

## AD / ELENA

# Installation activities schedule

VS

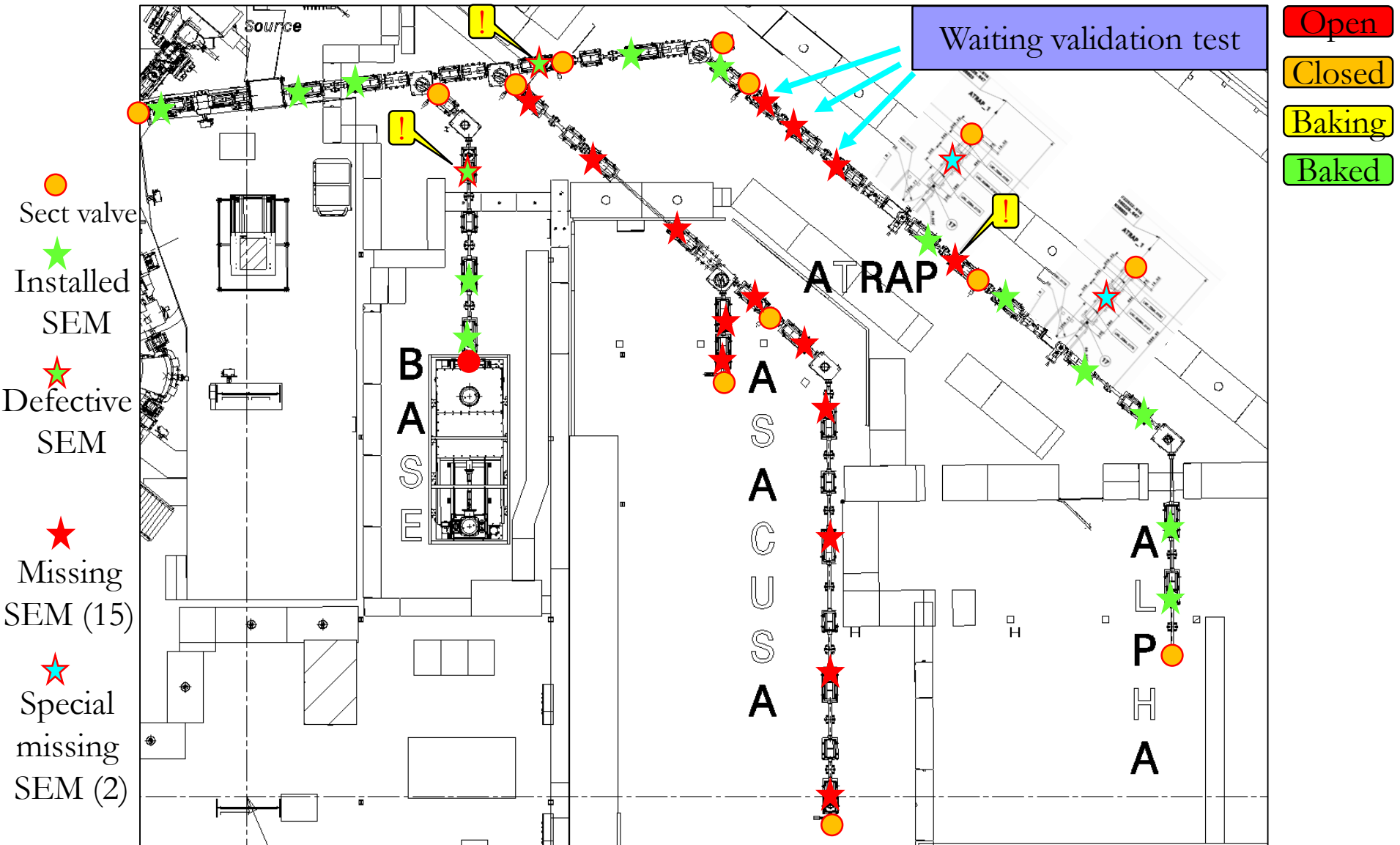
# Beam time in ring



# ANTIMATTER FACTORY

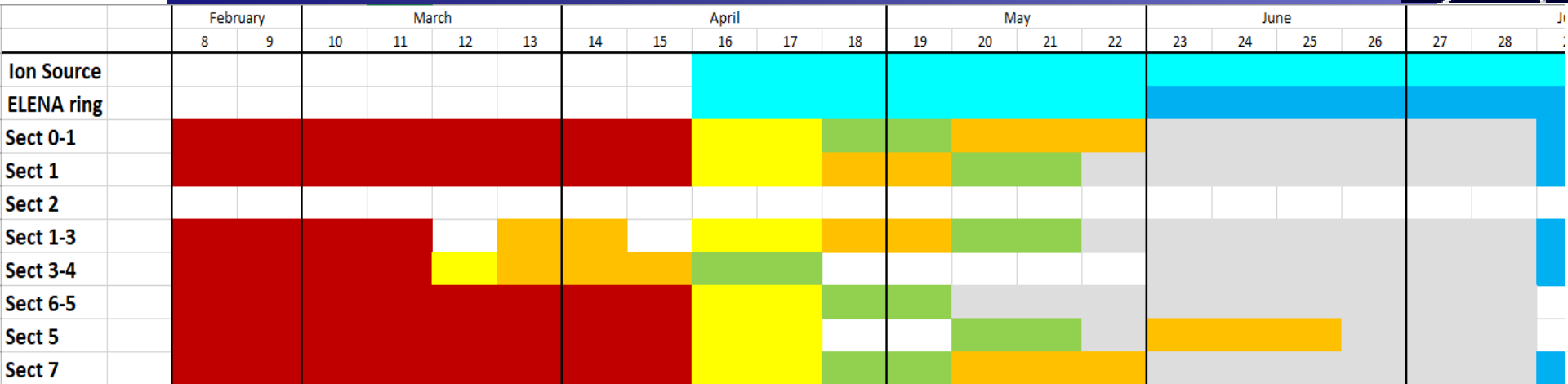
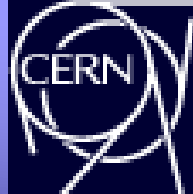


# Transfer Lines Status





# Feb – July 2020 Activities (optimistic)

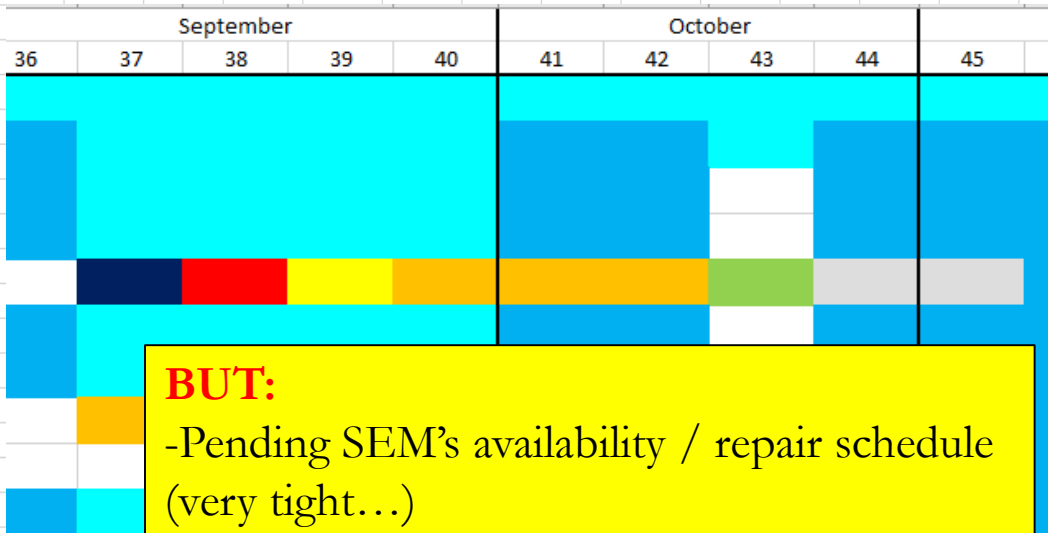


De-consignation

Access control OK

Survey availability  
TBC

- Installation
- Cabling
- Vac activities / Bake-out
- Alignment / smooting
- Cables connection
- Beam possible
- Beam NO RF
- IST

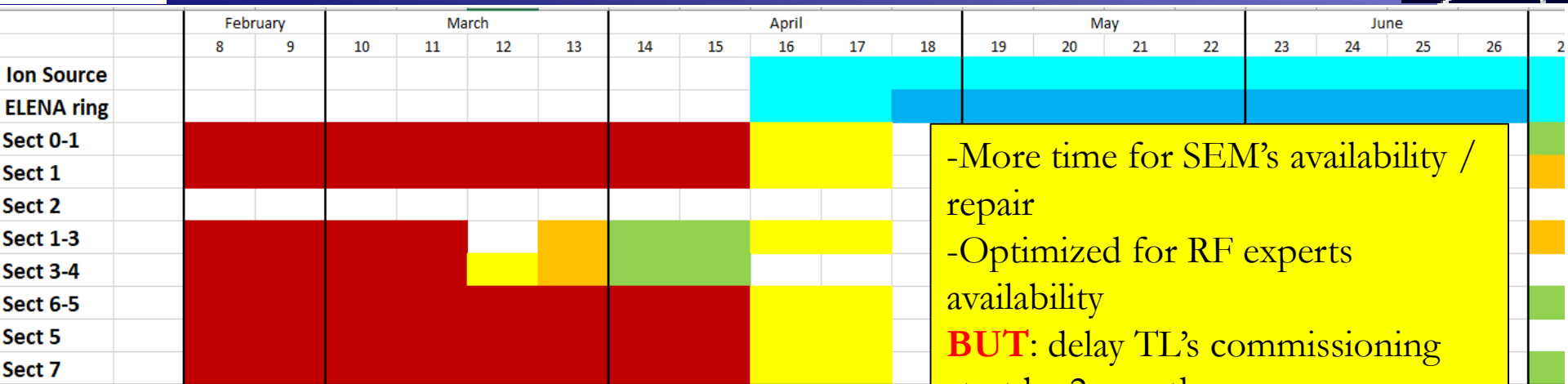
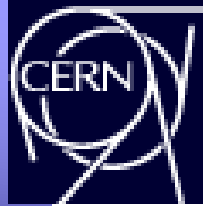


**BUT:**

- Pending SEM's availability / repair schedule (very tight...)
- Availability RF experts in May-June only



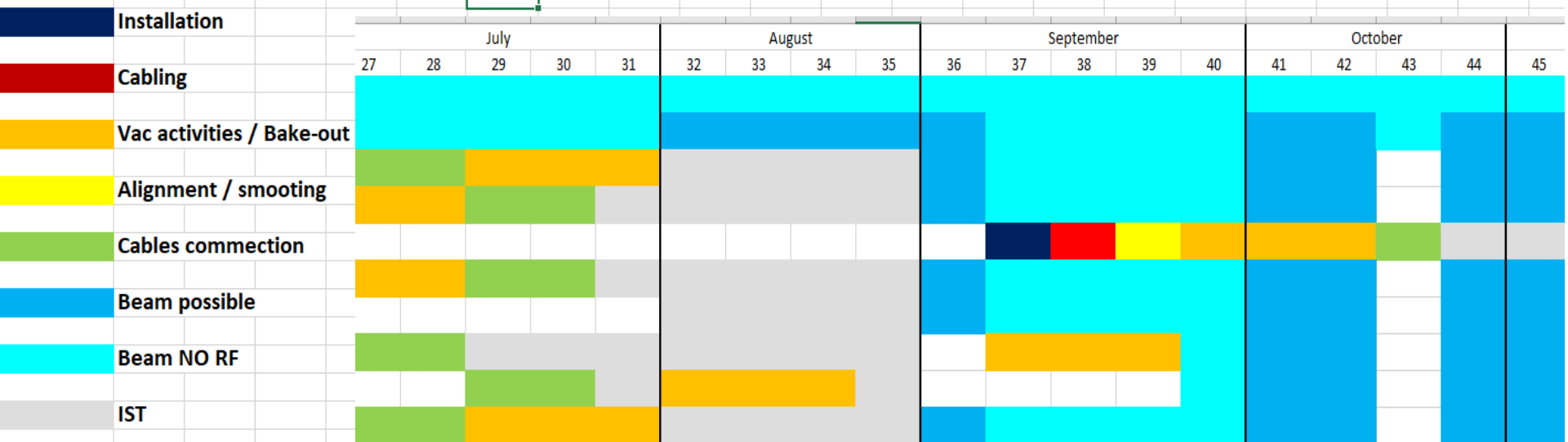
# Alternative (less optimistic)



-More time for SEM's availability / repair  
 -Optimized for RF experts availability  
**BUT:** delay TL's commissioning start by 2 months

De-consignation

Access control OK

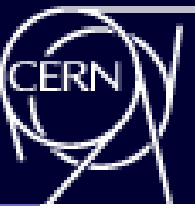


- SEM situation to be clarified rapidly: which SEM's to extract, expected return date
- Schedule to be optimized with daily granularity when more info available (SEM's repair/availability schedule, connections/IST timing, possible vacuum issues etc)
- Could some SEM's be « ommited » provisionnaly?
- Could commissioning start with first available vac sectors (0-1, then 1, then 1-3, then 3-4) ?





# Back-up

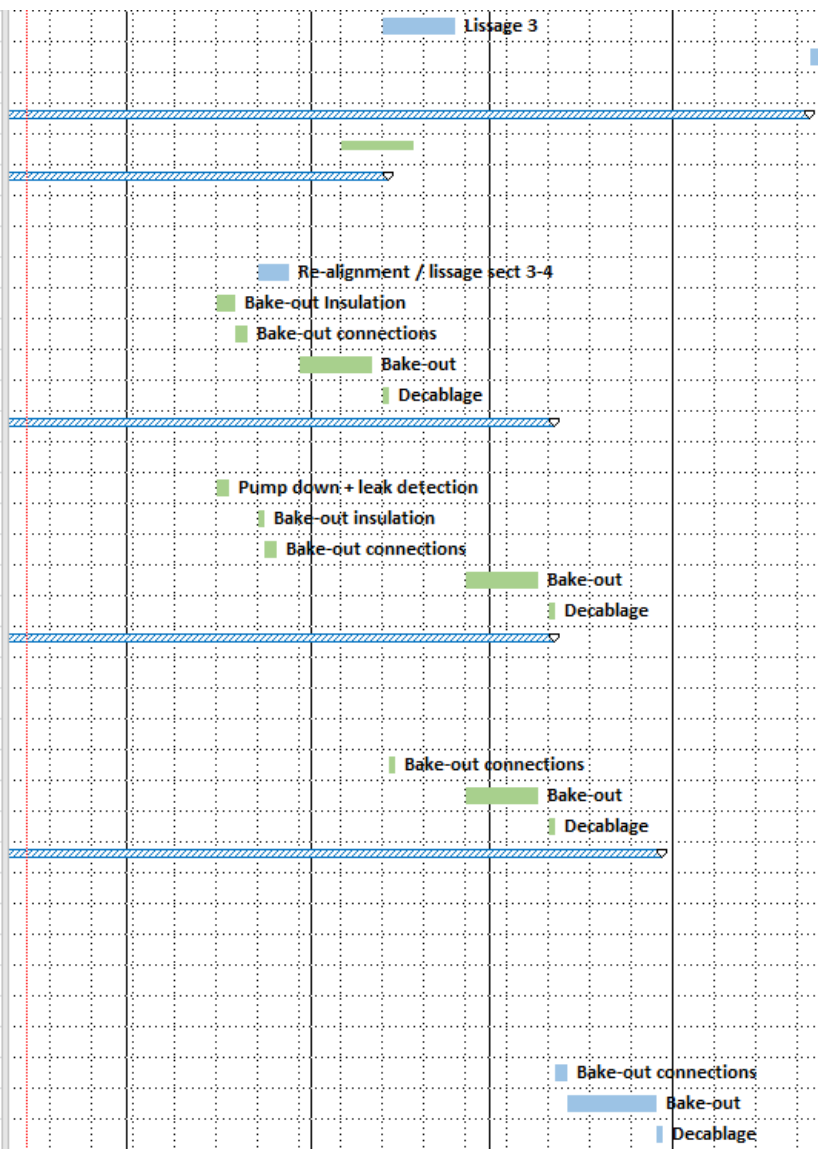




# Vac 0-1, 1, 1-3, 3-4



Lissage 3	EN-SMM	2 wks	Mon 13/04/20	Fri 24/04/20
Measurement of SEM (31) positions	EN-SMM	1 wk	Wed 24/06/20	Tue 30/06/20
▶ Fast deflectors boxes (FDG)		3 days	Mon 11/11/19	Wed 13/11/19
▲ Vacuum work		210 days	Tue 13/08/19	Tue 23/06/20
▶ LNS20		8 days	Mon 06/04/20	Fri 17/04/20
▲ Vac sector 3-4 (ATRAP2 + ALPHA)	TE-VSC	99 days	Mon 11/11/19	Mon 13/04/20
Installation of vacuum equipment	TE-VSC	2 days	Mon 11/11/19	Tue 12/11/19
Pump down + leak detection	TE-VSC	4 days	Wed 13/11/19	Mon 18/11/19
Re-alignment / lissage sect 3-4	EN-SMM	1 wk	Mon 23/03/20	Fri 27/03/20
Bake-out Insulation	TE-VSC	3 days	Mon 16/03/20	Wed 18/03/20
Bake-out connections	TE-VSC	2 days	Thu 19/03/20	Fri 20/03/20
Bake-out	TE-VSC	2 wks	Mon 30/03/20	Fri 10/04/20
Decablage	TE-VSC	1 day	Mon 13/04/20	Mon 13/04/20
▲ Vac sector 1-3 (LNE01 + ATRAP1)	TE-VSC	91 days	Wed 18/12/19	Mon 11/05/20
Installation of vacuum equipment	TE-VSC	1 day	Wed 18/12/19	Wed 18/12/19
Pump down + leak detection	TE-VSC	2 days	Mon 16/03/20	Tue 17/03/20
Bake-out insulation	TE-VSC	1 day	Mon 23/03/20	Mon 23/03/20
Bake-out connections	TE-VSC	2 days	Tue 24/03/20	Wed 25/03/20
Bake-out	TE-VSC	2 wks	Mon 27/04/20	Fri 08/05/20
Decablage	TE-VSC	1 day	Mon 11/05/20	Mon 11/05/20
▲ Vac sector 1	TE-VSC	161 days	Wed 11/09/19	Mon 11/05/20
Installation of vacuum equipment	TE-VSC	1 day	Wed 11/09/19	Wed 11/09/19
Pump down + leak detection	TE-VSC	2 days	Thu 12/09/19	Fri 13/09/19
Bake-out insulation	TE-VSC	2 wks	Fri 20/09/19	Thu 03/10/19
Bake-out connections	TE-VSC	1 day	Tue 14/04/20	Tue 14/04/20
Bake-out	TE-VSC	2 wks	Mon 27/04/20	Fri 08/05/20
Decablage	TE-VSC	1 day	Mon 11/05/20	Mon 11/05/20
▲ Vac sector 0-1 (LNE00-LNE01)	TE-VSC	176 days	Mon 09/09/19	Fri 29/05/20
Installation of vacuum equipment	TE-VSC	2 days	Mon 09/09/19	Tue 10/09/19
Pump down + leak detection	TE-VSC	2 days	Wed 11/09/19	Thu 12/09/19
Bake-out preparation	TE-VSC	2 wks	Fri 13/09/19	Thu 26/09/19
Bake-out connections	TE-VSC	1 day	Mon 06/01/20	Mon 06/01/20
Bake-out	TE-VSC	4 days	Tue 07/01/20	Fri 10/01/20
Decablage	TE-VSC	1 day	Mon 13/01/20	Mon 13/01/20
Bake-out connections	TE-VSC	2 days	Tue 12/05/20	Wed 13/05/20
Bake-out	TE-VSC	2 wks	Thu 14/05/20	Thu 28/05/20
Decablage	TE-VSC	1 day	Fri 29/05/20	Fri 29/05/20

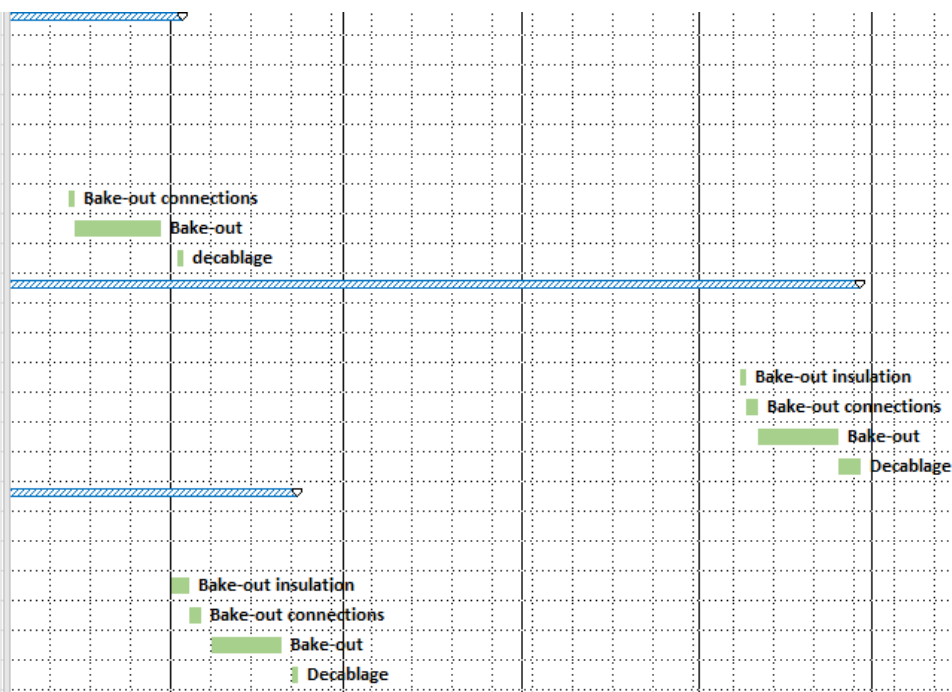




# Vac sectors 5, 6-5, 7



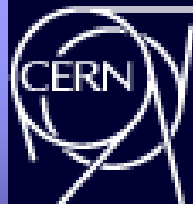
Task	TE-VSC	Duration	Start	End
<b>4 Vac sector 7 (BASE)</b>	<b>TE-VSC</b>	<b>172 days</b>	<b>Mon 16/09/19</b>	<b>Tue 02/06/20</b>
Installation of vacuum equipment	TE-VSC	1 day	Mon 16/09/19	Mon 16/09/19
Pump down + leak detection	TE-VSC	2 days	Mon 30/09/19	Tue 01/10/19
Bake-out preparation	TE-VSC	5 days	Mon 14/10/19	Fri 18/10/19
Bake-out	TE-VSC	2 wks	Mon 04/11/19	Fri 15/11/19
Decablage	TE-VSC	2 days	Mon 02/12/19	Tue 03/12/19
Bake-out connections	TE-VSC	1 day	Thu 14/05/20	Thu 14/05/20
Bake-out	TE-VSC	2 wks	Fri 15/05/20	Fri 29/05/20
decablage	TE-VSC	1 day	Tue 02/06/20	Tue 02/06/20
<b>4 Vac sector 6-5 (LNE06)</b>	<b>TE-VSC</b>	<b>274 days</b>	<b>Mon 19/08/19</b>	<b>Mon 28/09/20</b>
Installation of vacuum equipment	TE-VSC	2 days	Mon 19/08/19	Tue 20/08/19
Pump down + leak detection	TE-VSC	1 day	Wed 04/09/19	Thu 05/09/19
Bake-out insulation	TE-VSC	1 day	Tue 08/09/20	Tue 08/09/20
Bake-out connections	TE-VSC	2 days	Wed 09/09/20	Thu 10/09/20
Bake-out	TE-VSC	2 wks	Fri 11/09/20	Thu 24/09/20
Decablage	TE-VSC	2 days	Fri 25/09/20	Mon 28/09/20
<b>4 Vac sector 5 (LNE05)</b>	<b>TE-VSC</b>	<b>209 days</b>	<b>Tue 13/08/19</b>	<b>Mon 22/06/20</b>
Installation of vacuum equipment	TE-VSC	2 days	Tue 13/08/19	Wed 14/08/19
Pump down + leak detection	TE-VSC	2 days	Thu 15/08/19	Fri 16/08/19
Bake-out insulation	TE-VSC	3 days	Mon 01/06/20	Wed 03/06/20
Bake-out connections	TE-VSC	2 days	Thu 04/06/20	Fri 05/06/20
Bake-out	TE-VSC	2 wks	Mon 08/06/20	Fri 19/06/20
Decablage	TE-VSC	1 day	Mon 22/06/20	Mon 22/06/20





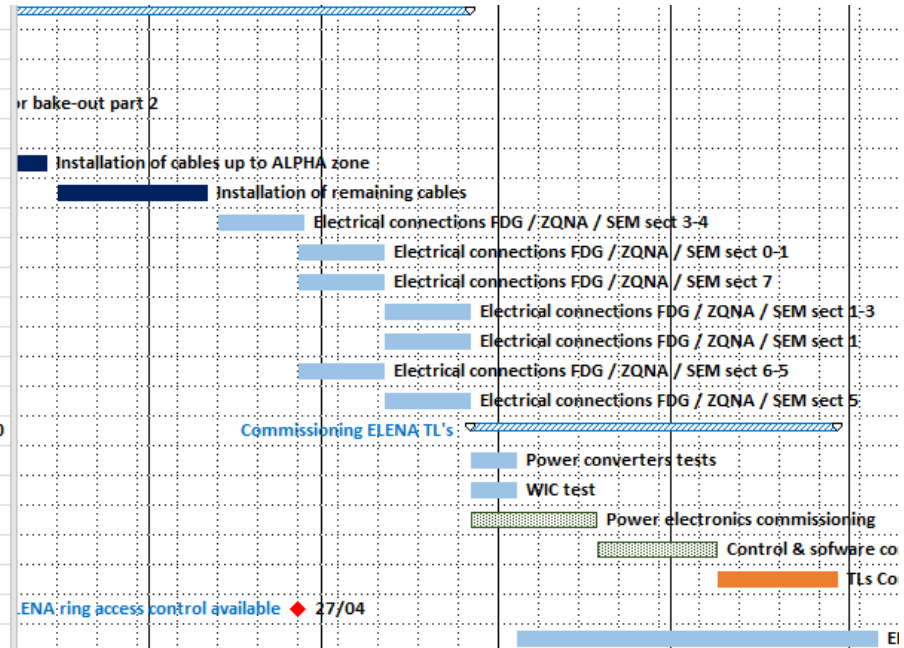


# Cabling / connections / IST



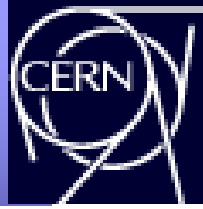
## ▣ Cabling / connection campaign

		192 days	Mon 12/08/19	Tue 26/05/20
Installation of AC cable trays	EN-EL	2 wks	Mon 12/08/19	Fri 23/08/19
Installation of AC: power sockets for bake-out part 1	EN-EL	5 wks	Mon 26/08/19	Fri 27/09/19
Installation of AC: power sockets for bake-out part 2	EN-EL	2 wks	Mon 06/01/20	Fri 17/01/20
Installation of control cable trays	EN-EL	2 wks	Mon 06/01/20	Fri 17/01/20
Installation of cables up to ALPHA zone	EN-EL	8 wks	Mon 20/01/20	Fri 13/03/20
Installation of remaining cables	EN-EL	4 wks	Mon 16/03/20	Fri 10/04/20
Electrical connections FDG / ZQNA / SEM sect 3-4	TE-ABT	2 wks	Mon 13/04/20	Mon 27/04/20
Electrical connections FDG / ZQNA / SEM sect 0-1	TE-ABT	2 wks	Mon 27/04/20	Mon 11/05/20
Electrical connections FDG / ZQNA / SEM sect 7	TE-ABT	2 wks	Mon 27/04/20	Mon 11/05/20
Electrical connections FDG / ZQNA / SEM sect 1-3	TE-ABT	2 wks	Tue 12/05/20	Tue 26/05/20
Electrical connections FDG / ZQNA / SEM sect 1	TE-ABT	2 wks	Tue 12/05/20	Tue 26/05/20
Electrical connections FDG / ZQNA / SEM sect 6-5	TE-ABT	2 wks	Mon 27/04/20	Mon 11/05/20
Electrical connections FDG / ZQNA / SEM sect 5	TE-ABT	2 wks	Tue 12/05/20	Tue 26/05/20
▣ Commissioning ELENA TL's	BE-OP, BE-RF, TE-ABT	45 days	Wed 27/05/20	Wed 29/07/20
Power converters tests	TE-EPC	1 wk	Wed 27/05/20	Wed 03/06/20
WIC test	TE-MPE	1 wk	Wed 27/05/20	Wed 03/06/20
Power electronics commissioning	TE-ABT	3 wks	Wed 27/05/20	Wed 17/06/20
Control & software commissioning	TE-ABT	3 wks	Thu 18/06/20	Wed 08/07/20
TLs Commissioning with beam	BE-OP	3 wks	Thu 09/07/20	Wed 29/07/20
ELENA ring access control available	BE-ICS	0 days	Mon 27/04/20	Mon 27/04/20
ELENA ring beam possible with RF on	BE-OP	9 wks	Thu 04/06/20	Wed 05/08/20





# LNE02 / Aegis TL



Work Item	Code	Duration	Start Date	End Date
<b>LNE02 (Aegis)</b>	TE-VSC	47 days	Mon 31/08/20	Wed 04/11/20
<b>Work in Aegis zone only</b>		6 days	Mon 31/08/20	Mon 07/09/20
Flexible cooling pipes removal	EN-CV	1 day	Mon 31/08/20	Mon 31/08/20
Flexible cooling pipes removal	BE-BI,TE-MS	1 day	Tue 01/09/20	Tue 01/09/20
Vacuum disconnections	TE-VSC	1 day	Wed 02/09/20	Wed 02/09/20
Magnets + supports removal (3)	EN-HE,TE-MS	1 day	Thu 03/09/20	Thu 03/09/20
GEM + supports removal (2)	BE-BI,EN-HE	1 day	Fri 04/09/20	Fri 04/09/20
Emergency exit ladder installation	EN-EA	1 day	Mon 07/09/20	Mon 07/09/20
<b>Work in ELENA and Aegis zones</b>		36 days	Tue 08/09/20	Wed 28/10/20
Tracing on the floor	EN-SMM	1 day	Tue 08/09/20	Tue 08/09/20
Floor drilling	EN-MME	1 day	Wed 09/09/20	Wed 09/09/20
Supports installation (1 +4)	EN-MME	1 day	Thu 10/09/20	Fri 11/09/20
Cable tray + cables pulling	EN-EL	3 days	Mon 14/09/20	Wed 16/09/20
Electrostatic elements + SEM nstallation (1 + 4)	EN-HE,TE-VSC	2 days	Thu 17/09/20	Fri 18/09/20
Alignment	EN-SMM	3 days	Mon 21/09/20	Wed 23/09/20
Installation of vacuum equipment	TE-VSC	2 days	Thu 24/09/20	Fri 25/09/20
Pump down + leak detection	TE-VSC	2 days	Mon 28/09/20	Tue 29/09/20
Smoothing	EN-SMM	2 days	Wed 30/09/20	Thu 01/10/20
Bake-out preparation	TE-VSC	5 days	Fri 02/10/20	Thu 08/10/20
Decablage	TE-VSC	1 day	Fri 23/10/20	Fri 23/10/20
Signal + power cables connections	BE-BI,TE-ABT	3 days	Mon 26/10/20	Wed 28/10/20
Bake-out	TE-VSC	2 wks	Fri 09/10/20	Thu 22/10/20
HW commissioning	BE-BI,TE-ABT	1 wk	Thu 29/10/20	Wed 04/11/20

