



Getting ready for Run 2c

Eloïse Guran, CERN

AWAKE Collaboration meeting

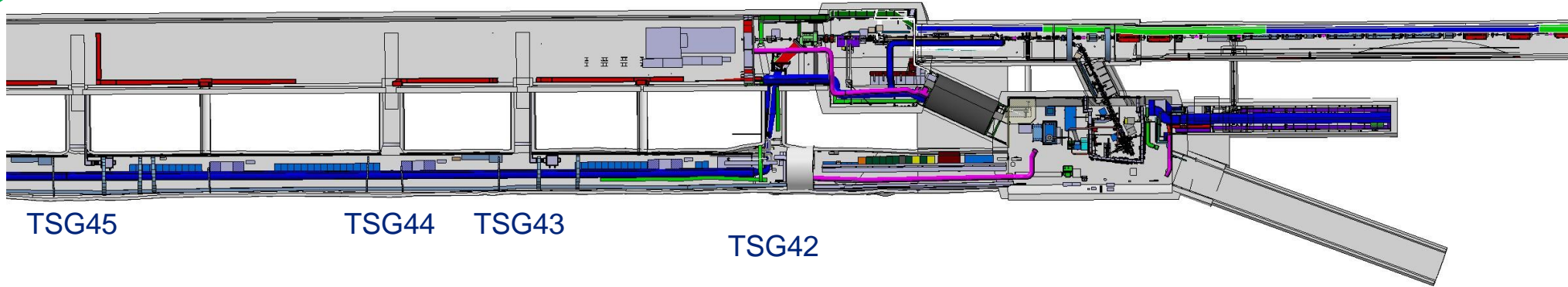
11-13 March 2024

Getting to run 2c

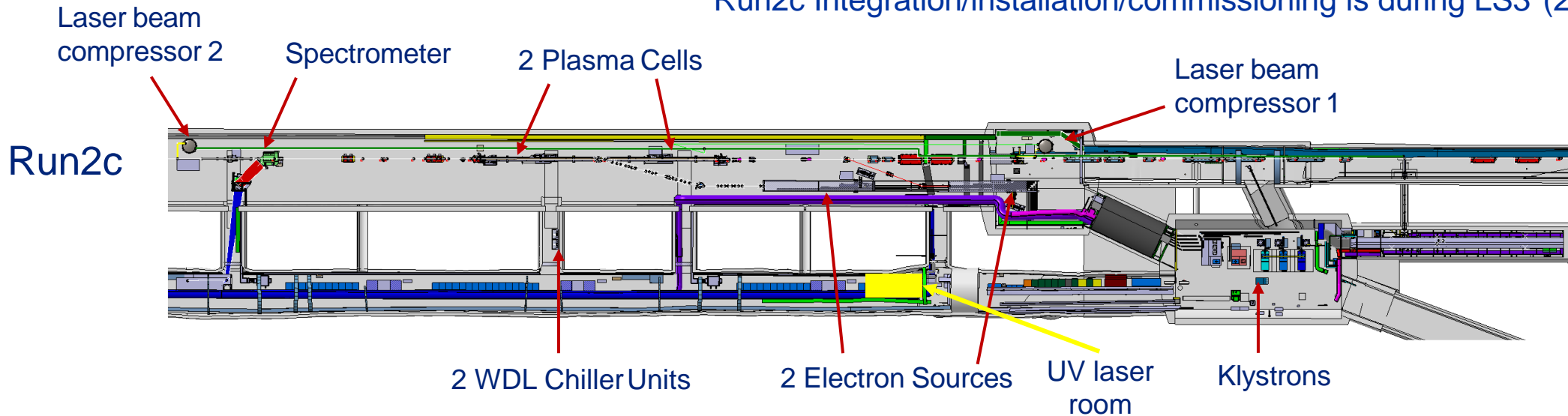
Ans' talk

CNGS area – to be dismantled

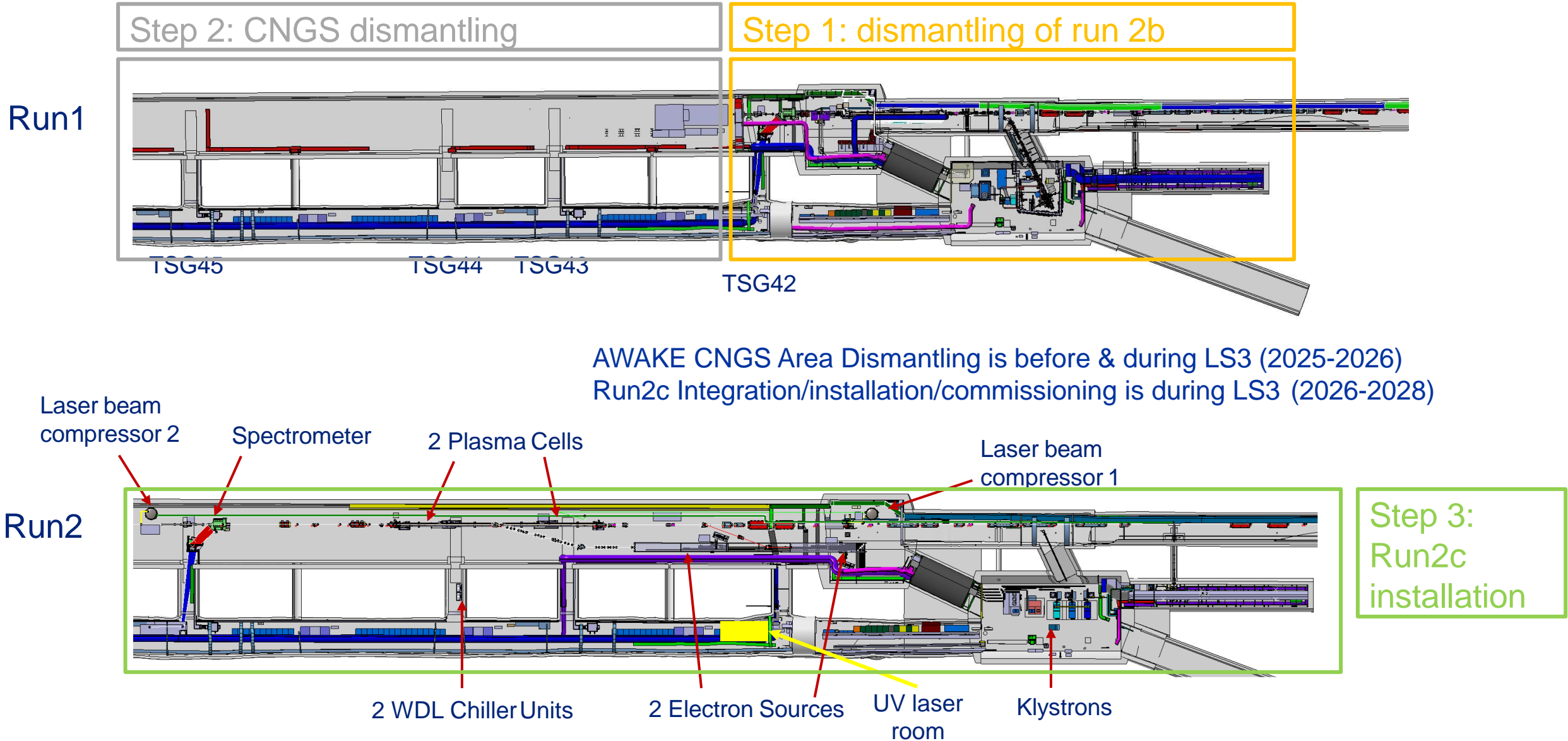
Run1
&
Run2ab



AWAKE CNGS Area Dismantling is before & during LS3 (2025-2026)
Run2c Integration/installation/commissioning is during LS3 (2026-2028)



Getting to run 2c

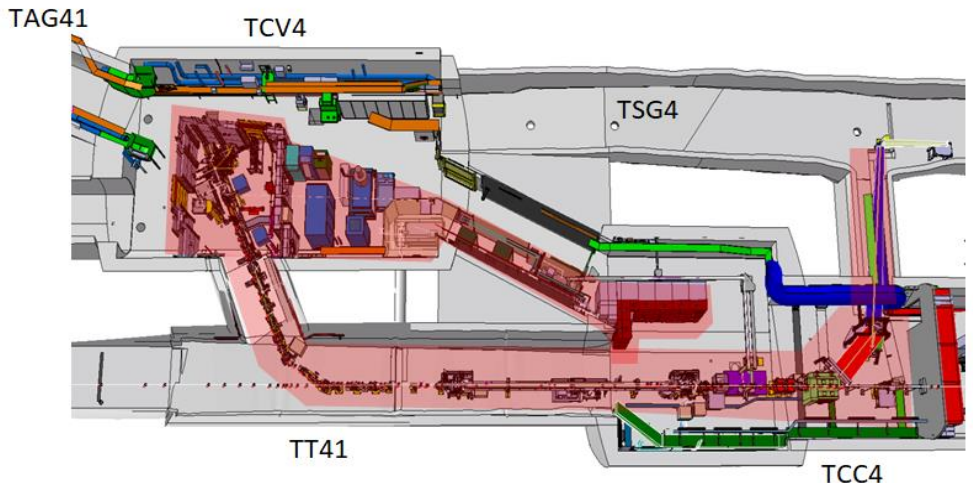


Timeline for AWAKE dismantling & decabbling

	2021				2022				2023				2024				2025				2026				2027				2028			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Injector schedule (SPS)	LS2		YETS		YETS		YETS		YETS		YETS		EYETS		EYETS		EYETS		EYETS		LS3											
Run 2a - Operation																																
Run 2b - Installation new plasma source																																
Run 2b - Operation																																
CNGS & AWAKE dismantling																																
Run 2c - Installation services, cables, equipment																																
Run 2c - Hardware commissioning																																
Run 2c - Commissioning with beam & operation																																

	2024					2025							
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June		
Operation Run 2b													
Run 2b dismantling													
Disconnection/decommissioning of all equipment			2 months		4 months								
Transport of equipment					3 months								
Decabbling of Awake													
Identification of cables with purple tape decabbling campaign			4 months				2 months						
CNGS dismantling												15 months	

- End of Awake operations: September 2024
- Run 2b dismantling: 2months of decommissioning + 3 months of transport
- Decabbling: ~2 months of works



Decabbling = all cables linked to a dismantled equipment + obsolete cables

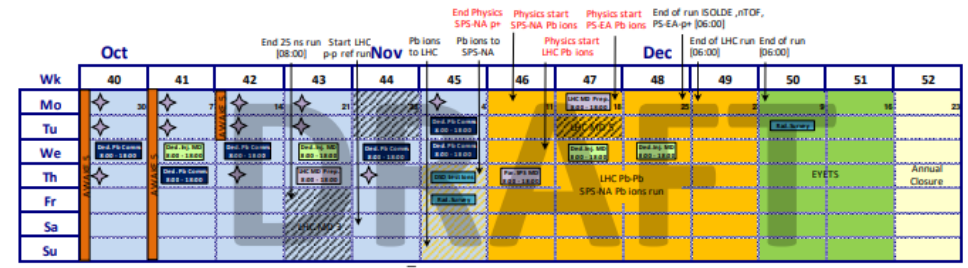
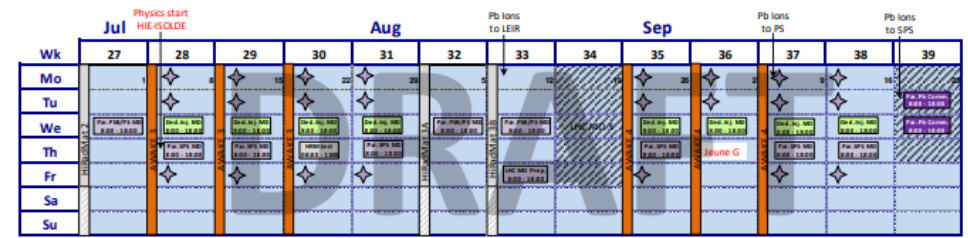
Timeline for AWAKE dismantling & decabling

	2021				2022				2023				2024				2025				2026				2027				2028				
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
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Operation Run 2b											
Run 2b dismantling											
Disconnection/decommissioning of all equipment											
Transport of equipment											
Decabling of Awake											
Identification of cables with purple tape decabling campaign											
CNGS dismantling											

DRAFT

- End of Awake operations: **October 2024**
- Run 2b dismantling: 2 months of decommissioning + 3 months of transport
- Decabling: ~2 months of works

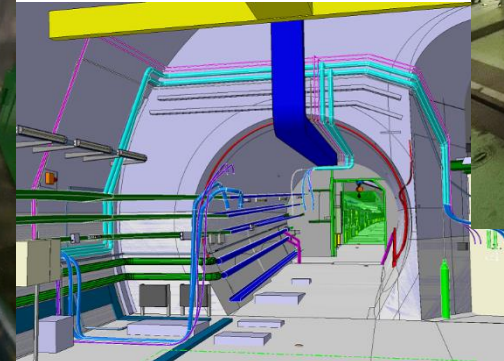
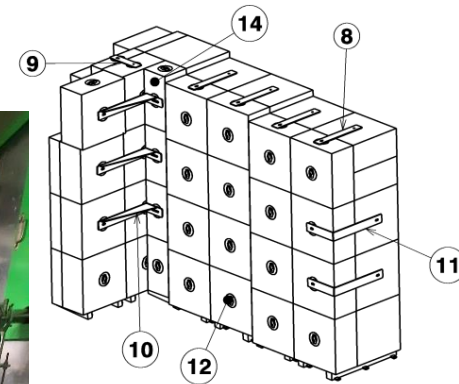
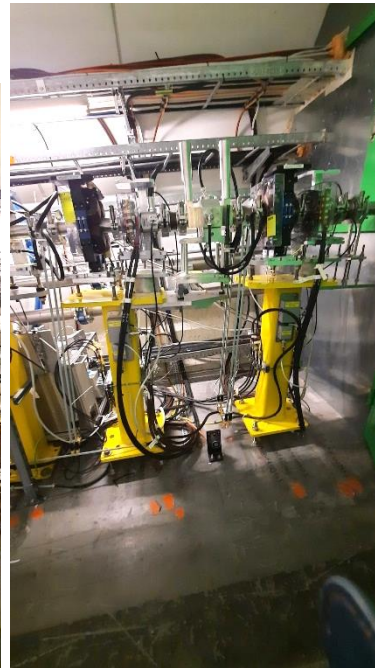
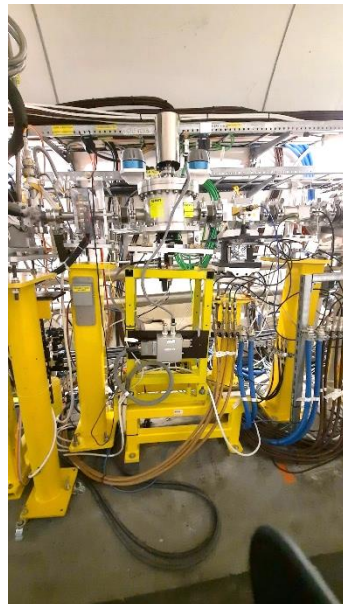
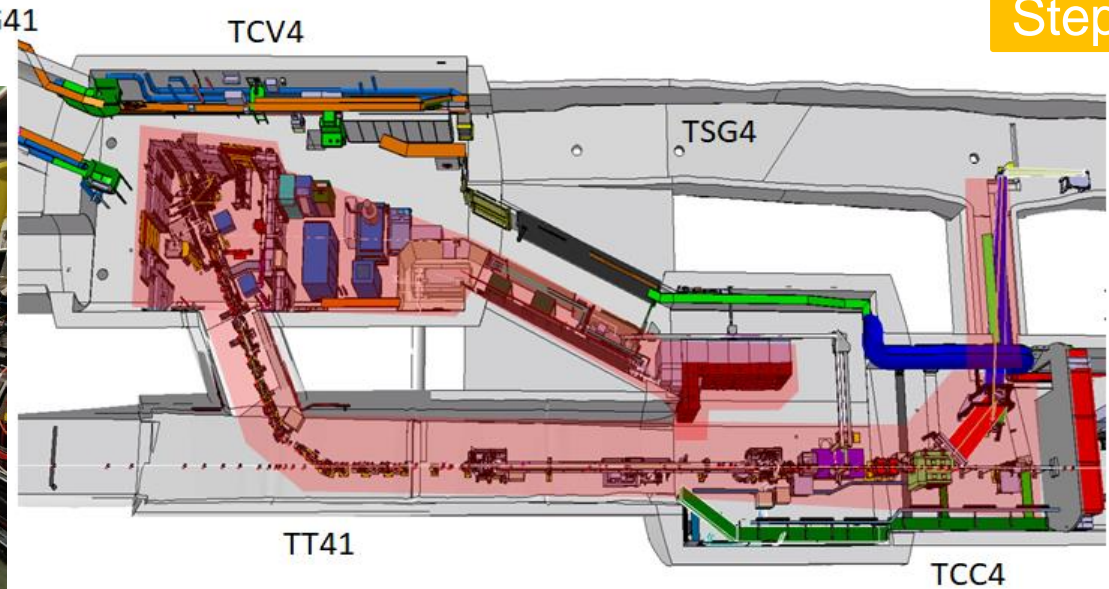


If the 2 additional weeks of beam approved → ~1 month shift

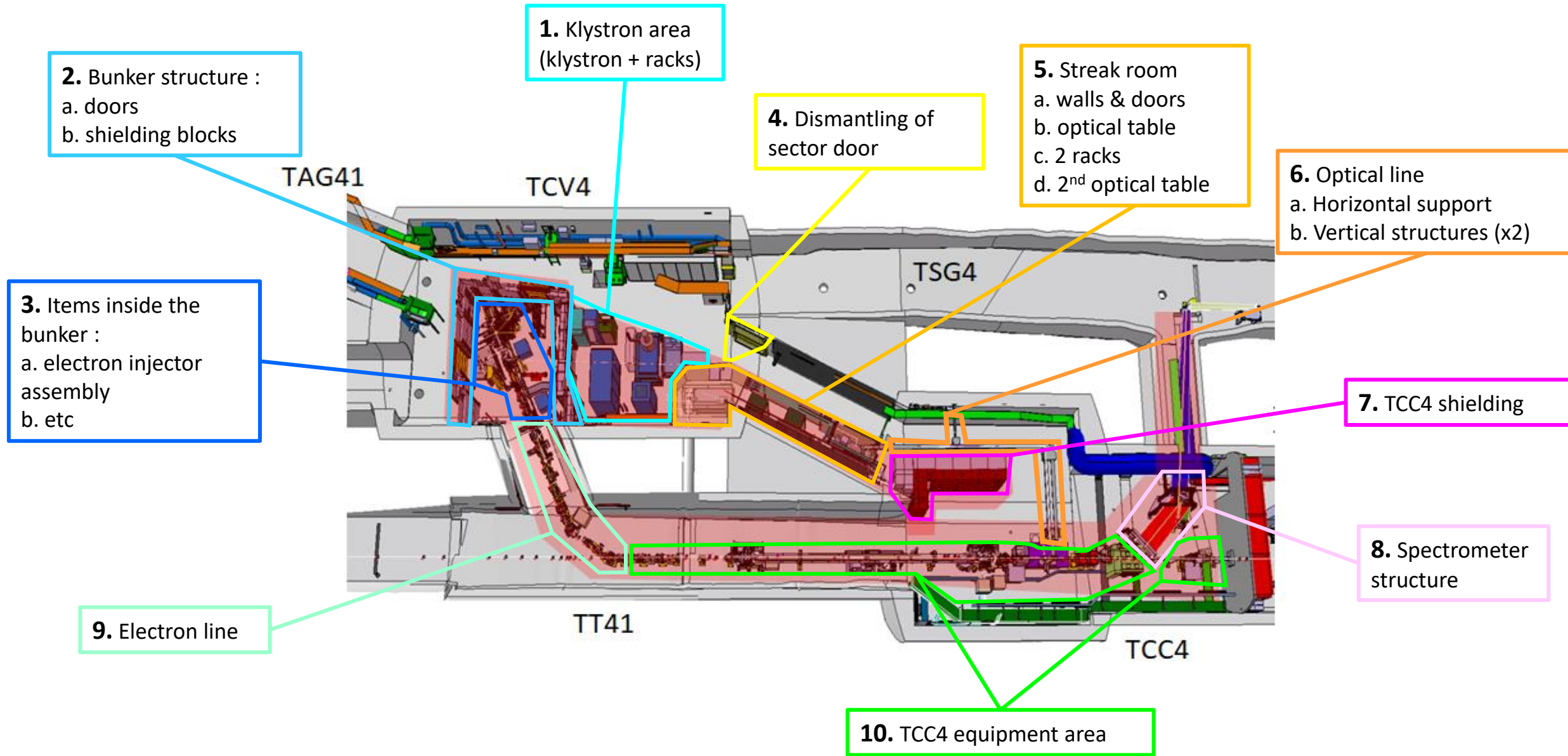
Run 2b dismantling

Estimated:

- 15T of equipment
 - 11 racks
 - 8 optical tables
 - 17 BTVs + 6 BPMs
 - 28 magnets
 - RF gun + klystron + waveguides
 - Plasma source
 - ~20 girders
- 50T of shielding blocks (~90blocks)

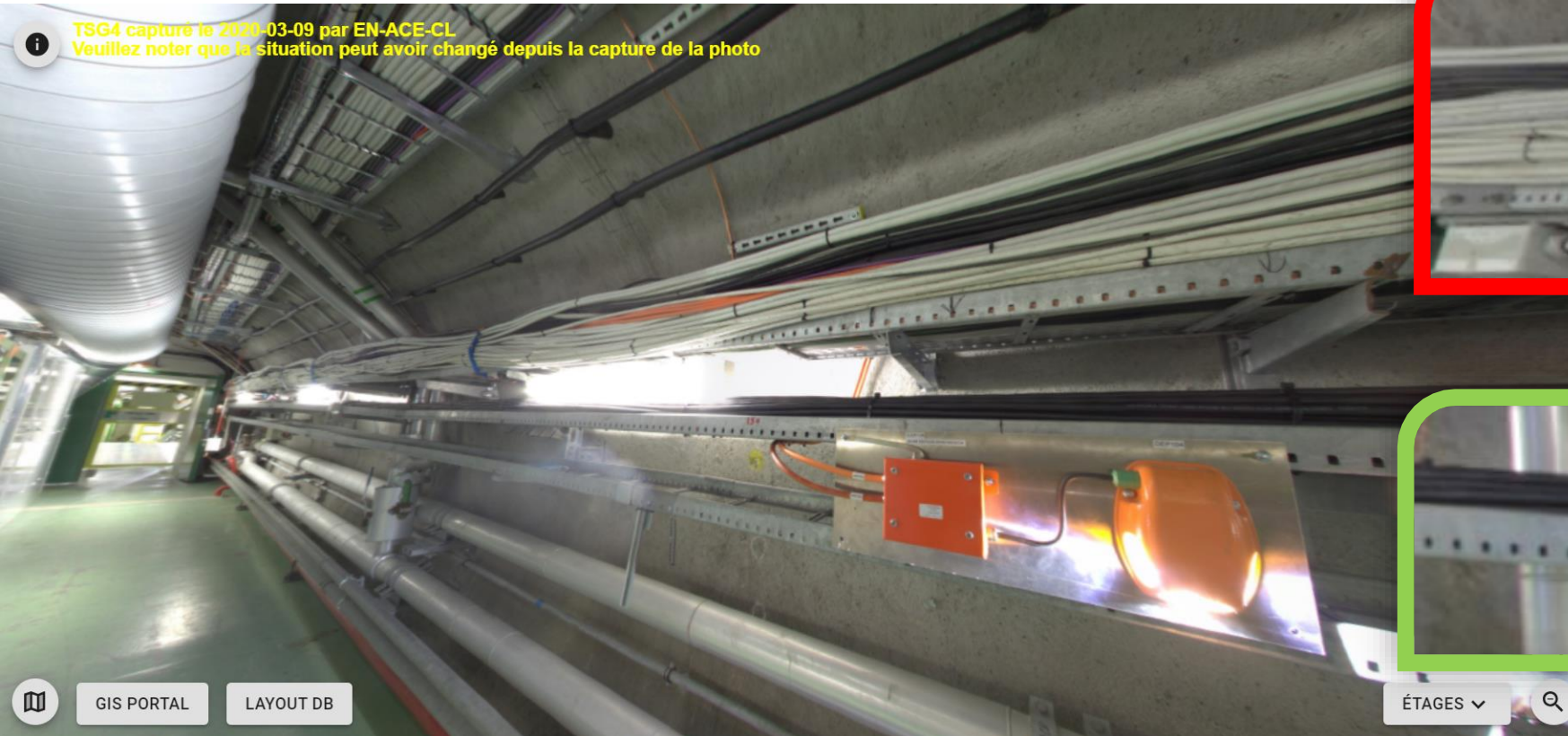


Dismantling sequence for transport



Motivation for decabling

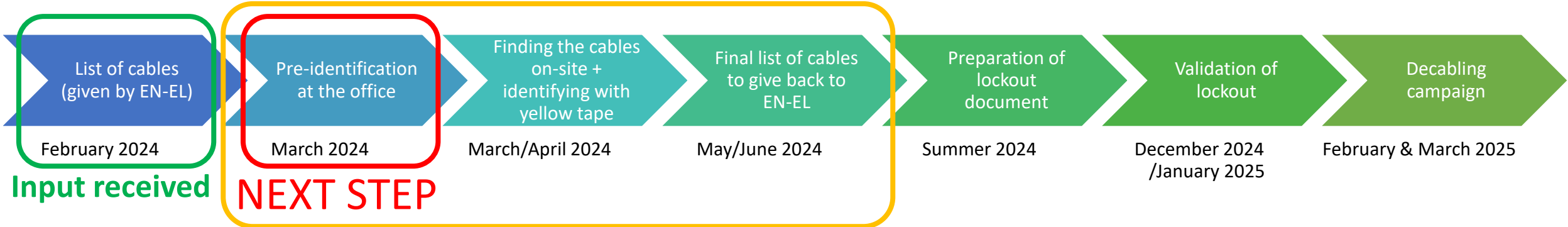
Step 1



- Cable trays in Awake are 400% full
- Main goal of decabling: ensure a clean infrastructure for future cables needed for run2c

Decabling process

Important steps to take before the summer



Two main documents of work :

- the **cable list (DEC)**: it states clearly which cable should be removed or not
 - approved on edms by all equipment owners
- the **lockout document**: it states which equipment/racks are going to be locked out
 - approved on edms by equipment owners, group and department leaders

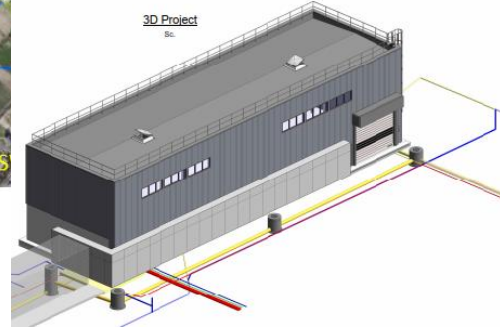
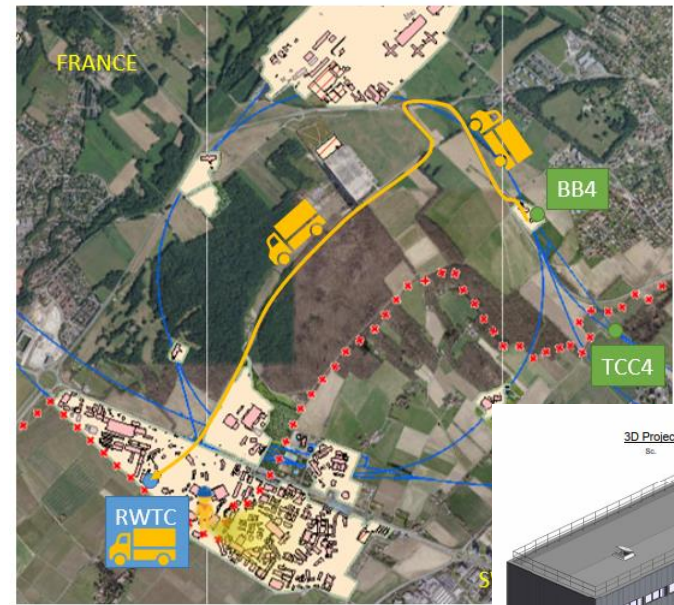
INFORMATION SUR LE DOCUMENT				PREPARATION BUREAU				ORIGINE IDENTIFICATION SUR PLACE				DESTINATION IDENTIFICATION SUR PLACE			
ENTER CABLE LIST VERSION		Click to Expand Document >>		AC: Evalué, à conserver AD: Evalué, à déposer AG: Evalué, à un autre groupe AV: Evalué, à vérifier sur place DR: Déjà retiré		0 0 0 0 0		CES: Trouvé- en service-connecté DOV: Trouvé- obsolete-deconnecté PT: Pas trouvé DR: Déjà retiré		0 0 0 0		CES: Trouvé- en service-connecté DOV: Trouvé- obsolete-deconnecté PT: Pas trouvé DR: Déjà retiré		0 0 0 0	
ENTER AREA OF WORK		Cable No: 3568		TOTAL		0		TOTAL		0		TOTAL		0	
Vs	Câble	Trancon	Type T	Type R	Réseau	Description	ID	1 PF	1 Ouv	1 Elément	ID	2 PF	2 Ouv	2 Elément	ID
A	600032	A	NE26	NE26	1001	SPARE		RX7436=BA49	BA49	ANCIEN 65380		RAL0005=TA41	TA41		
A	600033	A	NE26	NE26	1001	SPARE		RX7436=BA49	BA49	ANCIEN 65372		RAL0005=TA41	TA41		
A	600034	A	NE26	NE26	1001	SPARE		RX7436=BA49	BA49	ANCIEN 65373		RAL0005=TA41	TA41		
B	600035	A	NE18	NE18	1001	CABLE ENLEVE		RX0620=BA49	BA49		3	RAL0005=TA41	TA41		
B	600036	A	NE18	NE18	1001	CABLE ENLEVE		RX0620=BA49	BA49		3	RAL0005=TA41	TA41		
B	600037	A	NE18	NE18	1001	CABLE ENLEVE		RX0620=BA49	BA49		3	RAL0005=TA41	TA41		
B	600038	A	NE18	NE18	1001	CABLE ENLEVE		RX0620=BA49	BA49		3	RAL0005=TA41	TA41		
B	600039	A	NE18	NE18	1001	CABLE ENLEVE		RX0620=BA49	BA49		3	RAL0005=TA41	TA41		
B	600040	A	NE18	NE18	1001	CABLE ENLEVE		RX0620=BA49	BA49		3	RAL0005=TA41	TA41		
B	600041	A	NE18	NE18	1001	CABLE ENLEVE		RX0620=BA49	BA49		3	RAL0005=TA41	TA41		
B	600042	A	NE18	NE18	1001	CABLE ENLEVE		RX0620=BA49	BA49		3	RAL0005=TA41	TA41		
B	600043	A	NE18	NE18	1001	CABLE ENLEVE		RX0620=BA49	BA49		3	RAL0005=TA41	TA41		
B	600044	A	NE18	NE18	1001	CABLE ENLEVE		RX0620=BA49	BA49		3	RAL0005=TA41	TA41		

Example of cable list

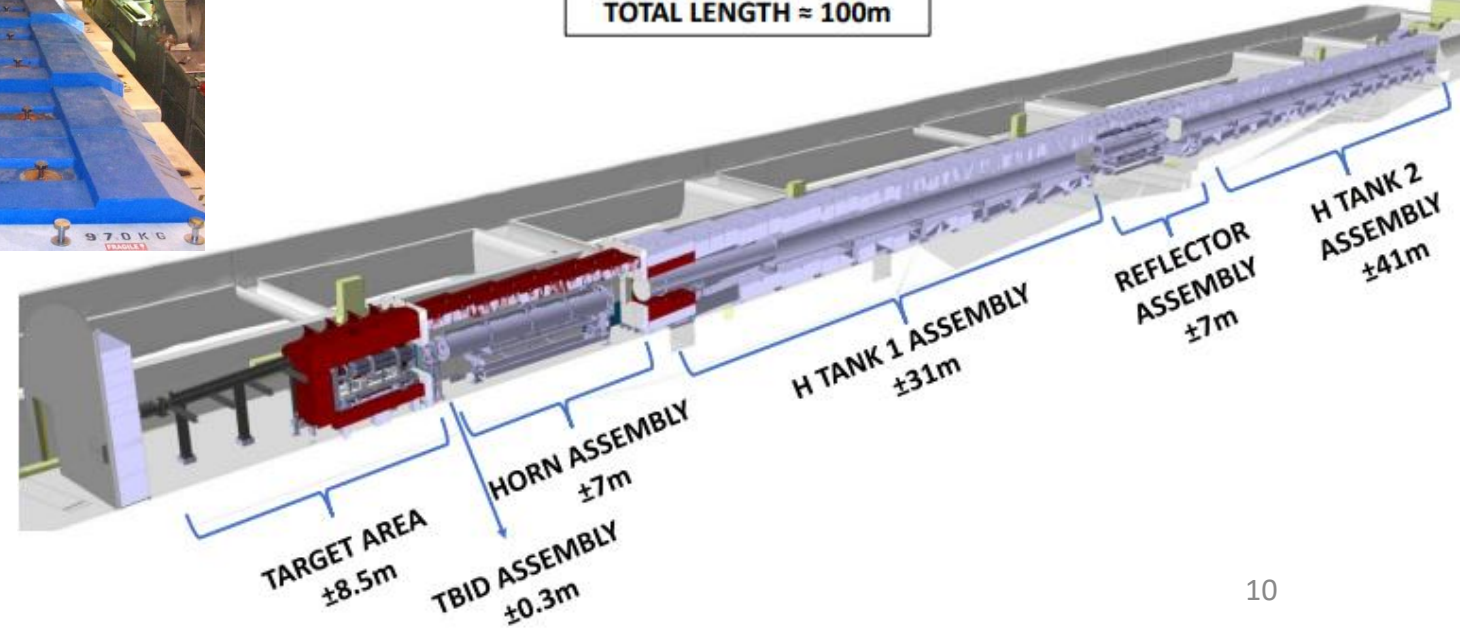
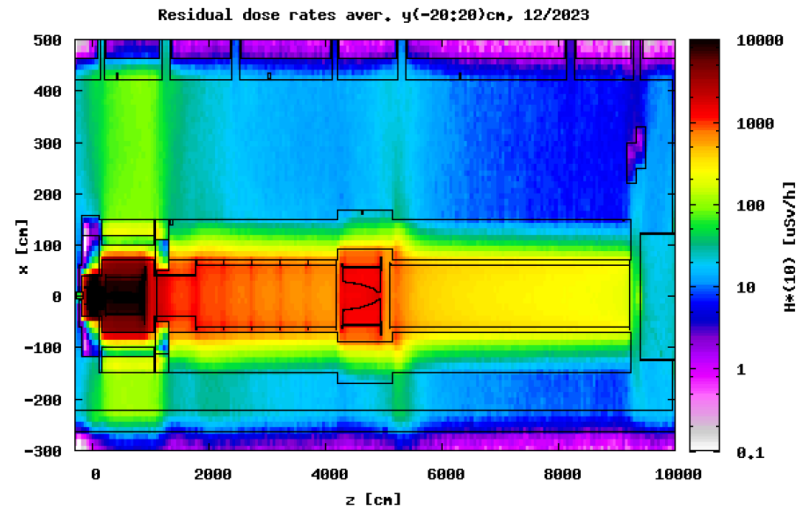
CNGS dismantling

Ans' talk

Step 2



CNGS BEAM LINE
TOTAL LENGTH ≈ 100m



19/01/2024

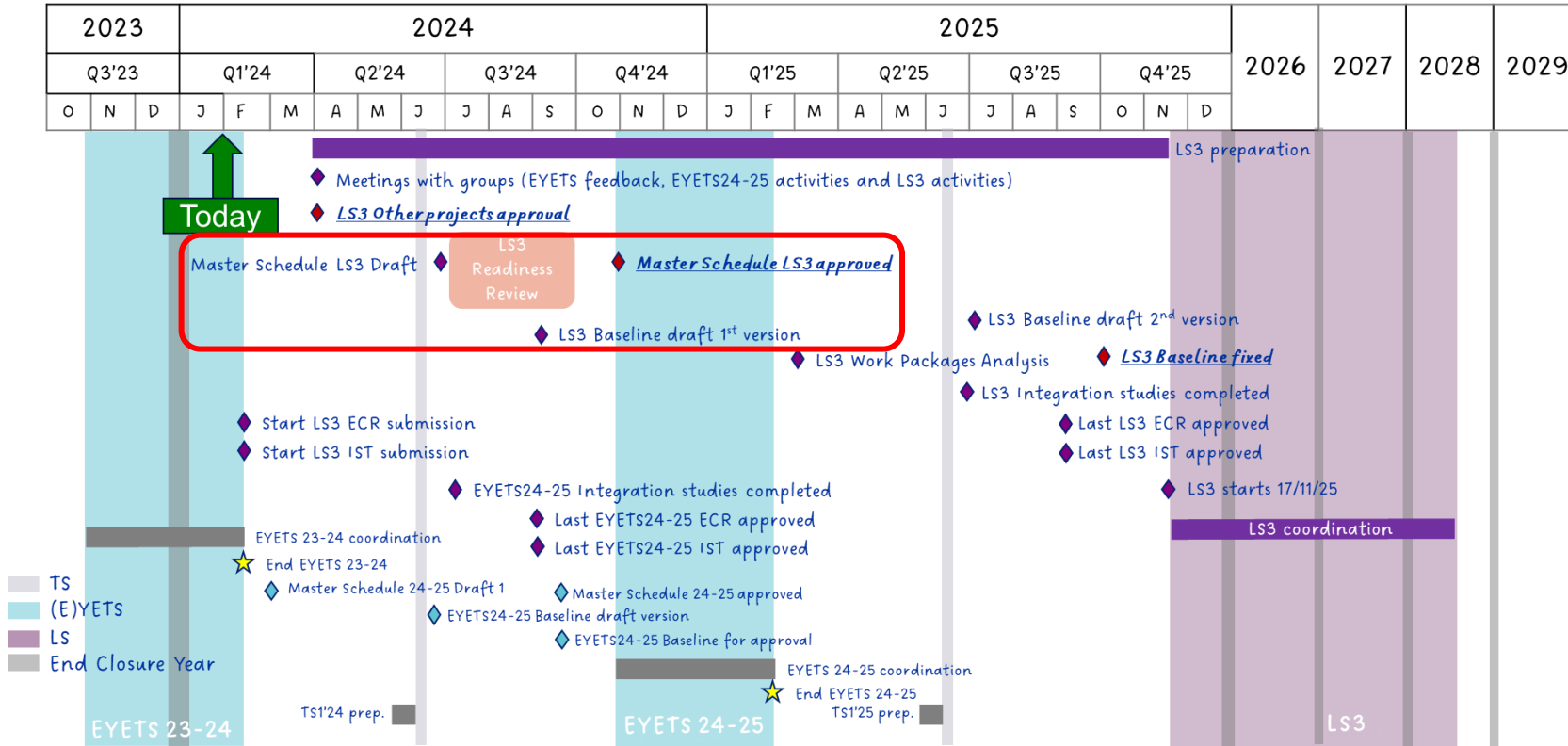
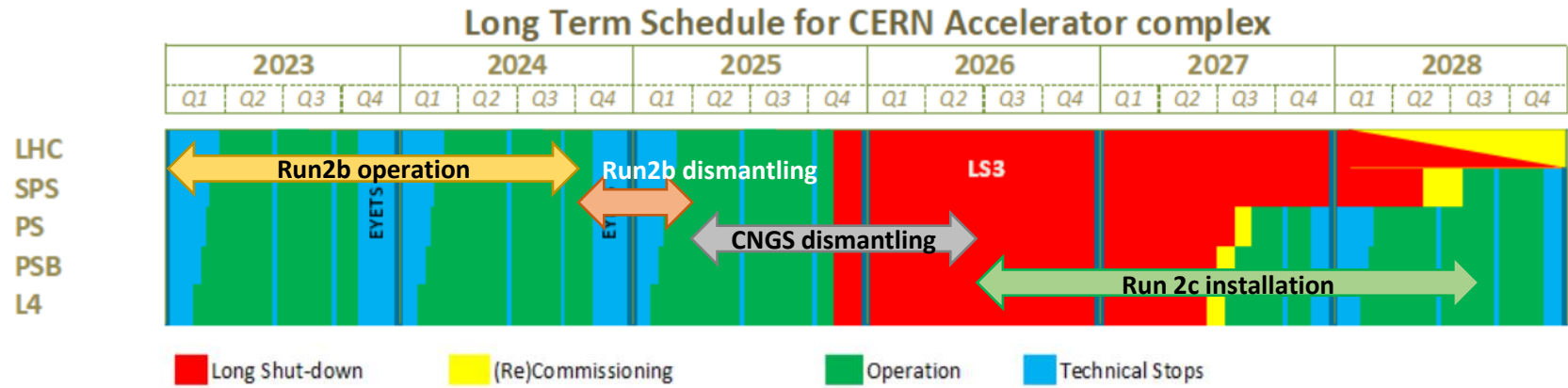
Run 2c installation

• Installing run 2c during LS3 brings some constraints:

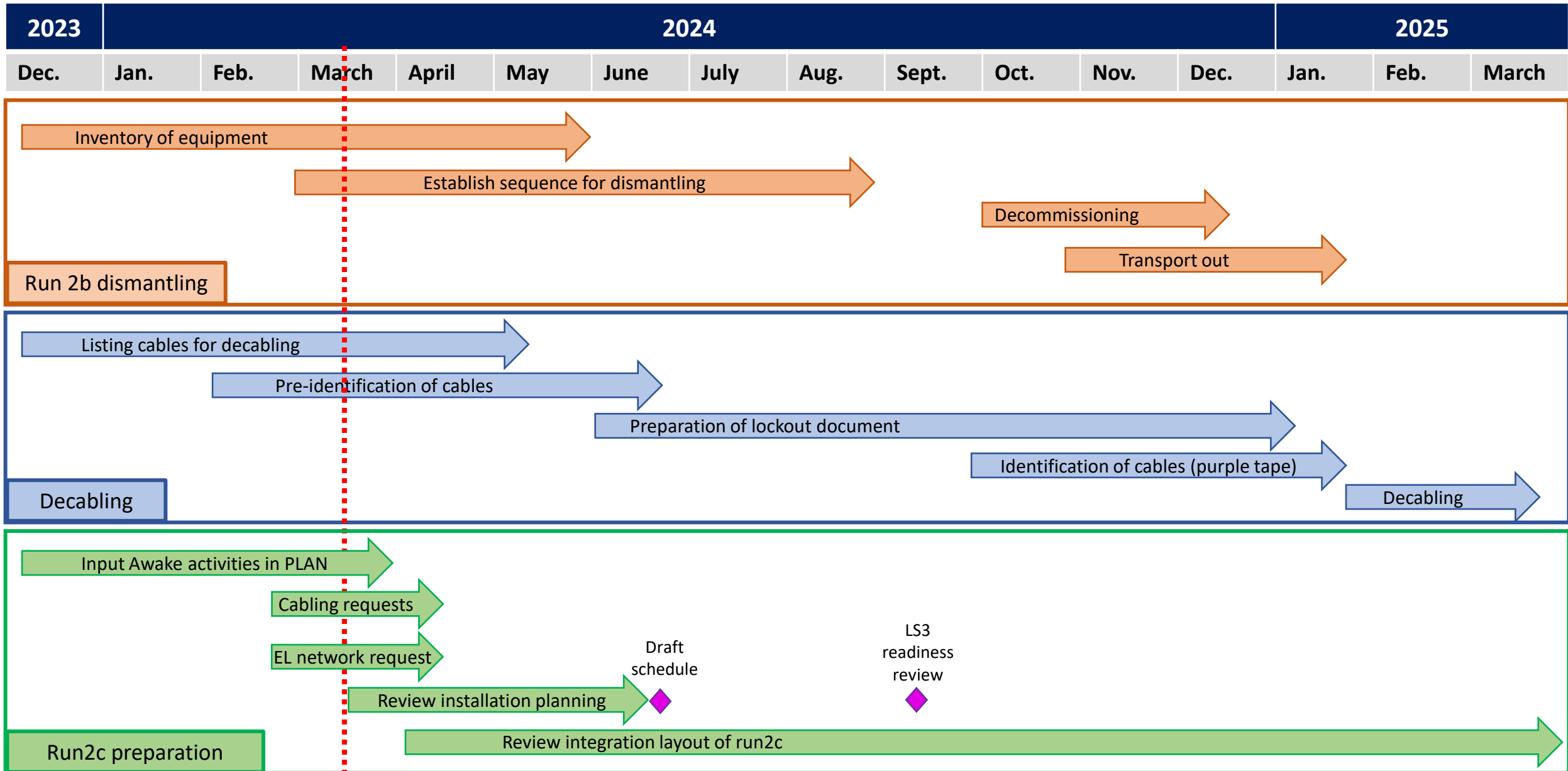
- Availability of resources
- Respect deadlines linked to LS3 even though the project is not yet approved

• For AWAKE, next milestones:

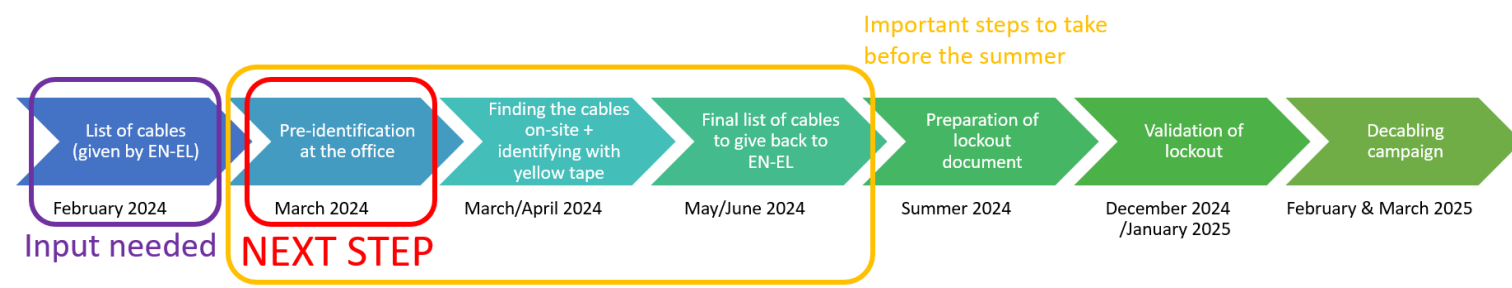
- **PLAN** activities by **31.03.2024**
- **Cabling** request by **15.04.2024**
- **Electrical network** request by **15.04.2024**
- **Review of run2c schedule** for June 2024




General Awake roadmap

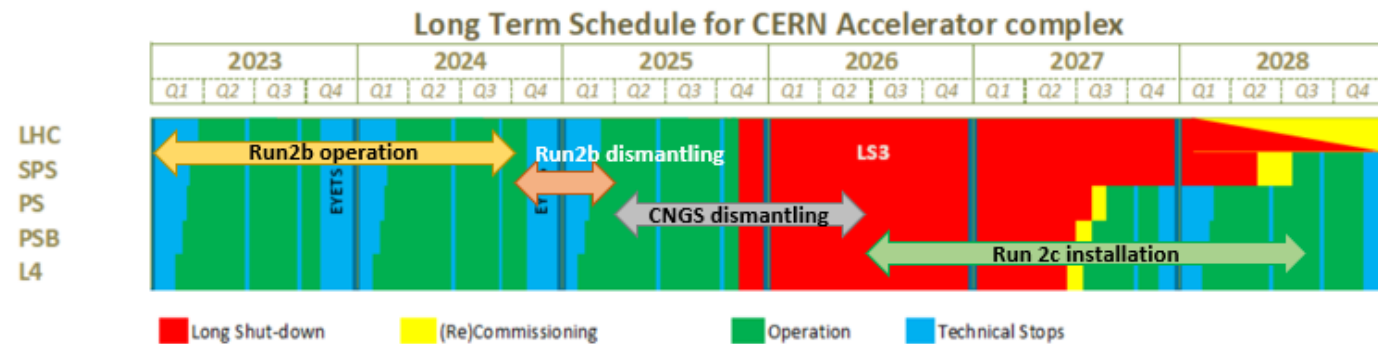
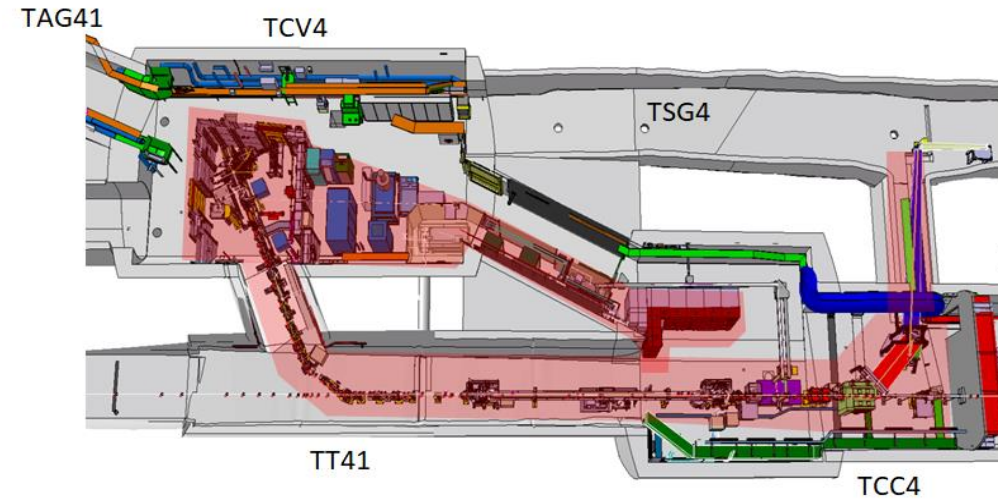


Summary



3 Main steps towards run 2c readiness:

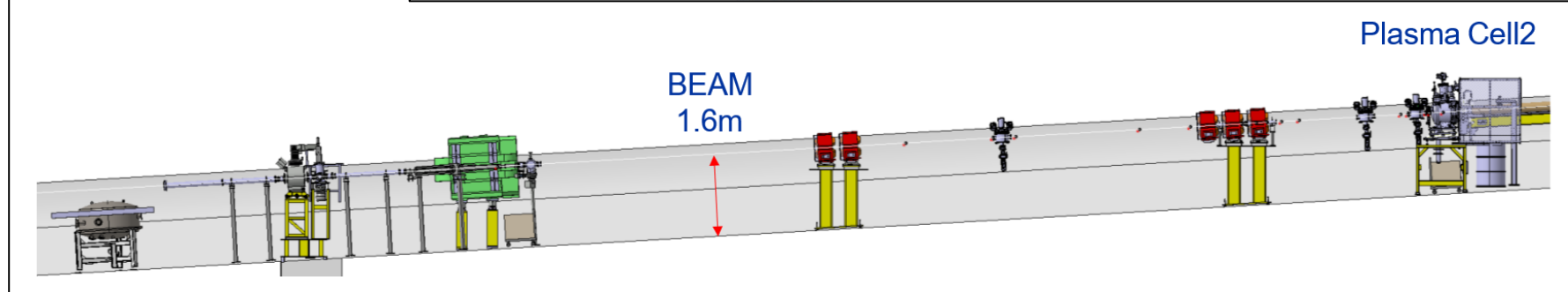
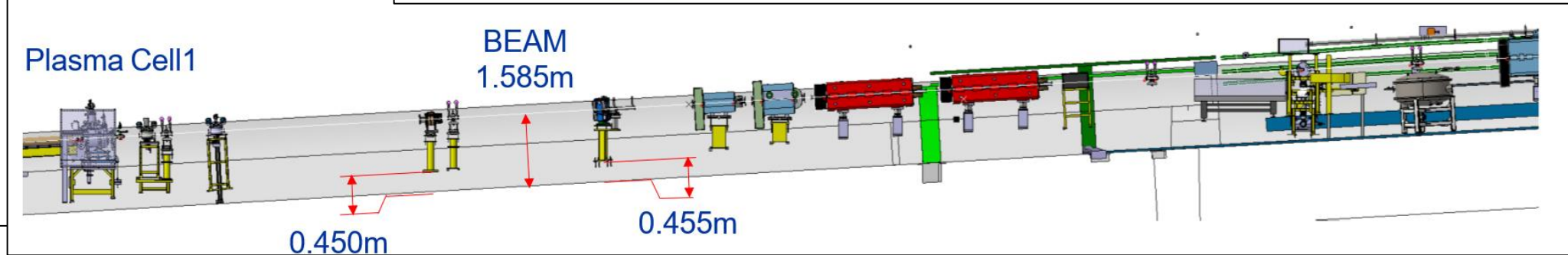
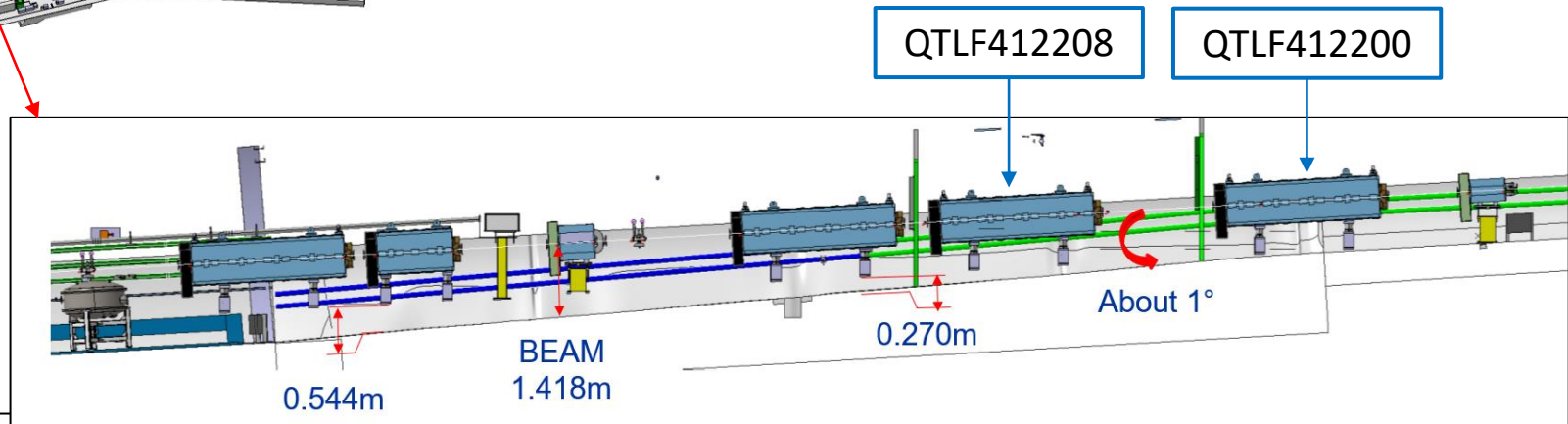
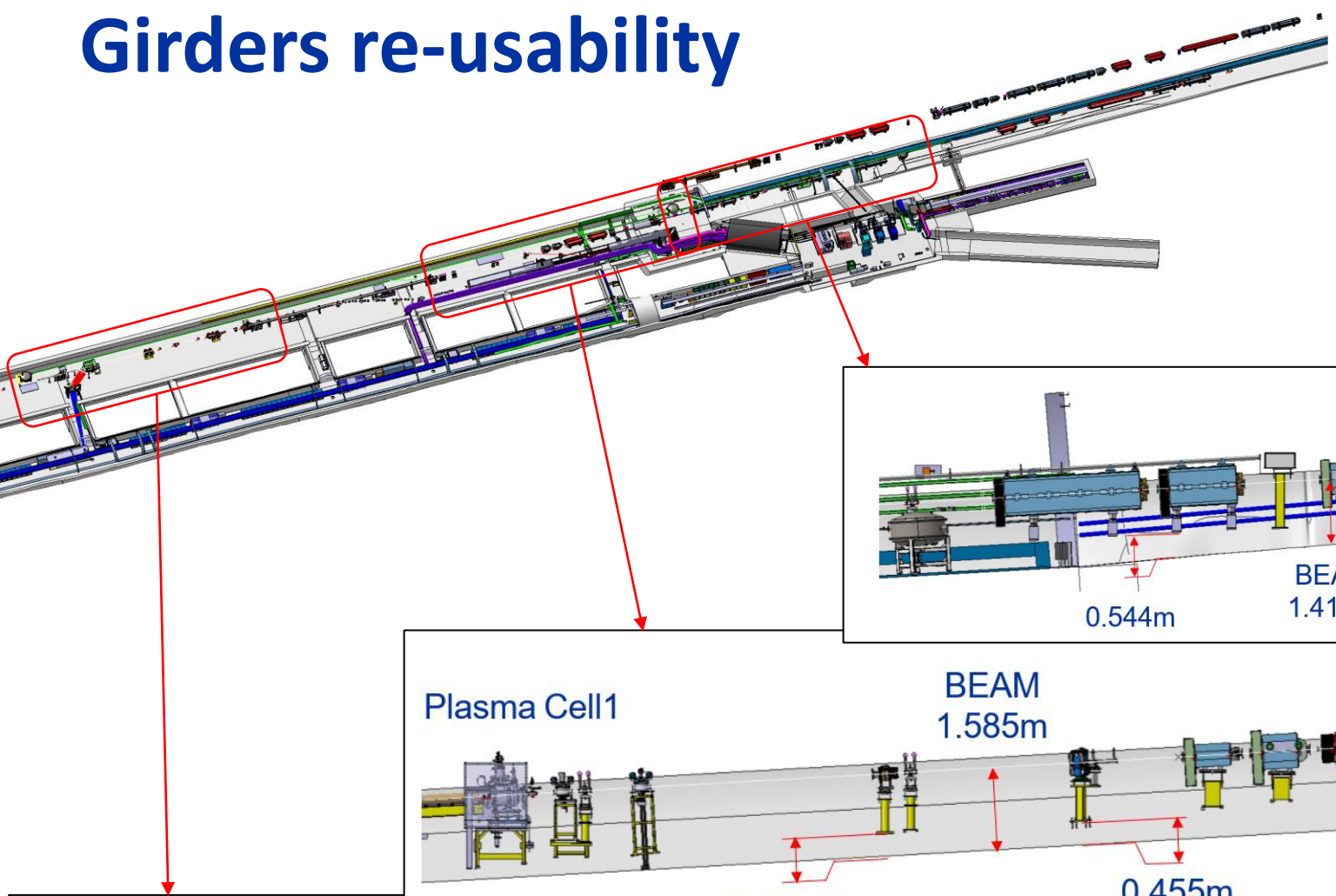
- **Step 1:** AWAKE run 2b dismantling & decabling
 - Takes place from October 2024 to January 2025
 - **Decabling** : Pre-identification of cable list
- Step 2: CNGS dismantling
- **Step 3:** new installation → Next milestones to prepare the path for run 2c:
 - **Before 31.03.2024**
 - Enter your activity in **PLAN**
 - **Before 15.04.2024**
 -  Send **cabling request**
 - Send **request for new electrical network**
 - **For June 2024**
 - **Review run 2c installation schedule**



Back up slides

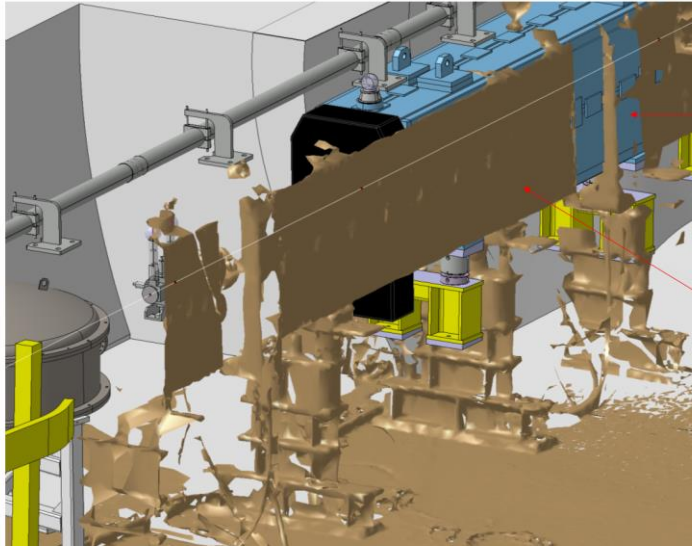
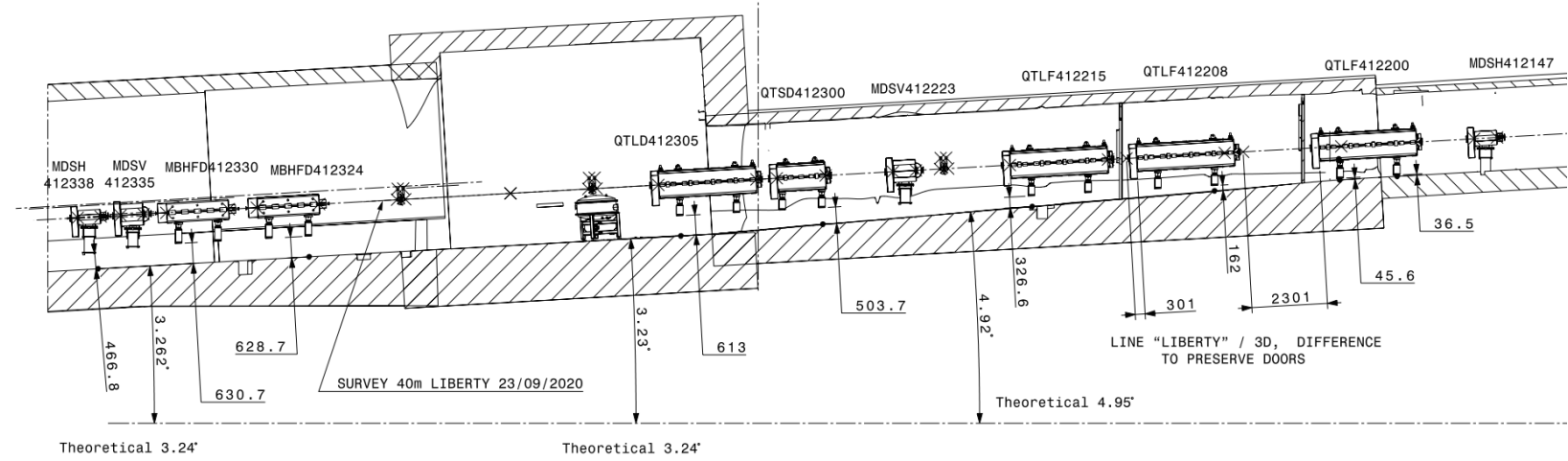
Girders re-usability

All girders currently in use from QTLF.412208 to plasma cell will need an adaptation to be re-used for run 2c.



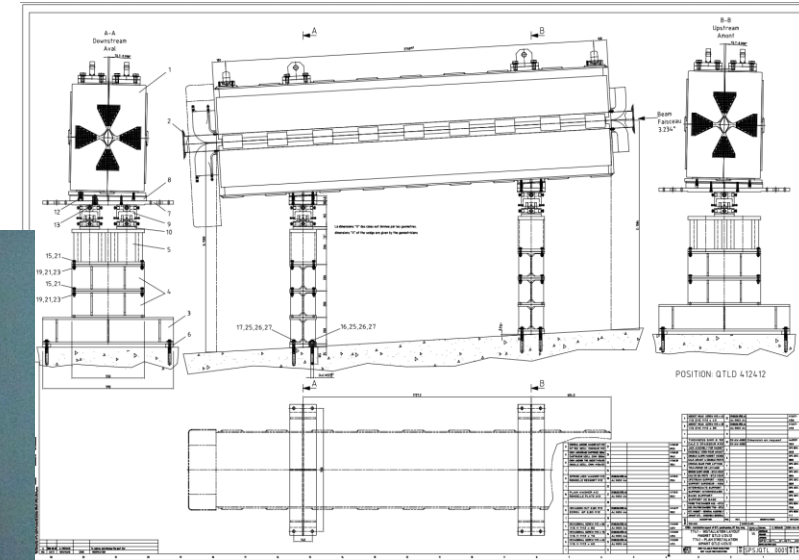
Girders re-usability

Missing height ranges from 162mm to 613mm.



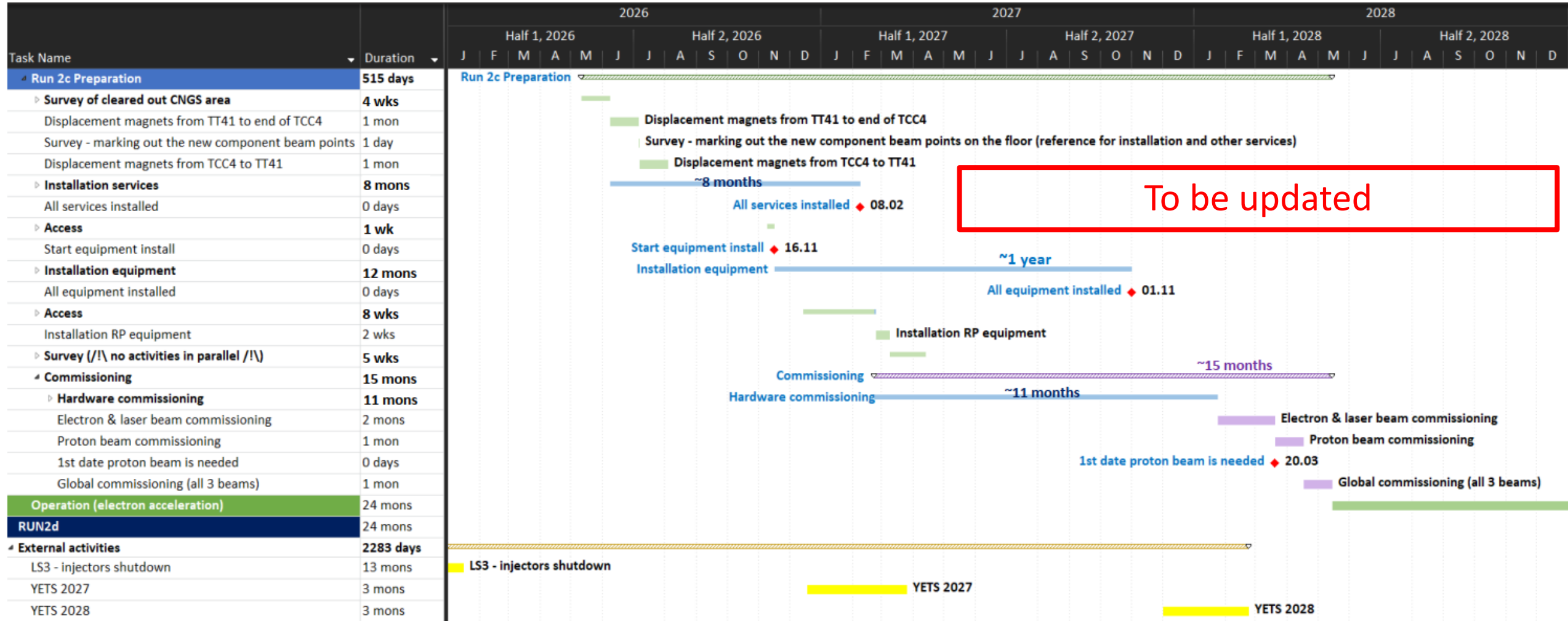
Magnet_AWAKE 2

Scan 2013_CNGS



AWAKE run 2c installation schedule

As presented in the CSR of 2021



To be updated