech. Infrastructure	ALICE - Cabling activities EA - tests HV cables TPC miniframe-UX25
156087 ↓ ⇒	In progress	EP-DT-FS	Alice	TRD	ALICE TRD recuperation volume pressure test
156058 ↓ ⇒	In progress	SMB-SE-CBS	Alice	Other	Ajustement plaque Sol
156027 ↓ ⇒	Approved	EN-EL-EPM	Alice	Electricity	Alimentation Rack Startpoint
155951 ↓ ⇒	Approved	EP-UAI	Alice	Muon Trigger	MID readout crate installation INSIDE
155929 ↓ ⇒	In progress	EP-UAI	Alice	CTP	Installation of CTP upgrade
155832 ↓ ⇒	In progress	TE-VSC-BVO	Alice	Beam pipe	Maintenance of the LHC beam vacuum Gas Injection System
155802 ↓ ⇒	In progress	EN-EA-AS	Alice	Tech. Infrastructure	ALICE - Cabling activities EA - tests HV cables TPC C side
155781 ↓ ⇒	Approved	EN-HE-HEM	Alice	Lifts	PX24 ALICE JULY LIFT MAINTENANCE
155767 ↓ ⇒	Approved	EN-HE-HEM	Alice	Lifts	PX24 L3 JULY LIFT MAINTENANCE
155616 ↓ ⇒	In progress	EN-EA-AS	Alice	Tech. Infrastructure	ALICE - Cabling activities EA - pulling cables
155550 ↓ ⇒	In progress	EP-AIO	Alice	DAQ	CR1 Network Equipment reception
155340 ↓ ⇒	▲ In progress	EP-AIO	Alice	Other	Miniframe modification TC technicians



## IMPACT list (2/2)

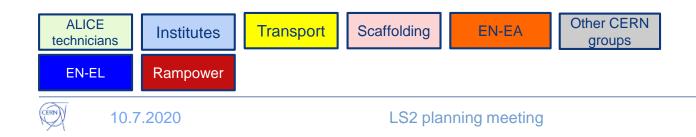


Activity		Status	Resp. Group	Facility	System	Title
155104 ↓ ⇒		In progress	EP-UAT	Alice	SCT	ATLAS SCT 48V power supply development
155100 ↓ ⇒		In progress	EP-UAT	Alice	SCT	ATLAS SCT 48V power supply development
154732 ↓ ⇒		In progress	EP-UAI	Alice	Other	the data analysis
154675 ↓ ⇒		In progress	EP-DT-DI	Alice	Solenoid (L3)	ALICE -Magnet Control System upgrade
154510 ↓ ⇒		In progress	EP-AIO	Alice	Other	TSO access to bldg 301/160/161
154490 ↓ ⇒		In progress	EP-UAI	Alice	TRD	TRD Wiener PSUs labelling and disconnection
154395 ↓ ⇒		In progress	EP-UAI	Alice	TPC	CR1 access during TPC Upgrade in the cleanroom (Covid Restart Ph
154283 ↓ ⇒		In progress	EP-ADE-TK	Alice	X - Experimental and	FASER Tracker Plane Commissioning
153997 ↓ ⇒		In progress	EP-UAI	Alice	Other	MFT activities (Covid Restart Phase 1)
153782 ↓ ⇒		In progress	EP-DT-EO	Alice	ITS (all)	Cage interface verification in the SXL2 (Covid Restart Phase 1)
100000 1						
153523 ↓ ⇒		In progress	EP-AID-DC	Alice	Other	Racks modification TC technicians
153523 ↓ ⇒ 153269 ↓ ⇒		In progress In progress	EP-AID-DC EP-UAI	Alice	Other EMCAL	Racks modification TC technicians EMCAL FEE testing/validation in EMCAL lab
153269 ↓ ⇒		In progress	EP-UAI	Alice	EMCAL	EMCAL FEE testing/validation in EMCAL lab
153269 ↓ ⇒ 152746 ↓ ⇒	<u>^</u>	In progress In progress	EP-UAI EP-AID-DC	Alice Alice	EMCAL DCS	EMCAL FEE testing/validation in EMCAL lab DCS activities on-site
153269 ↓ ⇒ 152746 ↓ ⇒ 152524 ↓ ⇒	▲	In progress In progress In progress	EP-UAI EP-AID-DC EP-UAI	Alice Alice Alice	EMCAL DCS DAQ	EMCAL FEE testing/validation in EMCAL lab DCS activities on-site Installation of DAQ services
$153269 \Downarrow \Rightarrow$ $152746 \Downarrow \Rightarrow$ $152524 \Downarrow \Rightarrow$ $151348 \Downarrow \Rightarrow$		In progress In progress In progress In progress	EP-UAI EP-AID-DC EP-UAI EP-AIO	Alice Alice Alice Alice	EMCAL DCS DAQ ITS (all)	EMCAL FEE testing/validation in EMCAL lab DCS activities on-site Installation of DAQ services Installation inox pipes (Rampower)
$153269 \Downarrow \Rightarrow$ $152746 \Downarrow \Rightarrow$ $152524 \Downarrow \Rightarrow$ $151348 \Downarrow \Rightarrow$ $147068 \Downarrow \Rightarrow$		In progress In progress In progress In progress In progress	EP-UAI EP-AID-DC EP-UAI EP-AIO EP-AID-DC	Alice Alice Alice Alice Alice	EMCAL DCS DAQ ITS (all) DCS	EMCAL FEE testing/validation in EMCAL lab DCS activities on-site Installation of DAQ services Installation inox pipes (Rampower) DCS/DSS support interventions LS2 (2020)
153269 $\Downarrow$ $\Rightarrow$ 152746 $\Downarrow$ $\Rightarrow$ 152524 $\Downarrow$ $\Rightarrow$ 151348 $\Downarrow$ $\Rightarrow$ 147068 $\Downarrow$ $\Rightarrow$ 146929 $\Downarrow$ $\Rightarrow$		In progress In progress In progress In progress In progress In progress	EP-UAI EP-AID-DC EP-UAI EP-AIO EP-AID-DC SMB-SSL-CS	Alice Alice Alice Alice Alice Alice	EMCAL DCS DAQ ITS (all) DCS Other	EMCAL FEE testing/validation in EMCAL lab DCS activities on-site Installation of DAQ services Installation inox pipes (Rampower) DCS/DSS support interventions LS2 (2020) Nettoyage caverne Alice et sanitaires





## Day-by-day sequence w28



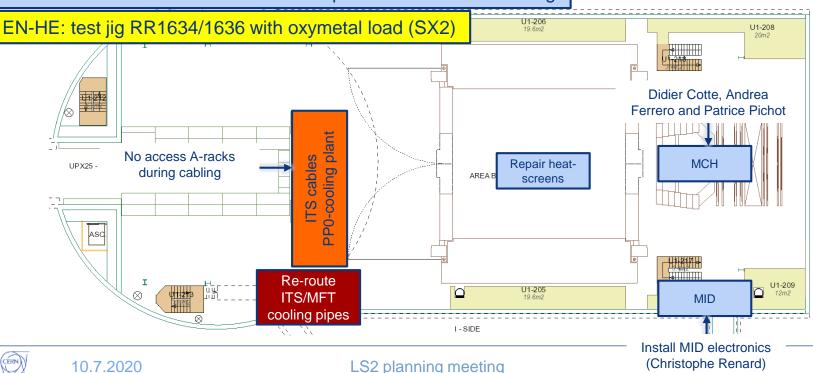
## UX25 activities w28 – Mon 6 Jul 2020

Replacement PM25 lift (until 7 August) → LHC access via ALICE (PX24)

CR0 - Infiniband cable tests and installation preparations

CR1 - add additional server to TPC setup for HV current monitoring



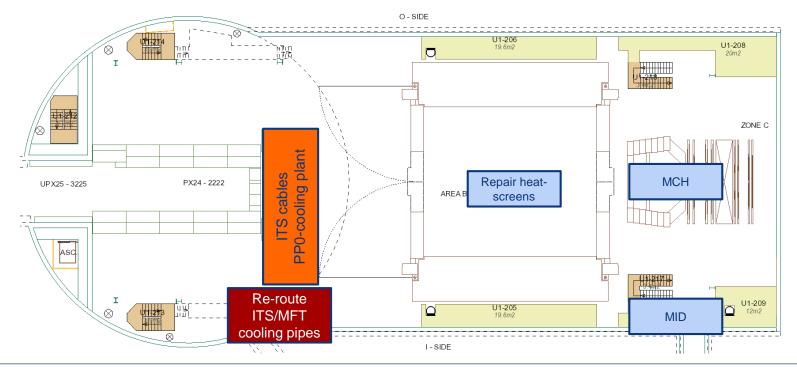


## UX25 activities w28 – Tue 7 Jul 2020



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

CR0: install emergency lights, maintenance cooling units and other small works (Automation) (whole week)

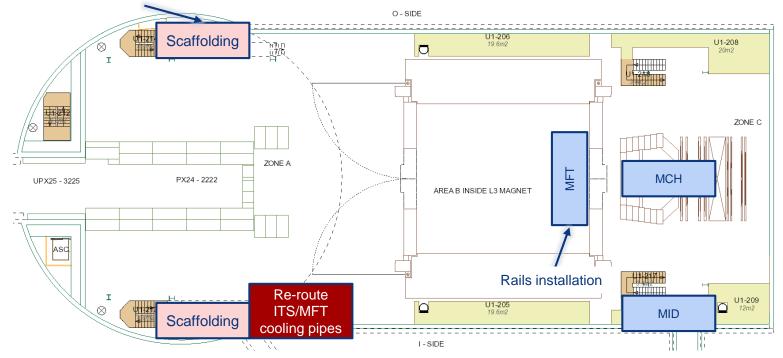




## UX25 activities w28 – Wed 8 Jul 2020



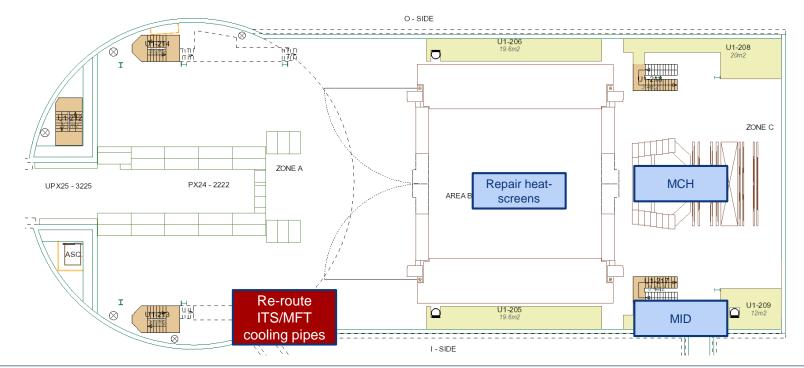
Un échafaudage cote O, cote A, niveau 2. Un échafaudage mobile jonction coté I, rack A side, niveau 0 Portillon temporaire sur crinoline niveau 7/8





## UX25 activities w28 – Thu 9 Jul 2020

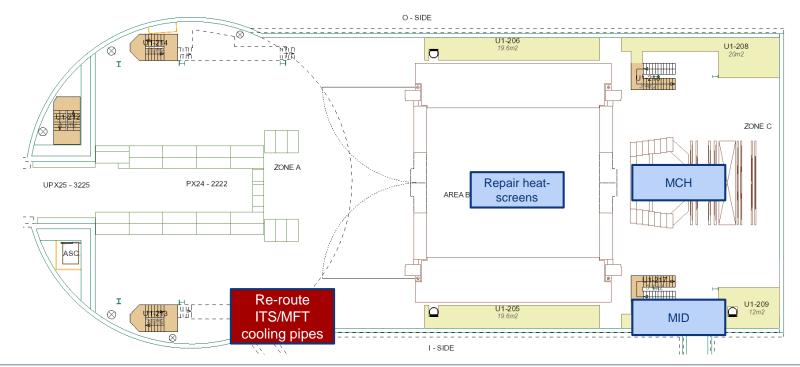






## UX25 activities w28 – Fri 10 Jul 2020







## SXL2 activities w28 – Mon 6 Jul 2020

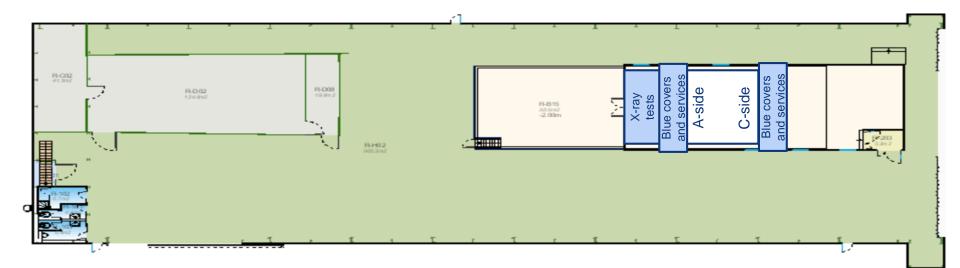






## SXL2 activities w28 – Tue 7 Jul 2020

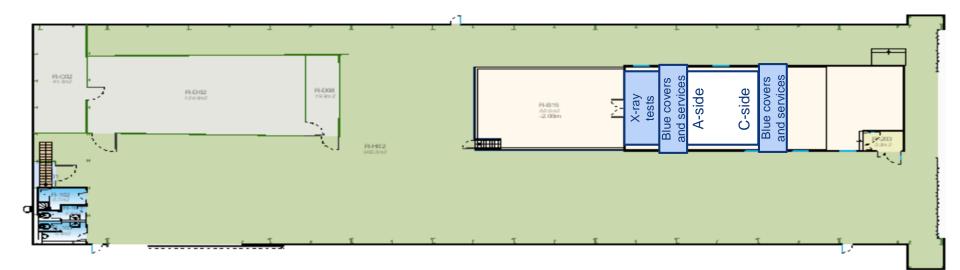






## SXL2 activities w28 – Wed 8 Jul 2020

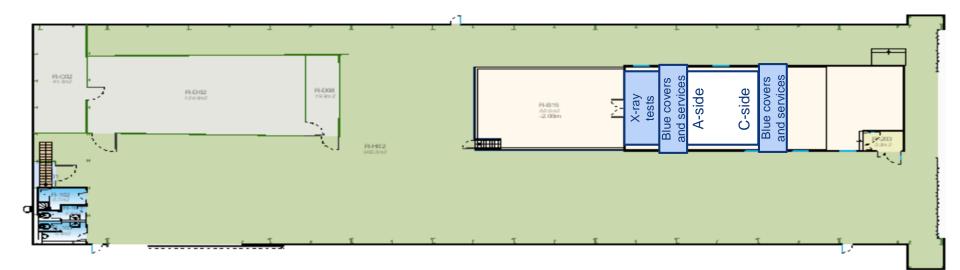






## SXL2 activities w28 – Thu 9 Jul 2020

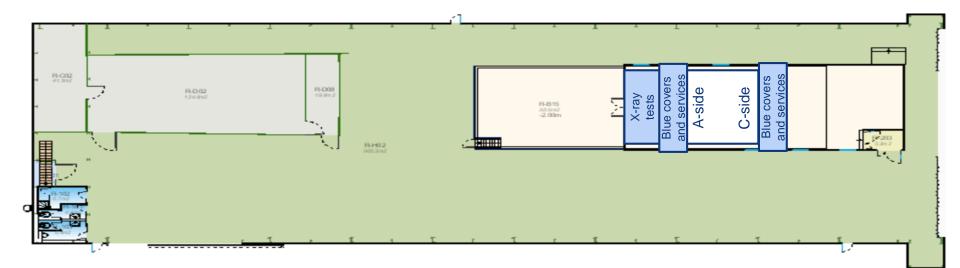






## SXL2 activities w28 – Fri 10 Jul 2020



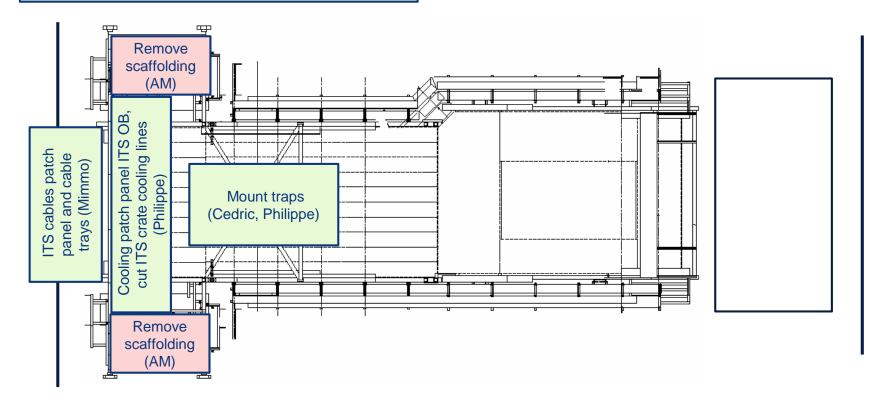




# Miniframe activities w28 - Mon 6 Jul 2020



Assemble ITS air manifolds (Philippe, Cedric)

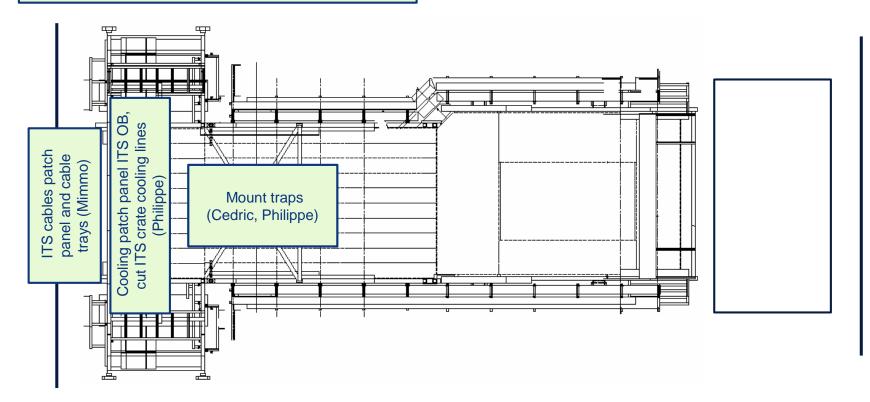




# Miniframe activities w28 - Tue 7 Jul 2020



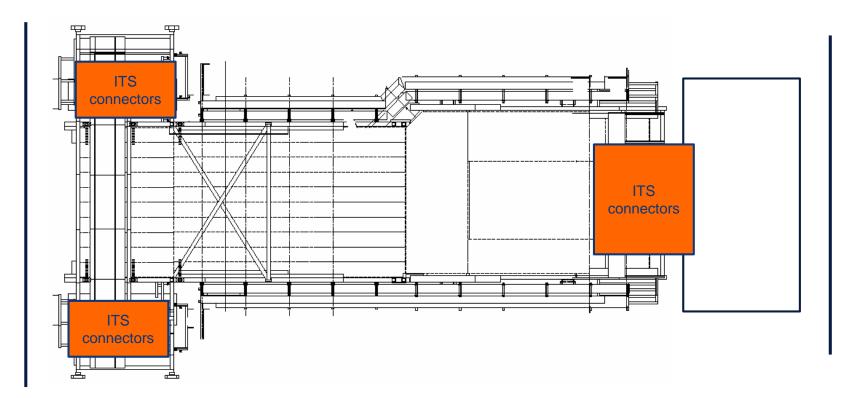
Assemble ITS air manifolds (Philippe, Cedric)





# Miniframe activities w28 – Wed 8 Jul 2020

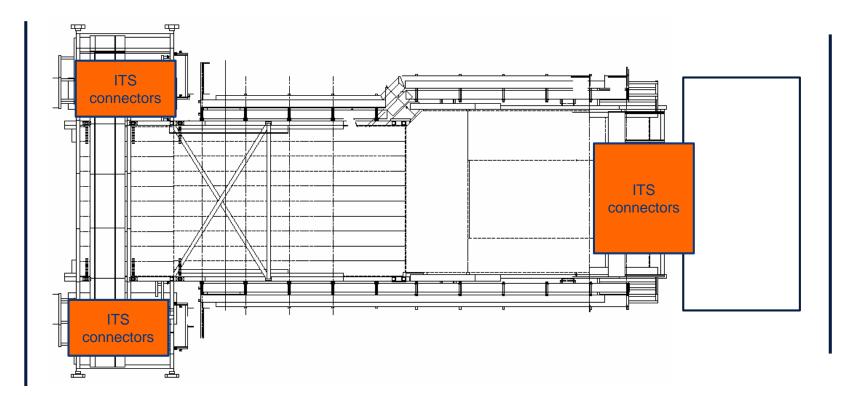






# Miniframe activities w28 – Thu 9 Jul 2020

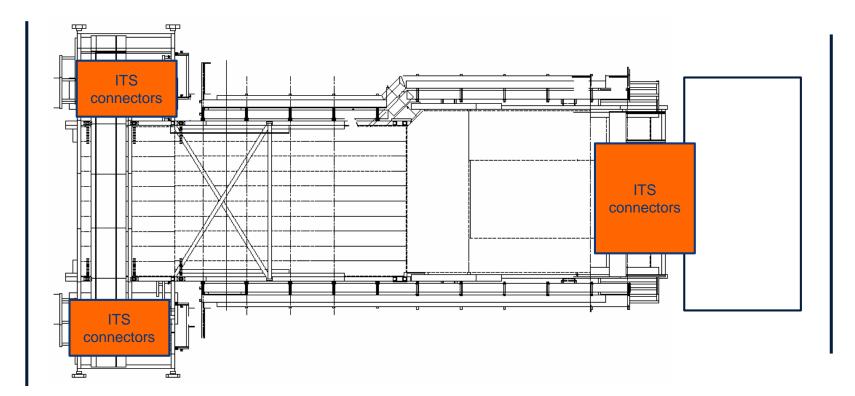






# Miniframe activities w28 – Fri 10 Jul 2020









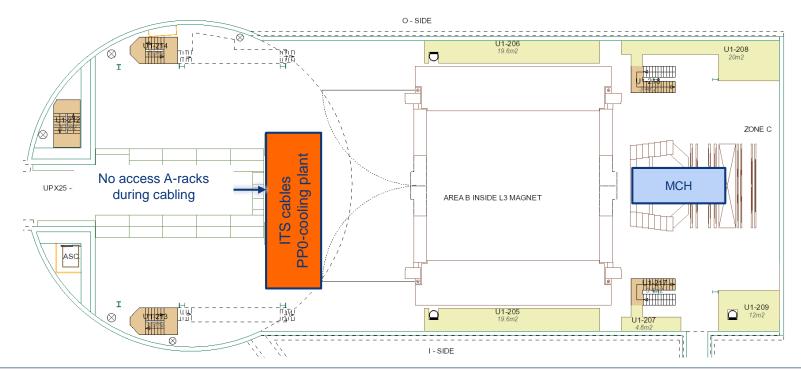
# Day-by-day sequence w29



# UX25 activities w29 – Mon 13 Jul 2020



Replacement PM25 lift (until 7 August) → LHC access via ALICE (PX24)

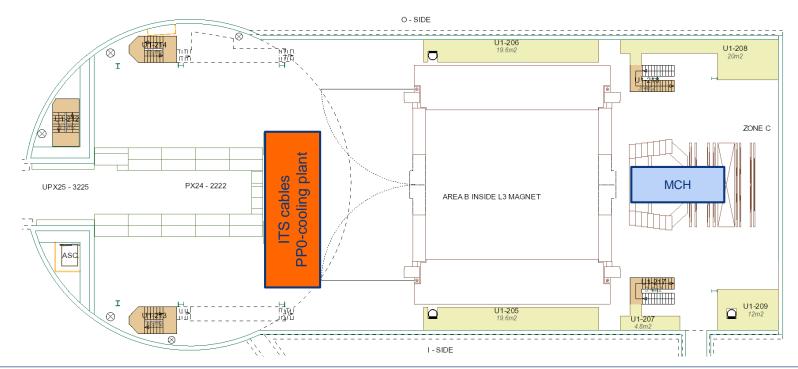




## UX25 activities w29 – Tue 14 Jul 2020



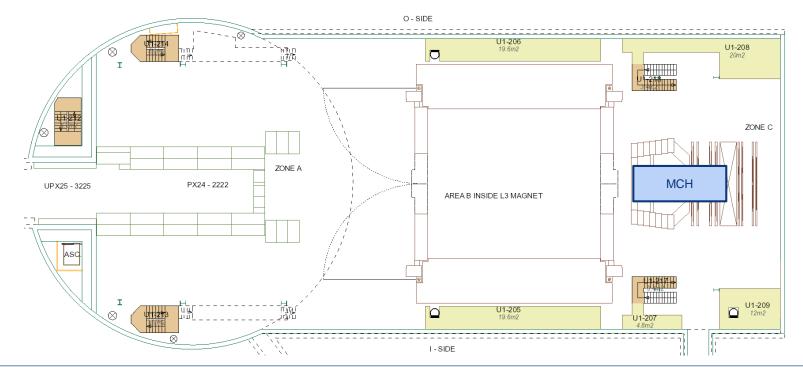
Cleaning cavern (Topnet): 13:00 to 15:00





## UX25 activities w29 – Wed 15 Jul 2020

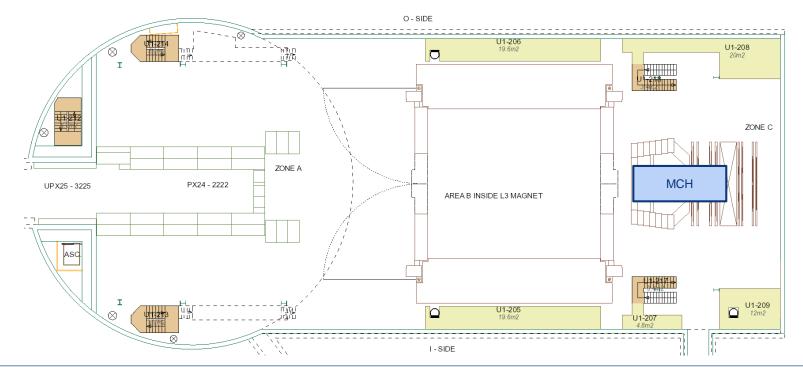






## UX25 activities w29 – Thu 16 Jul 2020

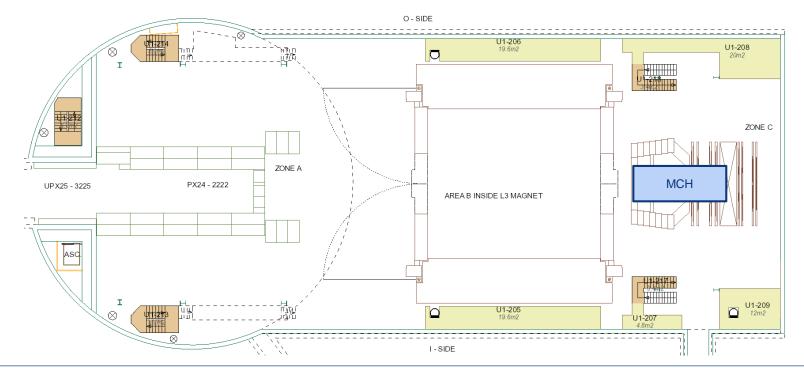






## UX25 activities w29 – Fri 17 Jul 2020







#### SXL2 activities w29 – Mon 13 Jul 2020

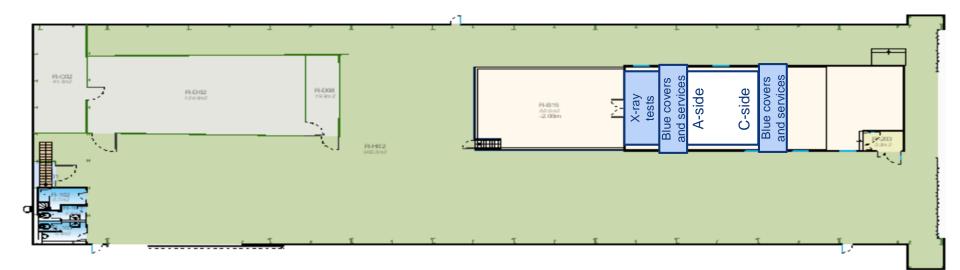






### SXL2 activities w29 – Tue 14 Jul 2020

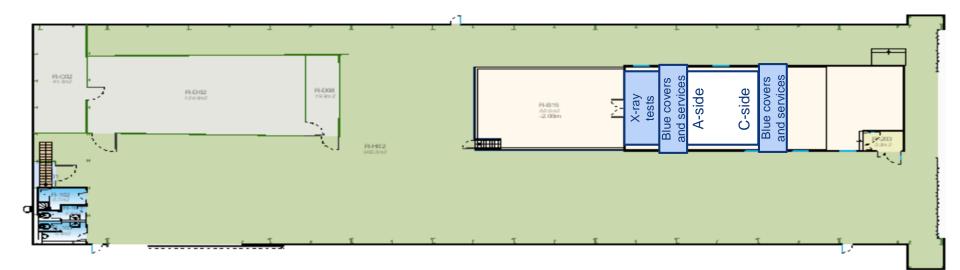






#### SXL2 activities w29 – Wed 15 Jul 2020

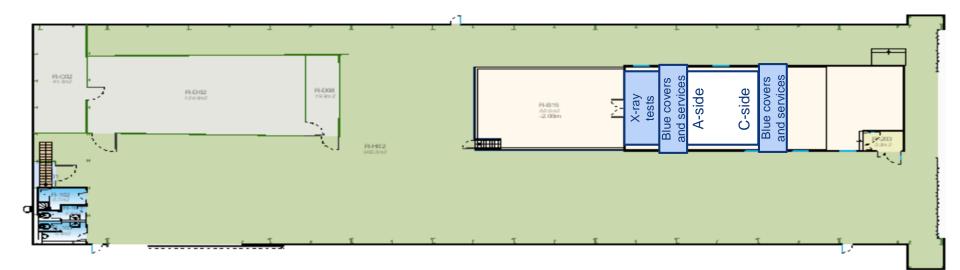






#### SXL2 activities w29 – Thu 16 Jul 2020

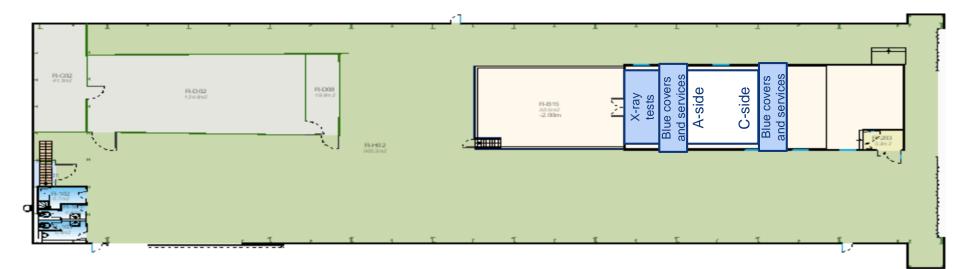






## SXL2 activities w29 - Fri 17 Jul 2020

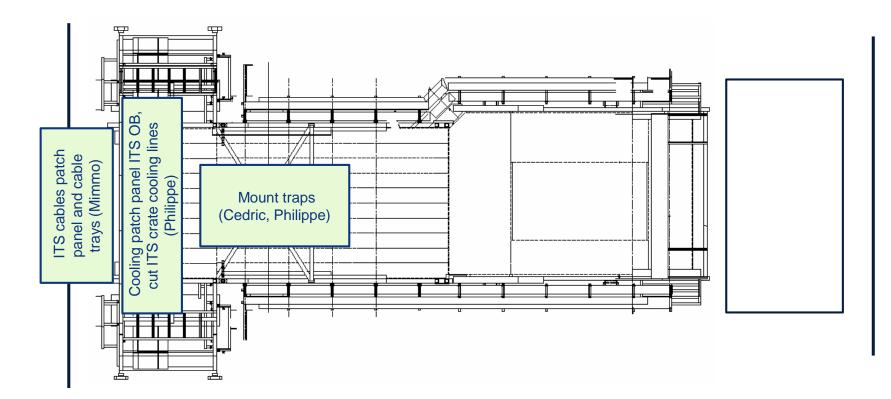






## Miniframe activities w29 - Mon 13 Jul 2020

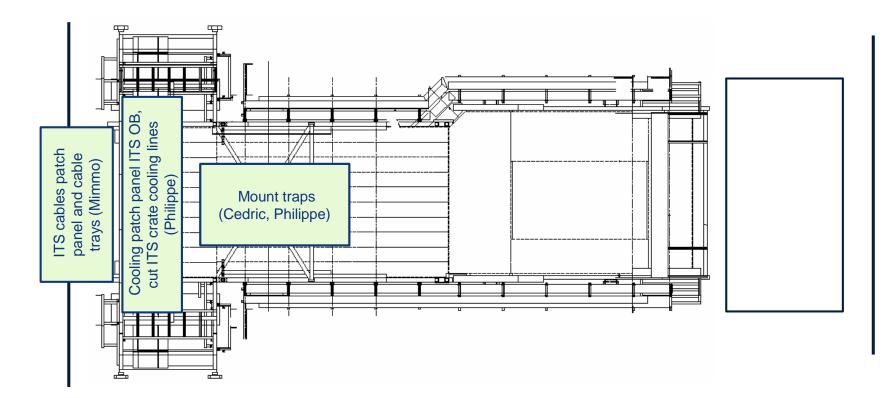






## Miniframe activities w29 – Tue 14 Jul 2020

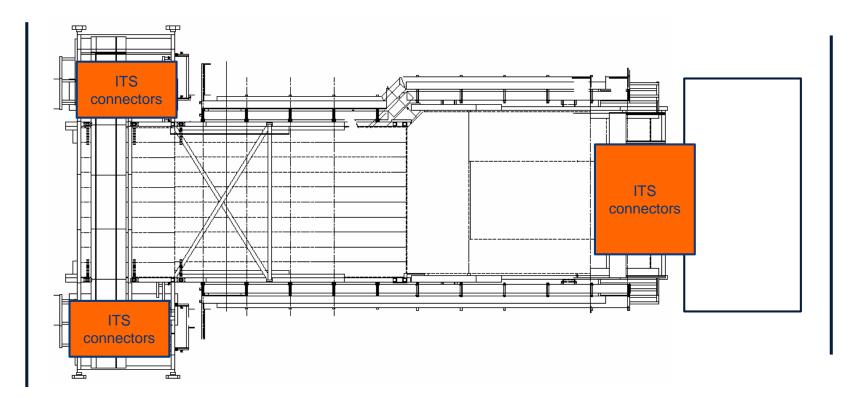






# Miniframe activities w29 – Wed 15 Jul 2020

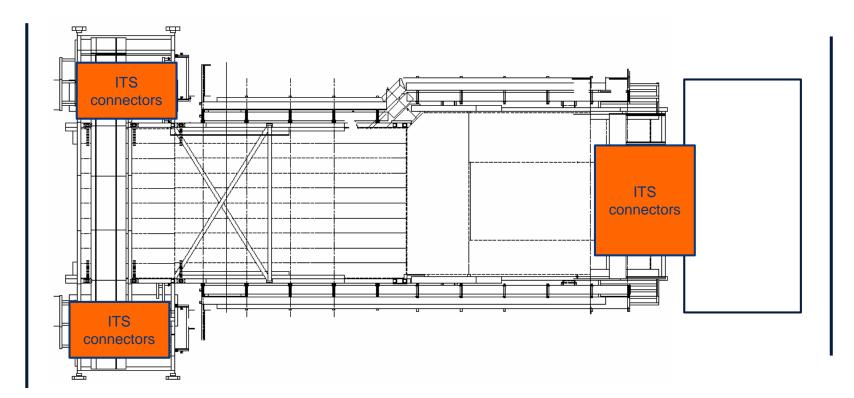






# Miniframe activities w29 – Thu 16 Jul 2020







# Miniframe activities w29 - Fri 17 Jul 2020



