



HIE-ISOLDE Status Report Installation works ISOLDE Hall 170

68th ISCC meeting CERN, 22 October 2013

Erwin Siesling on behalf of the HIE integration team





- Status Report HIE Installation October 2013:
 - Progress since the last SC meeting in April
 - Have there been or are there any delays
 - Are we on track with regard to the planning
 - What to expect for the next 6 months







Outdoor progress





Cooling & ventilation: Cooling towers, Chillers and a large part of the tubing is in place 4

Compressor building 198





Cooling & ventilation and EL systems:

Steel structures, Ventilation Unit, Electrical cabinets, Pumps and Piping in place as well as large parts of the ducts and cable trays



Cold Box building 199



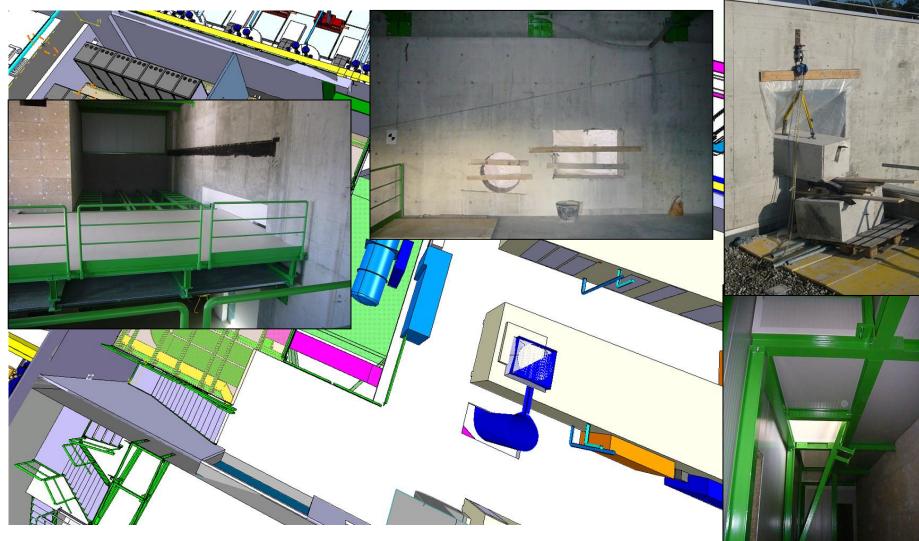


EL systems ground floor: False floor structure in place for the 3.3kV (Compressors power) 6



Cold Box building 199



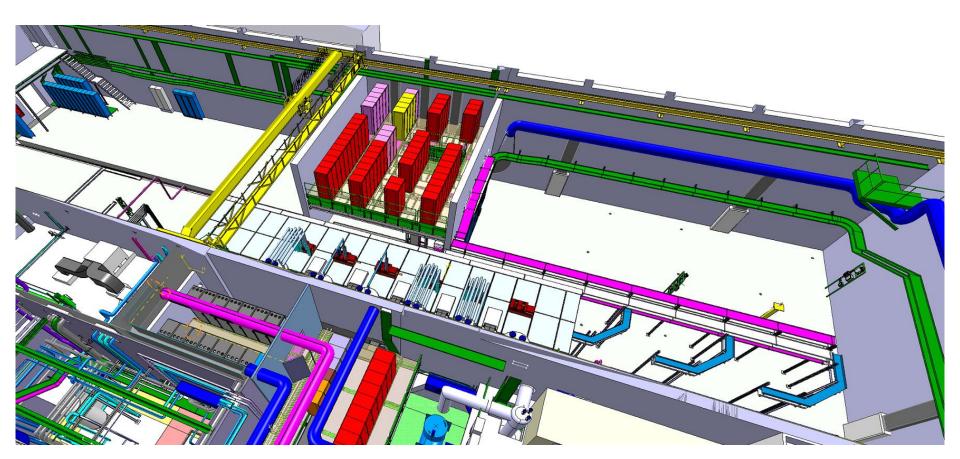


1st floor, metal structures and Civil Engineering: Plenum, false floor and reservations done



ISOLDE hall 170

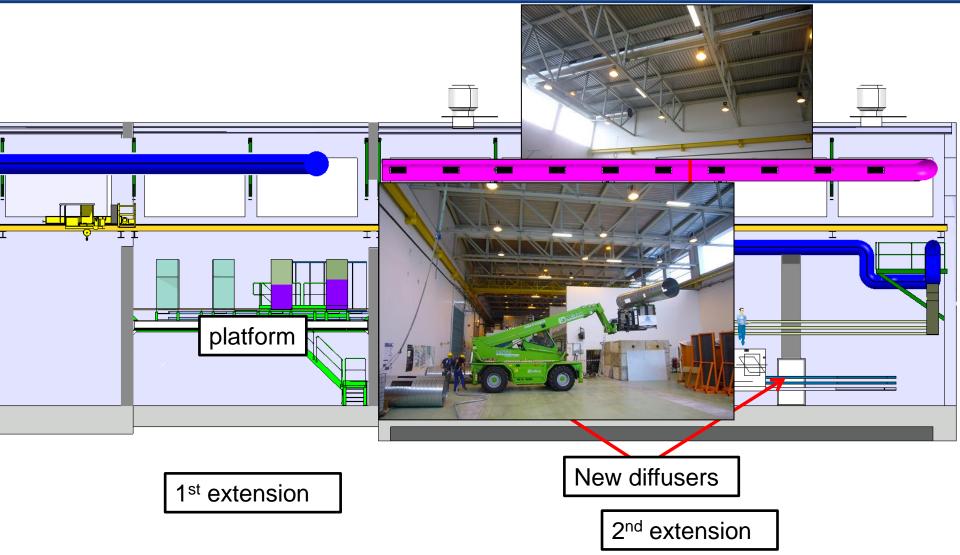




ISOLDE hall 170: Civil engineering, metal structures, cooling and ventilation

Hall 170 ventilation systems

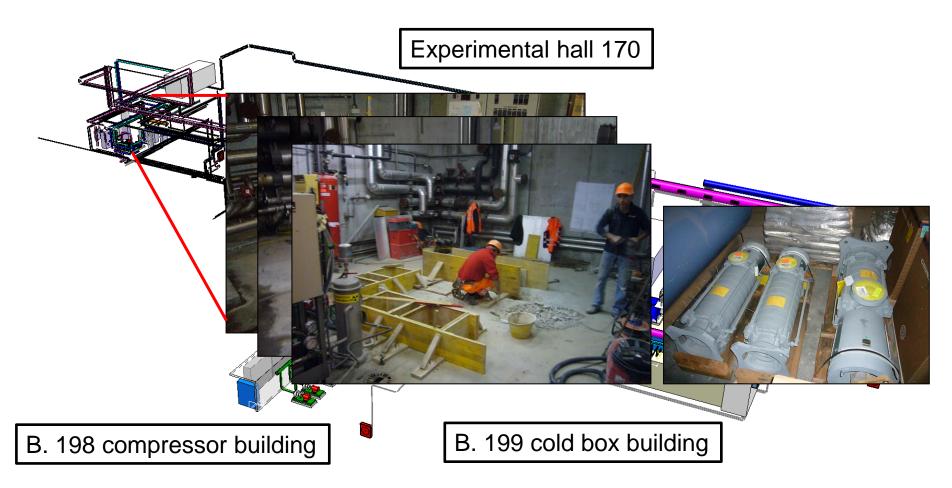




ISOLDE hall 170: Ventilation ducts put in place

Cooling and ventilation systems

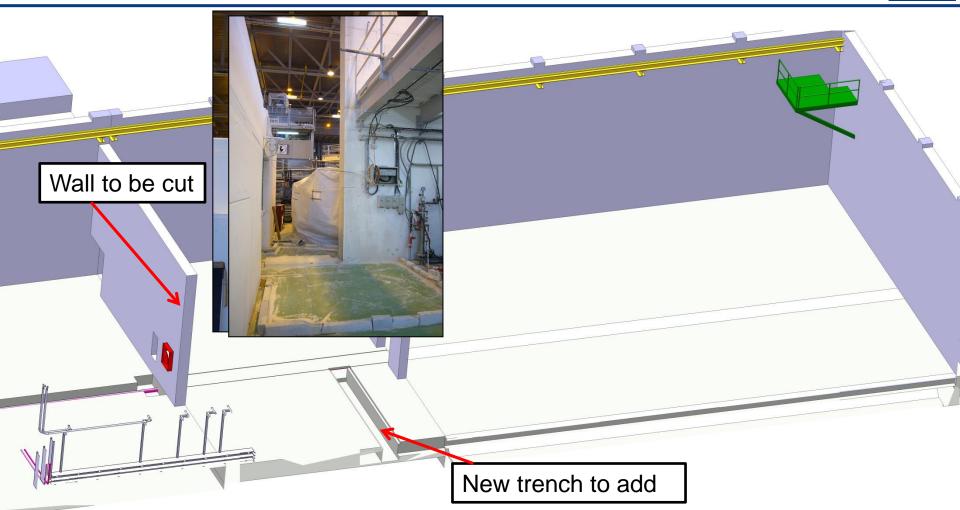




ISOLDE water station:

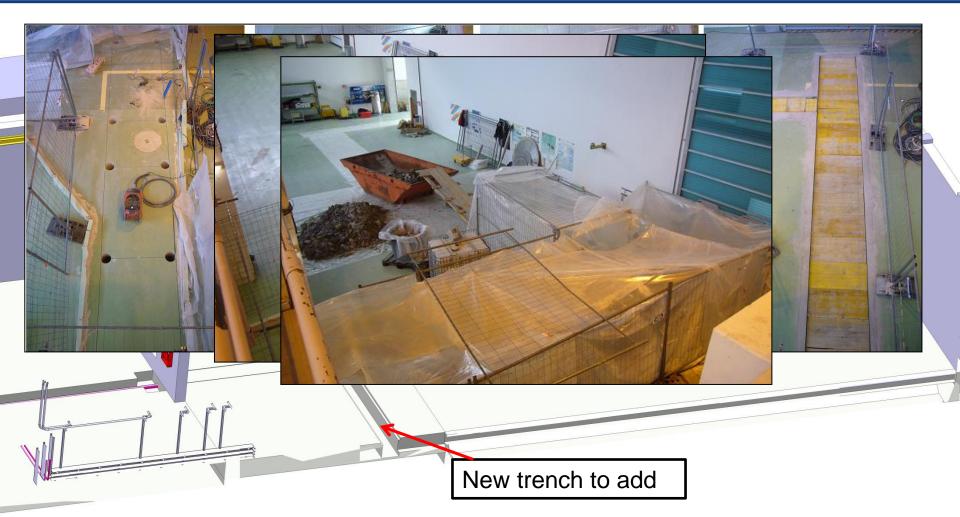
Old equipment removed, installation new pumps and piping started

Civil Engineering in Hall 170



Platform wall has been cut to provide free passage/access cryo modules: Cleaning campagne was organised to undust equipment





New trench in place for cabling into the new shielding tunnel: Covering tent for dust protection



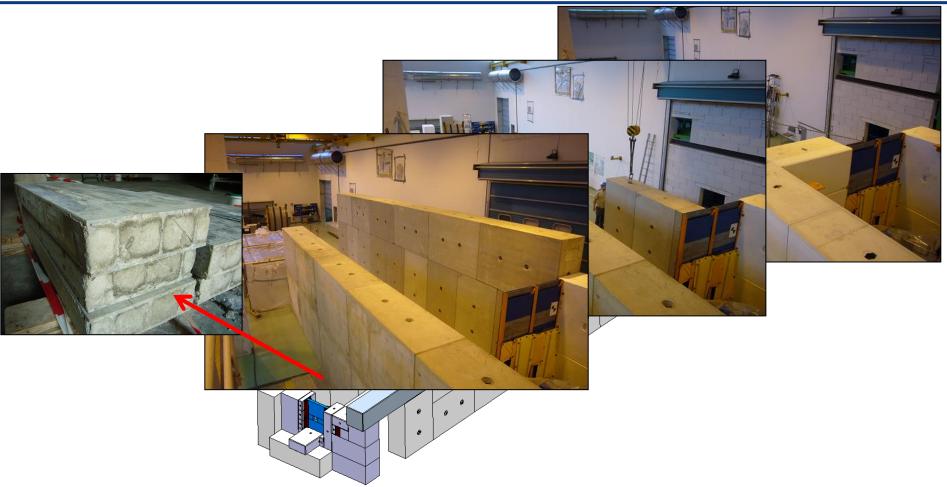




ISOLDE hall 170: Civil engineering Installation of the new shielding tunnel walls

Shielding tunnel Hall 170

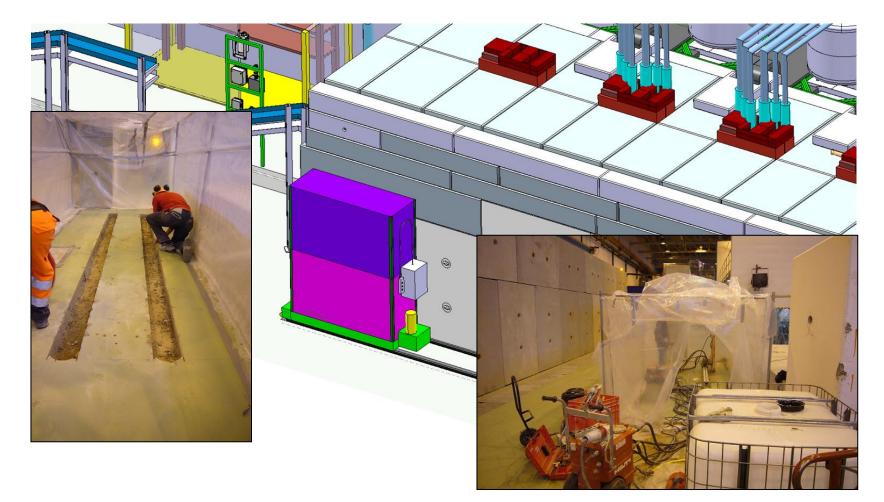




ISOLDE hall 170: Civil engineering Installation of the new shielding tunnel walls

Shielding tunnel Hall 170

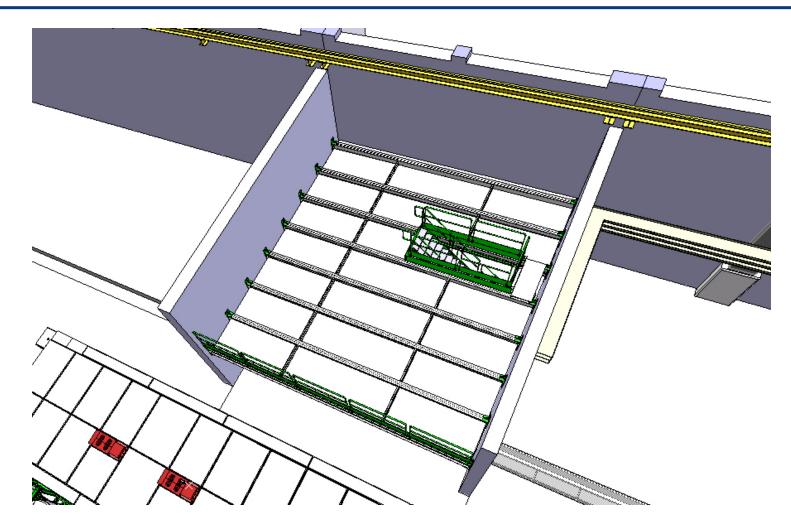




ISOLDE hall 170: Civil engineering Installation of the shielding door rails



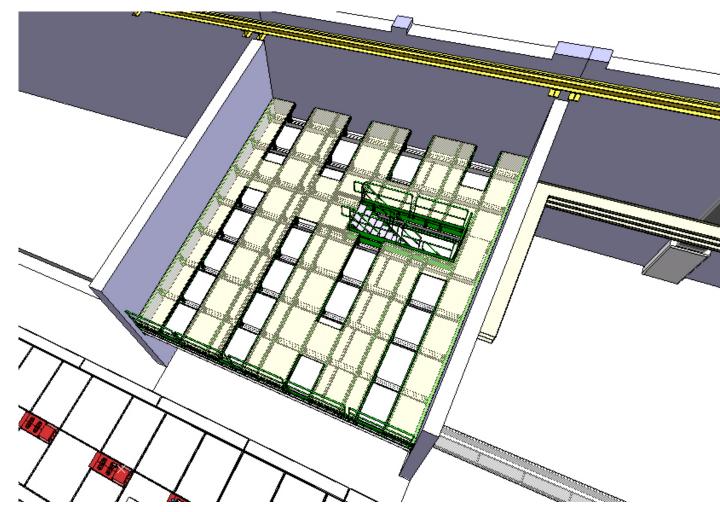




ISOLDE hall 170: Metal structures Modification of the future rack platform ongoing



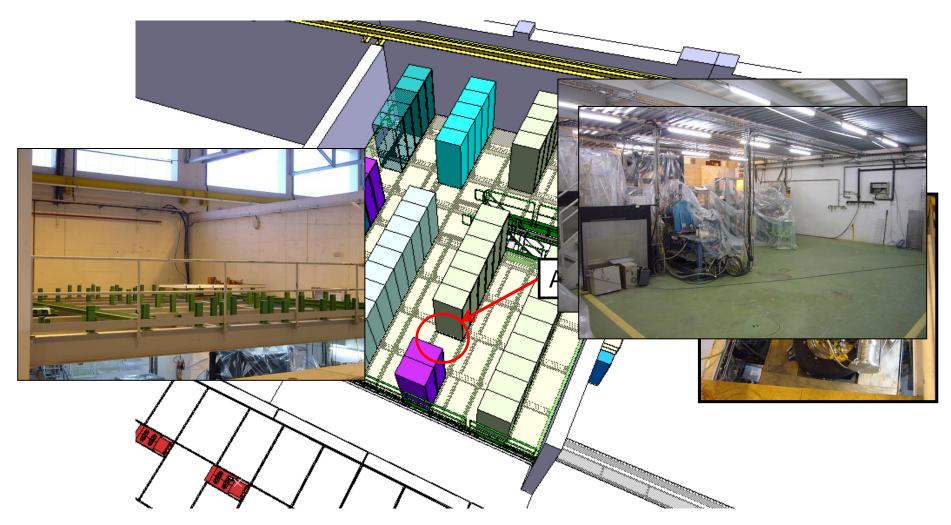




ISOLDE hall 170: Metal structures Modification of the future rack platform ongoing





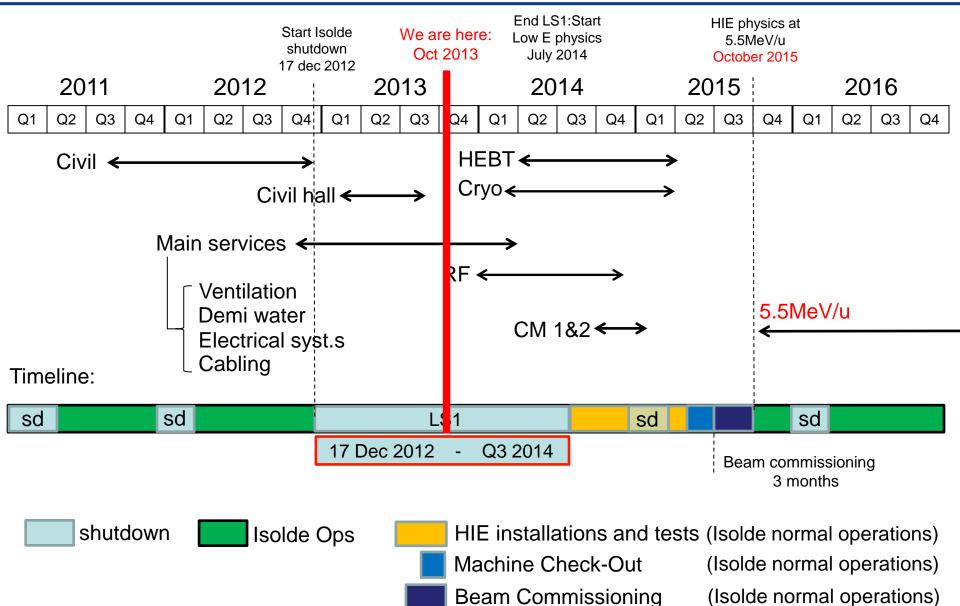


ISOLDE hall 170: Metal structures Modification of the future rack platform ongoing



HIE Simplified Planning









Activities	Delay with	regard to baseline April 2013	building	On track present planning	Critical
Cooling & ventilation: Installation units and piping	4 months	Introduced by the contractor. New planning in place	198, 199, 170	Yes	No 14 March ready for Isolde Low Energy startup
Electrical systems: service buildings	2 months	Due to CV contractor delay	198,199	Yes	No
Integration tunnel infrastructure	-	Open actions on metal structure, vacuum and water piping routing, He shielding, CM supports	170	Yes	Yes Critical: tunnel infrastructure + cable trays need structure in place by end Jan'14
Metal Structures: rack platform	2 months	Due to LS1 load	170	Yes	No
Metal Structures: jumper boxes platform	4 months	Design needs finishing: Data missing from Cryo due to late Cryo Line procurement	170	Yes	Yes Critical: cable trays need platform in place end Jan'14
Civil Engineering: trench	2 months	Unforeseen difficulties with trench cutting	170	Yes	No
Civil Engineering: tunnel	2 months	Due to trench delay	170	Yes	No
Cabling: trays and cables	3 months	Due to late modif rack platform + service buildings CV installations delayed	199, 170	Yes	No
Cryogenics: late cryo distribution line	-	Late installation dewar, distribution line & jumper boxes (sept '14)	199, 170	Yes	Yes Critical: very tight with commissioning plan & physics oct'15



Metal structures

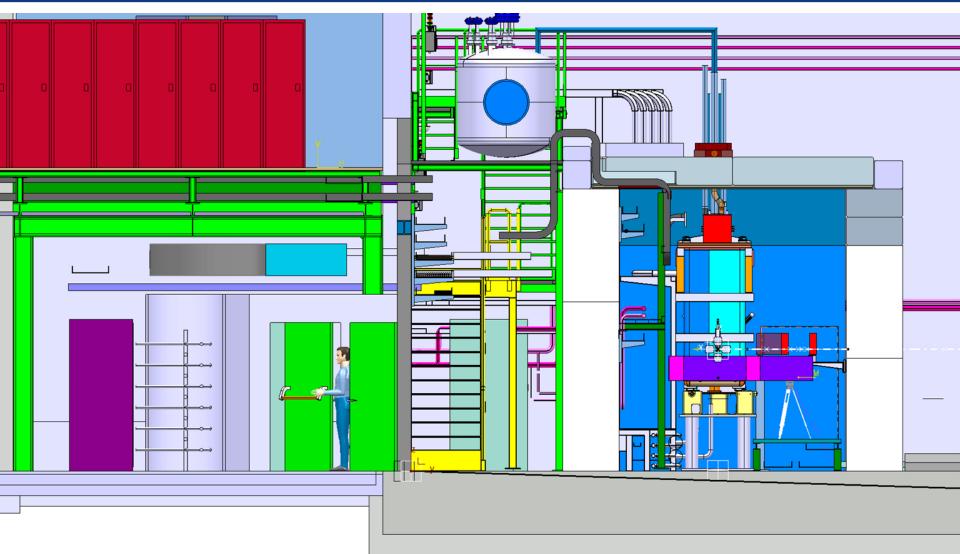




Platforms Cryo Jumper Boxes: To be in place early 2014





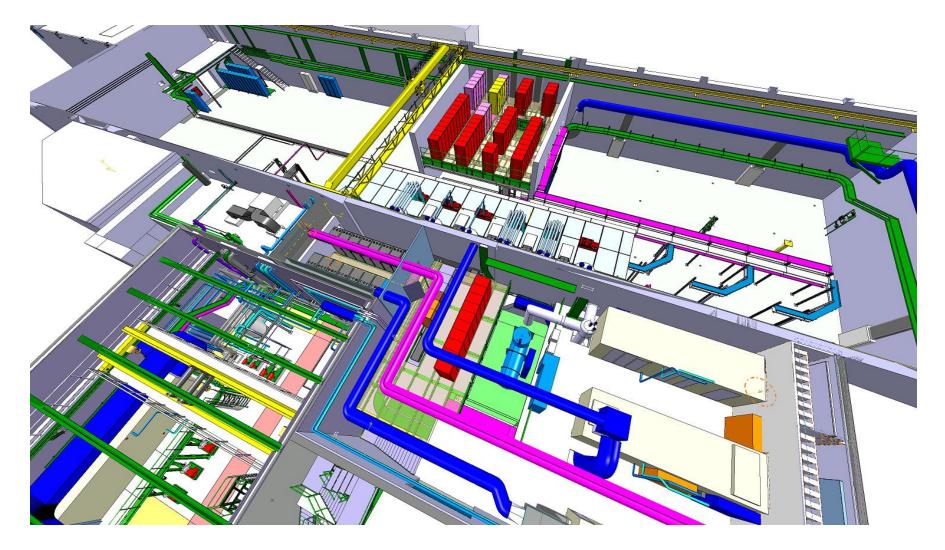


Tunnel structure and infrastrucure installation to start early 2014



Coming up:



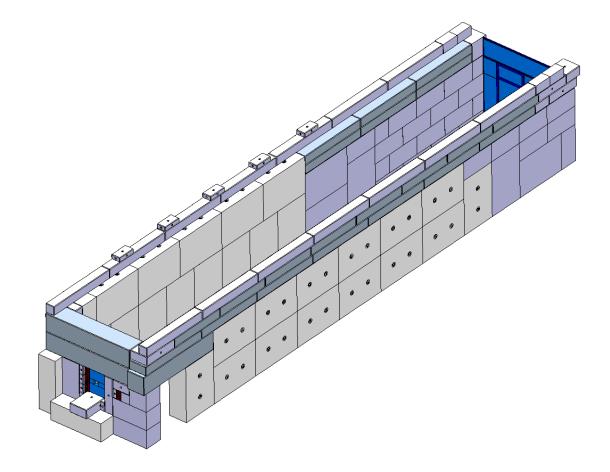


CV units 199, air ducts (remaining 170), diffusers and smoke extractors B198, 199 and 170: Oct-Nov-Dec 2013



Coming up:



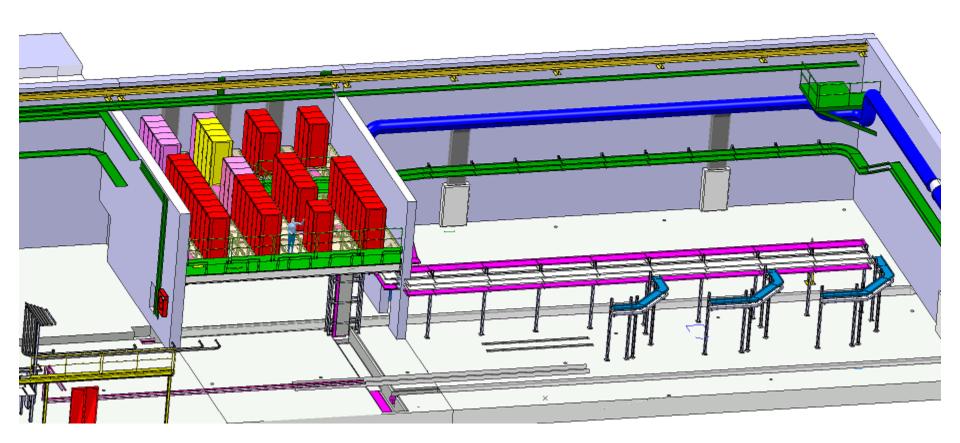


Installation top walls shielding tunnel: Dec 2013



Coming up:





Cable trays buildings, tunnel and HEBT: Nov 2013 – March 2014





- Status Report HIE Installation October 2013:
 - Progress since the last SC meeting in April High activity in the hall and service buildings
 - Have there been or are there any delays
 Yes. Indicated and co-activities planning adapted
 - Are we on track with regard to the planning Yes. Despite delays we are still in line with the overall schedule which aims for low energy physics during 2014 and HIE physics as of Oct 2015. Critical paths for some activities are being addressed



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EN/STI

GS/DI

TE/MSC

DSG/RP

HIE ISOLDE Integration



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- EN/HDO : YACINE KADI
 - BE/RF : MATTEO PASINI, MATTHEW FRASER, DANIEL VALUCH, WALTER VENTURINI, LUCA ARNAUDON
 - EN/CV : PAUL PEPINSTER, BENOIT LACARELLE, FREDRIC BORRALHO
- EN/EL
 : RENE NECCA, JEAN-CLAUDE GUILLAUME, GEORGI
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 - : RICHARD CATHERALL, ANA-PAULA BERNARDES
 - : CYRILLE BEDEL
 - : YANN LECLERCQ, LLOYD WILLIAMS
 - : JOACHIM VOLLAIRE, SANDRA GIRON, ALEXANDRE DORSIVAL
- TE/ABT : BRENNAN GODDARD





Co-activities planning HIE ISOLDE installation:





i	Task Name 👻	Duration 🚽	Start 🖕	Finish 🖕	uly 21/08	01 October 02/10 13/11	01 January 25/12 05/02	01 April 19/03 30/04 1	01 July 1/06 23/07 03/09	01 October 15/10 26/1	01 Janua 11 07/01 1			01 July 05/08 16	01 October 6/09 28/10 0
	Long Shutdown LS1 (Isolde)	333 days	Thu 20/12/12	Tue 01/04/14		•	,								
	ISOLDE Shutdown start	0 days	Thu 20/12/12	Thu 20/12/12		•	20/12								
	ISOLDE Shutdown end (cold check starts)	0 days	Tue 01/04/14	Tue 01/04/14								01/04	•		
	ISOLDE cooling water available	0 days	Fri 14/03/14	Fri 14/03/14								+			
	B198 Compressor building activities	436 days	Mon 22/10/12	Mon 23/06/14											
	Civil engineering	416 days	Mon 22/10/12	Mon 26/05/14		—				_					
	Building ready	0 days	Mon 22/10/12	Mon 22/10/12											
\checkmark	Doors installation (acoustic)	5 days	Thu 02/05/13	Wed 08/05/13				😝 E. Pere	ez-Duenas GS/SE,C	Contractor					
	Finalization inside (paint floor, etc)	2 wks	Tue 13/05/14	Mon 26/05/14									E. Perez-	Duenas GS/	SE,Contracto
\checkmark	concrete bases pumps	3 days	Thu 10/10/13	Mon 14/10/13						8					
	Electrical room available	1 day	Thu 31/10/13	Thu 31/10/13						1					
	water treatment room available	5 days	Mon 11/11/13	Fri 15/11/13						0					
	EL distribution for CV and Cryo	281 days	Tue 23/10/12	Tue 19/11/13											
	Cable trays, cabling and distribution cabinets	281 days	Tue 23/10/12	Tue 19/11/13						R. N	ecca EN/EL,C	ontractor	1		
~	Transfo's connection to PS 18kV hub (inj compl	2 wks	Fri 01/03/13	Thu 14/03/13			-								
	Cooling and Ventilation	224 days	Tue 04/06/13	Fri 11/04/14				-							
	B198 HVAC installation	172 days	Tue 04/06/13	Wed 29/01/14				-		_					
	mechanical installation AHU UAPX-00288, du	124 days	Tue 04/06/13	Fri 22/11/13				-		<u></u> Р. Г	epinster EN	/CV,Contrac	tor		
	Smoke extractors	10 days	Mon 28/10/13	Fri 08/11/13											
	supporting roof structures	5 days	Mon 28/10/13	Fri 01/11/13						6					
	extraction ventilators roof UAT2	1 wk	Mon 04/11/13	Fri 08/11/13						Contr	actor, F. Bor	alho EN/CV			
	electrical installation UIAO-19801	20 days	Thu 31/10/13	Wed 27/11/13											
111	Tests electrical, VO, functional and performa	35 days	Thu 12/12/13	Wed 29/01/14						- +					
	system ready		Wed 29/01/14								a 29	01			
	B198 primary Water installation	180 days	Mon 08/07/13	Fri 14/03/14						_	· ·				
	mechanical installation outdoor (roof 1)	90 days	Mon 08/07/13	Fri 08/11/13					·			•			
~	cooling towers structure installation (roo	5 days	Mon 08/07/13	Fri 12/07/13					i.	Ť					
	cooling towers installation	5 days	Mon 15/07/13	Fri 19/07/13					Ť						
	Piping, fittings & supports, instrumentatio		Thu 15/08/13												
	mechanical installation indoor (B198)	89 days		Wed 15/01/14											
	Pumps, piping, filter	41 days								P. Per	oinster EN/C	V,F. Borralho	EN/CV,Contr	actor	
	X-ray inspection		Mon 11/11/13									-			
	instrumentation	10 days		Mon 16/12/13						1 [•] •					
	pressure tests		Tue 17/12/13												
	Lagging (insulation)		Thu 19/12/13												
	electrical installation UIAO-19803	82 days							4						
	Tests electrical, VO, functional and performa	35 davs	Mon 20/01/14	Fri 07/03/14								`			
	Cooling towers commissioning (DECSA)		Mon 10/03/14	Fri 14/03/14								×			
	system ready (before start up Isolde)	0 days									C	14 03			
	B198 MIXED Water installation		Mon 21/10/13							• • •••••					
	 mechanical installation indoor (B198) 	-	Mon 21/10/13												
	Pumps & buffer tank		Mon 21/10/13							P. Pepin	ster EN/CV,	Contractor			
	piping, fitting & support inside 198, 199 &		Mon 28/10/13							F		N/CV,Contra	tor		
			Mon 09/12/13												
			Mon 30/12/13	Fri 10/01/14						1	t				
	X-ray inspection instrumentation	10 davs													
**	instrumentation			Fri 17/01/14							1 V I				
	instrumentation pressure tests	5 days	Mon 13/01/14									L			
	instrumentation pressure tests Lagging (insulation) B199, B198, B170	5 days 6 wks	Mon 13/01/14 Mon 20/01/14	Fri 28/02/14								P. Peninete	r FN/CV Con	ractor	
	instrumentation pressure tests Lagging (insulation) B199, B198, B170 electrical installation UIAO-19802	5 days 6 wks 60 days	Mon 13/01/14 Mon 20/01/14 Mon 09/12/13	Fri 28/02/14 Fri 28/02/14								P. Pepinste	r EN/CV,Cont	ractor	
	instrumentation pressure tests Lagging (insulation) B199, B198, B170	5 days 6 wks 60 days	Mon 13/01/14 Mon 20/01/14 Mon 09/12/13 Mon 03/03/14	Fri 28/02/14 Fri 28/02/14								P. Pepinste	r EN/CV,Cont	ractor	





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6	Task Name 💂	Duration \downarrow	Start 🖕	Finish 🖕	Jly	01 October	01 January		01 April	44/0/	01 Ju			Octol		01 Jan			April				1 October
		81 davs	Mon 03/03/14	Mon 23/06/14	21/08	02/10 13/11	25/12 05/02	19/03	30/04	11/00	5 23/0	03/09	, 1	5/10	26/11	07/01	18/02	01/04	13/05	24/06	05/08 1	6/09	28/10 09/1
	Compressors installation (refurbished ALEPH)			Mon 12/05/14													Ĭ		N. Delr	uelle T	E/CRG,Co	ontrac	tor
	Compressors commissioning	-		Mon 23/06/14													_	_					Contractor
	compressors commissioning	50 days	100 10/00/14	1011 20100114																			
	B197 existing water station	218 days	Wed 15/05/13	Fri 14/03/14					<u> </u>								÷.						
\checkmark	Civil Engineering	113 days	Wed 15/05/13	Fri 18/10/13					÷,				-										
\checkmark	dismantling 197 cooling station	20 days	Wed 15/05/13	Tue 11/06/13																			
\checkmark	concrete bases pumps	3 days	Wed 16/10/13	Fri 18/10/13																			
	EL distribution for CV	92 days	Thu 05/09/13	Fri 10/01/14									-										
\checkmark	removal 24V pow supply installation	4 days	Thu 05/09/13	Tue 10/09/13								•											
	Electrical power distribution B197	5 days	Mon 06/01/14	Fri 10/01/14																			
	B197 secondary demi water installation	117 days	Thu 03/10/13	Fri 14/03/14									┍═╞										
	mechanical installation (B197)	80 days	Mon 14/10/13	Fri 31/01/14										_									
	Pumps, piping, filter	30 days	Mon 14/10/13	Fri 22/11/13									4		F. Bo	ralho El	l/¢V,Co	ntracto	r				
	X-ray inspection	5 days	Mon 25/11/13	Fri 29/11/13										1	6								
	instrumentation	10 days	Thu 05/12/13	Wed 18/12/13											Ъ.								
	pressure tests	2 days	Thu 19/12/13	Fri 20/12/13											Ĭ								
	Lagging (insulation)	4 wks	Mon 06/01/14	Fri 31/01/14												` —							
	electrical installation UIAO-19701+UIAC-19701	75 days	Thu 03/10/13	Wed 15/01/14									=										
	Tests electrical, I/O, functional and performance	20 days	Mon 17/02/14	Fri 14/03/14												1							
	system ready (before start up Isolde)	0 days	Fri 14/03/14	Fri 14/03/14													S	14/03					
							1	1												1		1	





3/03

i	Task Name 👻	Duration 🚽	Start 🖕	Finish 🖕	01 Apr, '13	01 Jul, '13 1/06 23/07 03/		ct, '13 0 26/11	01 Jan, '14 07/01 18/02	01 Apr, '14	01 Jul, '14	01 Oct, '14 16/09 28/10 09	01 Jar	
					15/05 50/04 1	20/01 00	00 1 10/1	0 20/11	0//01 10/02	01104 10/00	24/00 03/00	20/10 0.	2010	1 000
-	B199 Cold Box building	621 days	Mon 01/10/12	Mon 16/02/15									<u> </u>	,
	Civil engineering	416 days	Mon 22/10/12	Mon 26/05/14										
	Building ready	0 days	Mon 22/10/12	Mon 22/10/12						•				
\checkmark	Doors installation	5 days	Mon 08/04/13	Fri 12/04/13										
	Finalization inside (paint floor, etc)	2 wks	Tue 13/05/14	Mon 26/05/14						😑 E. Pe	rez-Duenas GS	/\$E,Contractor		
\checkmark	Carrotages / reservations in walls	11 days	Mon 19/08/13	Mon 02/09/13		•••								
\checkmark	CV tubes & EL distribution B199 to B198	4 days	Mon 19/08/13	Thu 22/08/13		•								
\checkmark	CV ducts B199 to B170	2 wks	Tue 20/08/13	Mon 02/09/13		😑 E. I	Pere <mark>z-Du</mark>	ienas GS	/SE,Contractor					
\checkmark	EL power distribution B199 to B170	1 wk	Tue 20/08/13	Mon 26/08/13		e								
\checkmark	Cryo cold line B199 to B170	1 wk	Tue 20/08/13	Mon 26/08/13										
\checkmark	Cryo opening floor 199	5 days	Tue 20/08/13	Mon 26/08/13		a								
\checkmark	RF cabling B199 to REX RF room	2 days	Mon 26/08/13	Tue 27/08/13										
	Metal structures	295 days	Mon 26/11/12	Fri 10/01/14			-							
\checkmark	Stairs + barrier indoor	5 days	Mon 26/11/12	Fri 30/11/12	<u> </u>									
\checkmark	Metal floor	6 wks	Thu 02/05/13	Wed 12/06/13	*	D. Parchet GS/SE,	Con ract	tor						
\checkmark	fresh air plenum structure and walls	10 wks	Tue 25/06/13	Mon 02/09/13		<u> </u>								
	false floor B199 (3.3kV distrib.)	1 mon	Tue 01/10/13	Mon 28/10/13										
	15cm structures under RF ampl racks	5 days	Mon 06/01/14	Fri 10/01/14					🔋 D. Parchet G	S/SE,Contractor				
	EL distribution for CV, Cryo, RF, EPC	119 days	Fri 15/11/13	Wed 30/04/14										
	Cable trays, cabling and distribution cabinets	66 days	Fri 15/11/13	Fri 14/02/14					E. Nec	ca EN/EL,Contrad	tor,G. Georgiev	EN/EL		
	3.3kV distribution (compressors)	43 days	Mon 03/03/14	Wed 30/04/14						R. Necca	EN/EL,Contracto	or and a second s		
	DC, controls and ethernet (also see B170)	0 days	Mon 01/10/12	Mon 01/10/12										
	cable trays period (also see B170)	0 days	Mon 01/10/12	Mon 01/10/12										
	cabling period (also see B170)	0 days	Mon 01/10/12	Mon 01/10/12										
	Cooling and ventilation	214 days	Tue 11/06/13	Fri 04/04/14	-					•				
	B199 HVAC installation	125 days	Mon 14/10/13	Fri 04/04/14			–			-				
	Mechanical installation Vent Units AHU UAP	40 days	Mon 14/10/13	Fri 06/12/13				P.	Pepinster EN/CV	,Contractor				
	ducts & diffusers 199	-	Mon 09/12/13											
	instrumentation	-	Mon 30/12/13											
	Smoke extractors	-	Mon 28/10/13					,						
	supporting roof structures	-	Mon 28/10/13				• •							
	extraction ventilators roof UAT2		Mon 04/11/13				Í	Contrac	tor,F. Borralho I	N/CV				
	electrical installation UIAC-19901,UIAN-1990	-	Mon 21/10/13											
	Tests electrical, VO, functional, performance		Mon 17/02/14						(h				
	system ready	0 days								o4/04				
	B199 mixed water installation		Tue 11/06/13											
	mechanical installation outdoor B199		Tue 11/06/13		-									
\checkmark	chillers roof structure installation	5 days			🕴									
 ✓ 	chillers installation	5 days				<u>ң</u>								
	pipings, fittings & support, instrumentation	84 days	Tue 25/06/13	Fri 18/10/13		-	-	— I						24
														31

Co-Activities B199 & Safety



	Task Name	Duration 🖕	Start 🖕	Finish 🖕	01 Ap	r, '13	01 Jul, '	13	01 Oct,	'13	01 Jan, '14	01 Apr, '14	01 Jul, '14	01 Oct, '1	4 01 Ja	n, '15
1	· · · · · · · · · · · · · · · · · · ·		•	•	19/03 30	/04 11/	/06 23/07	03/09	15/10	26/11	07/01 18/02	01/04 13/05	24/06 05/08	16/09 28/10	09/12 20/	01 03/03
	Racks installation	90 days	Mon 06/01/14	Fri 09/05/14												
	Ground floor	90 days	Mon 06/01/14	Fri 09/05/14												
	vacuum racks (ex-entrance) - Linac vac	2 mons	Mon 06/01/14	Fri 28/02/14							EN/	EL,Diff. Groups				
	RF amplifiers	2 mons	Mon 17/03/14	Fri 09/05/14								D. Valu	ch BE/RF,Contra	ctor		
	RF slow control	2 mons	Mon 17/03/14	Fri 09/05/14								L. Arna	udon BE/RF,Con	ntractor		
	First floor	90 days	Mon 06/01/14	Fri 09/05/14												
	RF Low Level faraday racks	2 mons	Mon 17/03/14	Fri 09/05/14								D. Valu	ch BE/RF,Contra	ctor		
	solenoids EPC racks	2 mons	Mon 06/01/14	Fri 28/02/14							C	ntractor, <mark>G</mark> . Geor	giev EN/EL			
	Linac RF Equipment installation	145 days	Mon 12/05/14	Fri 28/11/14										+		
	LLRF batch 10 units, installation & test	4.5 mons	Mon 12/05/14	Fri 12/09/14										D. Valuch BE/I	RF,Contracto	e i
	RF slow control, installation and test	145 days	Mon 12/05/14	Fri 28/11/14											L. Arnaudor	BE/RF,Co
	RF amplifiers	120 days	Mon 12/05/14	Fri 24/10/14										Contr	actor,D. Valu	ch BE/RF
	RF low level commissioned	0 days	Fri 28/11/14	Fri 28/11/14										*	28/11	
	Solenoids	120 days	Mon 19/05/14	Fri 31/10/14								•				
	Solenoids EPC's, installation and test	120 days	Mon 19/05/14	Fri 31/10/14								T 1		М. М	artino TE/EP	C,Contrac
	Safety Systems	435 days	Mon 01/10/12	Mon 02/06/14					-							
	Eau incendie Bat. 198/199	10 days	Mon 02/12/13	Fri 13/12/13						🛑 F.	Borralho,Cont	ractor				
	Installation ODH oxygene detection syst (hall170 &	30 days	Mon 06/01/14	Fri 14/02/14												
	Displace gen. alarm panel (to entrance Bat.199)	5 days	Mon 06/01/14	Fri 10/01/14							🔋 D. Raffourt,	Contractor				
	RAMES monitoring installation	24 wks	Tue 19/11/13	Mon 05/05/14								A. Dors	ival,Contractor			
	Detection incendie Bat. 198/199	6 wks	Mon 30/12/13	Fri 07/02/14							D. Raff	ourt,Contractor				
	Safety file	312 days	Mon 01/10/12	Tue 10/12/13												
	Beam Permit for HIE Isolde Linac	0 days	Mon 02/06/14	Mon 02/06/14									2/06			
					•	:										11 A.





(Task Name	Duration $_{\downarrow}$	Start 🖕	Finish 🚽	±t, '12 01 Jan, '13 01 Apr, '13 01 Jul, '13 01 Oct, '13 01 Jan, '14 01 Apr, '14 01 Jul, '14 13/11 25/12 05/02 19/03 30/04 11/06 23/07 03/09 ∎15/10 26/11 07/01 18/02 01/04 13/05 24/06 05/08 16
	- Hall 170 activities	397 days	Thu 20/12/12	Fri 27/06/14	
	- Hall 170 preparations	83 days	Thu 20/12/12	Mon 15/04/13	
\checkmark	empty hall	57 days	Thu 20/12/12	Fri 08/03/13	Isolde collab,BE/OP
×	move Miniball & B-NMR setup	48 days	Thu 20/12/12	Mon 25/02/13	Miniball team, Iso Coll
-	REX beamlines dismount	15 days	Mon 18/02/13	Fri 08/03/13	———
	Dismounting beamline starting date	0 days	Mon 18/02/13	Mon 18/02/13	♦ 18/02
\checkmark	remove existing beamlines cabling	6 days	Mon 18/02/13	Mon 25/02/13	envel.
\checkmark	remove existing water tubes	6 days	Fri 22/02/13	Fri 01/03/13	⊜ N. Roget EN/CV
\checkmark	remove existing vacuum tubing	6 days	Mon 25/02/13	Mon 04/03/13	😑 G. Vandoni TE/VSC
\checkmark	dismantle existing REX beamlines elements +	6 days	Thu 28/02/13	Thu 07/03/13	BE/OP, transport
\checkmark	removal RF dummy load	1 day	Mon 18/02/13	Mon 18/02/13	H. Broere BE/RF,BE/OP
\checkmark	EPC: Bruker, Danfysik racks removal	5 days	Mon 04/03/13	Fri 08/03/13	e TE/EPC
\checkmark	platform wall preparations	10 days	Tue 02/04/13	Mon 15/04/13	
\checkmark	Wall: removal RIA	2 days	Fri 12/04/13	Mon 15/04/13	B. N. Roget EN/CV,Contractor
\checkmark	Wall: power outlets, modify tunnel lights cab	10 days	Tue 02/04/13	Mon 15/04/13	B. Mecca EN/EL,Contractor
	Cooling & Ventilation	107 days	Thu 18/07/13	Fri 13/12/13	
	HVAC installation	107 days	Thu 18/07/13	Fri 13/12/13	
\checkmark	Extraction ducts middle roof	6 days	Thu 18/07/13	Thu 25/07/13	
\checkmark	Pulsing ducts Saleve side	5 days	Fri 26/07/13	Thu 01/08/13	
\checkmark	Pulsing ducts Einstein side	5 days	Fri 02/08/13	Thu 08/08/13	
\checkmark	Pulsing ducts Jura side	5 days	Fri 09/08/13	Thu 15/08/13	B P Pepins er EN/CV,Contractor
	connecting ducts & diffusers along walls	3 wks	Mon 28/10/13	Fri 15/11/13	P. Pepínster EN/CV,Contractor
	duct to platform	1 wk	Mon 09/12/13	Fri 13/12/13	
	Smoke extractors	10 days	Mon 25/11/13	Fri 06/12/13	
	supporting roof structures	5 days	Mon 25/11/13	Fri 29/11/13	
	extraction ventilators roof		Mon 02/12/13		G Contractor, F. Borralho EN/CV
	Civil Engineering hall 170	205 days	Mon 13/05/13	Fri 21/02/14	
\checkmark	cutting wall platform	12 days			E. Perez-Duenas GS/SE, contractor
 ✓ 	escavate cable trench tunnel	8 wks			E. Perez-Duer as GS/SE,Contractor
~	epoxy finishing trench	3 days		Thu 19/09/13	
	Carrotages/reservations	-		Wed 04/12/13	
<u> </u>	Wall HIE racks platform	10 days		Mon 16/09/13	E. Prez-Duenas GS/SE,Contractor
	Survey holders 150mm in tunnel	3 days		Wed 23/10/13	
	Survey holders 150mm in hall	3 days		Wed 04/12/13	
	EL cabling towards 199	2 days		Tue 22/10/13	
	CV tubing into 170	2 days		Tue 22/10/13	
	Tunnel	-	Thu 29/08/13		
×	arrival shielding blocks in hall 170	15 days		Wed 18/09/13	
 ✓ 	modify existing electrical cabling (lights, etc)			Wed 11/09/13	L Street
×	protection REX machine in tunnel	0.5 days		Thu 12/09/13	
×	removal roof tunnel	2 days		Mon 23/09/13	
¥	remove side door (and end shielding)	2 days 2.4 wks		Wed 25/09/13 Tue 15/10/13	Ĩ E. ¹ erez-Duenas GS/SE ☐ Contractor, transport,E. Perez-Duenas GS/SE
 ✓ 	new walls installation & adaptation existing				
	special concrete parts roof/cable feed instal special parts roof re-closure	1 wk			transport,E. Perez-Duenas GS/SE
	cutting and installation shielding door rails	5 days		Wed 16/10/13	
	Hall and machine cleaning campagne	30 days		Mon 07/10/13	
×	nar and machine cleaning campagne	oo uuya	100 21100/13		





																			None Contract Contraction
6	Fask Name 👻	Duration 🖕	Start 🖕	Finish 🖕	ct, '12		Jan, '13	01 Apr, '1		01 Jul, '1			Oct, '13	01 Jar			Apr, '14	01 Jul, '14	01 Oct, '14
	- Metal structures	85 days	Mon 16/09/13	Fri 10/01/14	13/11	25/12	05/02	19/03 30/04	11/00	6 23/07	03/09	15	/10 26/11	07/01	18/02	01/04	13/05	24/06 05/08	16/09 28/10 09/
1	metal trench covers preparation (7 x 3 with cor	-	Mon 16/09/13									Pare	het GS/SE.	ontrac	tor				
*	metal trench covers at wall position	1 day	Fri 20/09/13								Ь.		chet GS/SE,						
×											••••	1	000000000000	contrac					
✓	space under platform free / machine protected	1 day											.D. Parchet	COLOR	Contra	tor			
	modification racks platform		Mon 14/10/13									T		· ·				_	
	installation cryo jumpers platform		Mon 06/01/14											, D. Pai	rcnet	5/5E,CC	ontractor	F	
	installation tunnel inside structure		Mon 06/01/14											ł					
	Survey marking work		Mon 03/06/13						_					Υ					
<u> </u>	tracing beamlines & ctrl infrastructure & SU box		Mon 03/06/13						JC (Gayde BE	:/ABP,SI	U ea							
	re-tracing beamlines & supports		Mon 04/11/13										JC Gayde	BE/ABI	P,SU te	am			
	tracing SU boxes in hall (when floor free)		Mon 13/01/14																
\checkmark	tracing Tunnel		Thu 29/08/13							I	•		BE/ABP,SU						
\checkmark	tracing Tunnel shielding door	-	Mon 07/10/13								•	P.C	Gayde BE/A	BP,SU te	eam				
	Survey preparation work	5 days	Mon 02/12/13										₩						
	geod. Netw. Upgrade	5 days	Mon 02/12/13	Fri 06/12/13									0						
	Cable trays	90 days	Mon 04/11/13	Fri 07/03/14															
	Cable tray period	90 days	Mon 04/11/13	Fri 07/03/14														.,JC Guillaume,C	ontractor
	EL power cable passage roof 170	5 days	Mon 02/12/13	Fri 06/12/13									0 R. N	ecca EN	l/EL,Co	ntractor	г		
	EL power distribution hall extension	10 days	Mon 02/12/13	Fri 13/12/13															
	platform internal	1 mon	Mon 04/11/13	Fri 29/11/13									b						
	platform into tunnel	1 wk	Mon 04/11/13	Fri 08/11/13									i I						
	inside tunnel before structure (for DC in trench)	3 wks	Mon 02/12/13	Fri 20/12/13															
	platform to HEBT	15 days	Mon 04/11/13	Fri 22/11/13															
	installation cable tray supports	1 wk	Mon 04/11/13	Fri 08/11/13									Ъ,						
	installation HEBT cable trays	2 wks	Mon 11/11/13	Fri 22/11/13									δ						
	trays B199 into hall & tunnel	2 mons	Mon 13/01/14	Fri 07/03/14										1	G.	Georgi	iev EN/EL	,Contractor	
	 Racks installation (empty) 	10 days	Mon 06/01/14	Fri 17/01/14									, i						
	platform	10 days	Mon 06/01/14	Fri 17/01/14															
	EPC, Vacuum, BI, WIC (not RF)	2 wks	Mon 06/01/14	Fri 17/01/14										EN/E	EL,G. Ge	eorgiev	EN/EL		
	= floor	3 days	Mon 06/01/14	Wed 08/01/14									ų						
	EPC Danfysik racks replacement	3 days	Mon 06/01/14	Wed 08/01/14										G. Ge	orgiev	EN/EL			
	Vacuum racks (ex-entrance)	3 days	Mon 06/01/14	Wed 08/01/14															
	Cabling & connectors	115 days	Mon 20/01/14	Fri 27/06/14														4	
	Cabling period	-	Mon 24/02/14											ľ		1		G. Georgiev E	N/EL,JC Guillaume
	EL power distribution	41 days	Mon 03/02/14	Mon 31/03/14												<u> </u>			
	to racks	-	Mon 03/02/14												📄 R. I	lecca El	V/EL,Con	tractor	
	to experiments		Tue 18/03/14																
	DC power		Mon 20/01/14																
	DC power platform	-	Mon 20/01/14											1					
	DC power platform to HEBT & tunnel		Mon 20/01/14																
	DC power solenoids B199 into tunnel		Mon 20/01/14																
								1	1					1 - 1		1		1	





Task Name	Duration 🖕	Start 🖕	Finish _	ct, '12	01 Jan, '1			01 Oct, '13	01 Jan, '14	01 Apr, '14	01 Jul, '14	01 Oct, '14	01 Jar		01 Apr	
		•	•		25/12 05/02	2 19/03 30/04	11/06 23/07 03/09	15/10 26/11	07/01 18/02	01/04 13/05	24/06 05/08	16/09 28/10 09	/12 20/0	1 03/03	14/04	26/05
 Controls cables		Mon 10/02/14								•						
 WIC platform into tunnel	8 wks	Mon 10/02/14	Fri 04/04/14							G. Georgiev I	N/EL,Contractor					
 WIC platform to HEBT	8 wks	Mon 10/02/14	Fri 04/04/14							•						
 BI platform into tunnel	8 wks	Mon 10/02/14	Fri 04/04/14							•						
 BI platform to HEBT	8 wks	Mon 10/02/14	Fri 04/04/14													
 Vacuum ex-entrance into tunnel	8 wks	Mon 10/02/14	Fri 04/04/14													
 Vacuum platform to HEBT	8 wks	Mon 10/02/14	Fri 04/04/14													
 RF controls B199 into tunnel	8 wks	Mon 10/02/14	Fri 04/04/14													
 RF controls internal B199	8 wks	Mon 10/02/14	Fri 04/04/14													
 Cryo controls B199 into tunnel	8 wks	Mon 10/02/14	Fri 04/04/14													
 Cryo internal B199/198 & Cryo control room	8 wks	Mon 10/02/14	Fri 04/04/14													
 Misc (CM motor control, thermo couples, etc	8 wks	Mon 10/02/14	Fri 04/04/14							b						
Fexibles RF	40 days	Mon 07/04/14	Fri 30/05/14													
RF power and measurement	2 mons	Mon 07/04/14	Fri 30/05/14							G. (Georgiev EN/EL,C	Contractor				
 RF phase ref line	2 wks	Mon 07/04/14	Fri 18/04/14													
Ethernet	20 days	Mon 02/06/14	Fri 27/06/14							–	.					
starpoint B199 installation	1 mon	Mon 02/06/14	Fri 27/06/14							L 1	F. Lerda IT/CS,	Contractor				
 B199 into tunnel + distr in tunnel	1 mon	Mon 02/06/14	Fri 27/06/14							-						
 B199 to platform + platform internal	1 mon	Mon 02/06/14	Fri 27/06/14							_						
 B199 to B170 ex-entrance (fiber) + to B198	1 mon	Mon 02/06/14	Fri 27/06/14							_						
 RF ethernet connections (faraday-cages)	1 mon	Mon 02/06/14	Fri 27/06/14													
Tunnel & HEBT infrastructure	80 days	Mon 13/01/14	Mon 05/05/14						·							
 installation water tubing 27C and 20C(only tunn	3 mons	Mon 13/01/14	Fri 04/04/14						Ť	B. Lacarelle E	N/CV,Contractor	r				
 installation compressed air	2 mons	Mon 20/01/14	Fri 14/03/14													
 installation vac recuperation	3 mons	Mon 20/01/14	Fri 11/04/14						(G Vandoni	TE/VSC,Contract	or				
 N2 venting line	2 mons	Mon 20/01/14	Fri 14/03/14						G	Vandoni TE/V	C,Contractor					
infrastructure in place for HEBT	0 days	Mon 05/05/14	Mon 05/05/14							\$ 05/05						
 - Hall 170 HEBT & Linac installation	303 days	Mon 31/03/14	Wed 27/05/15													•
Survey HEBT alignment work	278 days	Mon 05/05/14	Wed 27/05/15							—					\vdash	₽
 adjust supports & jacks	10 days	Mon 05/05/14	Fri 16/05/14							📋 JC Ga	yde BE/ABP,SU t	eam				
 alignment elements at installation (few days spr	5.5 mons	Mon 29/09/14	Fri 27/02/15										1			
 transfer line measurement (when elements in pl	3 days	Mon 30/03/15	Wed 01/04/15											h		
transfer line 1st alignment	20 days	Thu 02/04/15	Wed 29/04/15												b.	
transfer line smoothing	20 days	Thu 30/04/15	Wed 27/05/15												📥	4
1					1	1	1	1		1	1	1			1	1





	Task Nama	Duration	Chart	Finish	Jul, '13	01	Oct 112	11 Dec. 112	21 Feb. 14	14	01 May 144	14	Int 14.4	21 Sec.	14	01 Dec. '14	11 Feb	45	21 Ap	r '15
1	Task Name 👻	Duration 🚽	Start 🖕	Finish 🖕												01 Dec, '14 /11 16/12 20/0				
	HEBT equipment installation	281 days	Mon 31/03/14	Mon 27/04/15						-		-							2	
	Supports installation	20 days	Mon 07/04/14	Fri 02/05/14						-	I									
	HEBT elements support structures	1 mon	Mon 07/04/14	Fri 02/05/14							M. Timmir	ns EN/I	MME,Co	ntractor						
	HEBT XYZ tables (steerers, quads, DBs)	1 mon	Mon 07/04/14	Fri 02/05/14																
	CM jacks (in tunnel)	1 mon	Mon 07/04/14	Fri 02/05/14																
	Magnets	165 days	Tue 09/09/14	Mon 27/04/15									-	, 				-	2	
	Dipoles 45 deg	165 days	Tue 09/09/14	Mon 27/04/15									-	<u> </u>					2	
	Prioritized installation	165 days	Tue 09/09/14	Mon 27/04/15									-	,					2	
	XT00/XT01 installation	2 mons	Tue 09/09/14	Mon 03/11/14											<mark>ң Ј.</mark> В	auche TE/MSC	, transp	oort		
	XT00/XT01 ready	0 days	Mon 03/11/14	Mon 03/11/14											03/	/11				
	XT00/XT01 tests	2 mons	Tue 04/11/14	Mon 29/12/14											Ť					
	XT02 installation	2 mons	Tue 11/11/14	Mon 05/01/15											1					
	XT02 ready	0 days	Mon 05/01/15	Mon 05/01/15												o5/01				
	XT02 tests	2 mons	Tue 06/01/15	Mon 02/03/15																
	XT03 installation (preliminary)	2 mons	Tue 06/01/15	Mon 02/03/15													фъ.			
	XT03 ready (preliminary)	0 days	Mon 02/03/15	Mon 02/03/15													 	2/03		
	XT03 tests (preliminary)	2 mons	Tue 03/03/15	Mon 27/04/15														-	1	
	Quadrupoles	165 days	Tue 09/09/14	Mon 27/04/15									-	,	_				2	
	Prioritized installation	165 days	Tue 09/09/14	Mon 27/04/15									-	, 					2	
	XT00/XT01 installation	2 mons	Tue 09/09/14	Mon 03/11/14										-	<mark>ң Ј.</mark> В	auche TE/MSC	, transp	oort		
	XT00/XT01 ready	0 days	Mon 03/11/14	Mon 03/11/14											03/	/11				
	XT00/XT01 tests	2 mons	Tue 04/11/14	Mon 29/12/14											Ť	÷				
	XT02 installation	2 mons	Tue 11/11/14	Mon 05/01/15																
	XT02 ready	0 days	Mon 05/01/15	Mon 05/01/15												o5/01				
	XT02 tests	2 mons	Tue 06/01/15	Mon 02/03/15																
	XT03 installation	2 mons	Tue 06/01/15	Mon 02/03/15												<u> </u>	₽h			
	XT03 ready	0 days	Mon 02/03/15	Mon 02/03/15													∲_ 0:	2/03		
	XT03 tests	2 mons	Tue 03/03/15	Mon 27/04/15														-	1	
	Steerers H/V	165 days	Tue 09/09/14	Mon 27/04/15									-	<u> </u>				-	2	
	Prioritized installation	165 days	Tue 09/09/14	Mon 27/04/15									-					-t	2	
	XT00/XT01 installation	2 mons	Tue 09/09/14	Mon 03/11/14											н. в	auche TE/MSC	, transp	oort		
	XT00/XT01 ready	0 days	Mon 03/11/14	Mon 03/11/14											2 ^{03/}	/11				
	XT00/XT01 tests	2 mons	Tue 04/11/14	Mon 29/12/14											Ŧ					
	XT02 installation	2 mons	Tue 11/11/14	Mon 05/01/15																
	XT02 ready	0 days	Mon 05/01/15	Mon 05/01/15												▲ 05/01				
	XT02 tests	2 mons	Tue 06/01/15	Mon 02/03/15												—				
	XT03 installation	2 mons	Tue 06/01/15	Mon 02/03/15													₽ ∩			
	XT03 ready	0 days	Mon 02/03/15	Mon 02/03/15													∮ _0:	2/03		
	XT03 tests	2 mons	Tue 03/03/15	Mon 27/04/15													📥		1	
																	- 11	1.	4	ົລດ





(Task Name	Duration	Start _	Finish	Jul, '13	01	Oct '13	11 Dec, '13	21 Feb '	14 01 May	'14	11 Jul '14	21 Sep, '14	1 01 De	c '14 1	1 Feb '15	214	Apr '15
1		Duration 🚽	Start 🔻	Finish 🖕				5/11 31/12 0										
	Beam instrumentation	281 days	Mon 31/03/14	Mon 27/04/15														
	Installation	3 mons	Mon 31/03/14	Fri 20/06/14					Contraction		┓┿		<u> </u>					
	Commissioning	3 mons	Mon 23/06/14	Fri 12/09/14														
	Prioritized installation	161 days	Mon 15/09/14	Mon 27/04/15									<u> </u>					
	XT00/XT01 installation	2 mons	Mon 15/09/14	Fri 07/11/14								l. I	س ار	N. Andrea	zza BE/B	,Contract	or	
	XT00/XT01 ready	0 days	Fri 07/11/14	Fri 07/11/14									- 😽	07/11				
	XT00/XT01 tests	2 mons	Mon 10/11/14	Fri 02/01/15														
	XT02 installation	2 mons	Tue 11/11/14	Mon 05/01/15									1		n			
	XT02 ready	0 days	Mon 05/01/15	Mon 05/01/15										4	05/01			
	XT02 tests	2 mons	Tue 06/01/15	Mon 02/03/15										1	*			
	XT03 installation	2 mons	Tue 06/01/15	Mon 02/03/15										i		- h		
	XT03 ready	0 days	Mon 02/03/15	Mon 02/03/15												a 02/03		
	XT03 tests	2 mons	Tue 03/03/15	Mon 27/04/15												Ľ.		
	- Vacuum system	251 days	Mon 12/05/14	Mon 27/04/15														
	Chambers	80 days	Mon 12/05/14	Fri 29/08/14														
	Installation	4 mons	Mon 12/05/14	Fri 29/08/14								G.	Vandoni TE	/VSC,Con	tractor			
	Pumps & system	204 days	Wed 16/07/14	Mon 27/04/15										-				
	Installation (off shelf frame work contract	4 mons	Wed 16/07/14	Tue 04/11/14									G	. Vandoni	TE/VSC,	Contracto	r	
	Close all vacuum	2 wks	Wed 05/11/14	Tue 18/11/14									- "	h				
	Commissioning	2 wks	Wed 19/11/14	Tue 02/12/14										ě				
	Prioritized installation	165 days	Tue 09/09/14	Mon 27/04/15								-						
	XT00/XT01 installation	2 mons	Tue 09/09/14	Mon 03/11/14														
	XT00/XT01 ready	0 days	Mon 03/11/14	Mon 03/11/14									ې م	03/11				
	XT00/XT01 tests	2 mons	Tue 04/11/14	Mon 29/12/14									- Č					
	XT02 installation	2 mons	Tue 11/11/14	Mon 05/01/15									1	<u> </u>	n			
	XT02 ready	0 days	Mon 05/01/15	Mon 05/01/15										4	05/01			
	XT02 tests	2 mons	Tue 06/01/15	Mon 02/03/15										1				
	XT03 installation	2 mons	Tue 06/01/15	Mon 02/03/15										i		- h		
	XT03 ready	0 days	Mon 02/03/15	Mon 02/03/15												a 02/03		
	XT03 tests	2 mons	Tue 03/03/15	Mon 27/04/15												Č.	Þ	
Ħ	Intertank sectors ready (?)	0 days	Mon 02/02/15	Mon 02/02/15											\$ •	2/02		





						0-142	44 Dec 140	04 E-5 144	04 Mars 144	44.101.244	04 Car 1	14 04 Dec 114	44 5-5 145	04 Apr 145
1	Task Name 🗸	Duration 🚽	Start 🖕	Finish 🚽	Jul, '13 0 13/08 17/09	22/10 26/	11 Dec, 13 11 31/12 04/	02 11/03 1	5/04 20/05 2	4/06 29/07 0	21 Sep," 2/09 07/10	14 01 Dec, '14 11/11 16/12 20/	01 24/02 3	1/03 05/05 09/0
	Power convertors	171 days	Mon 01/09/14	Mon 27/04/15							-		:	HQ
	Steerers H/V	60 days	Mon 06/10/14	Fri 26/12/14										
🎟 🛉	ST installation	1.5 mons	Mon 06/10/14	Fri 14/11/14								M. Martino TE/	EPC,Contrac	tor
	Commissioning	1.5 mons	Mon 17/11/14	Fri 26/12/14								<u> </u>	<u> </u>	
	Magnet Quadrupoles	80 days	Mon 01/09/14	Fri 19/12/14										
🎟 i	MQ installation	2.5 mons	Mon 01/09/14	Fri 07/11/14								M. Martino TE/El	PC,Contract	or
	Commissioning	1.5 mons	Mon 10/11/14	Fri 19/12/14										
	 Magnet Dipoles 	145 days	Mon 08/09/14	Fri 27/03/15										
🎟 i	MD installation 1-4	3 mons	Mon 08/09/14	Fri 28/11/14						(M. Martino 1	E EPC	
	MD installation 5-6	1 mon	Mon 19/01/15	Fri 13/02/15										
	Commissioning	1.5 mons	Mon 16/02/15	Fri 27/03/15										
	Prioritized installation	165 days	Tue 09/09/14	Mon 27/04/15							<u> </u>			+ •
🎟 🛉	XT00/XT01 installation	2 mons	Tue 09/09/14	Mon 03/11/14								M. Martino TE/EP	¢,Contracto	r
	XT00/XT01 ready	0 days	Mon 03/11/14	Mon 03/11/14								03/11		
	XT00/XT01 tests	2 mons	Tue 04/11/14	Mon 29/12/14							Ċ			
	XT02 installation	2 mons	Tue 11/11/14	Mon 05/01/15										
	XT02 ready	0 days	Mon 05/01/15	Mon 05/01/15								o5/0	1	
	XT02 tests	2 mons	Tue 06/01/15	Mon 02/03/15								–		
	XT03 installation	2 mons	Tue 06/01/15	Mon 02/03/15										
	XT03 ready	0 days	Mon 02/03/15	Mon 02/03/15									a 02/03	
	XT03 tests	2 mons	Tue 03/03/15	Mon 27/04/15										
	Interlock system	271 days	Mon 14/04/14	Mon 27/04/15									:	+
🎟 🛉	Installation	3 mons	Mon 14/04/14	Fri 04/07/14					-	R. Mompo T	E/MPE,Cont	ractor		
	Commissioning	2 wks	Mon 30/03/15	Fri 10/04/15										
	Prioritized installation	165 days	Tue 09/09/14	Mon 27/04/15							<u> </u>			# •
🎟 🛉	XT00/XT01 installation	2 mons	Tue 09/09/14	Mon 03/11/14						(R. Mompo TE/MP	E,Contracto	r
	XT00/XT01 ready	0 days	Mon 03/11/14	Mon 03/11/14								03/11		
	XT00/XT01 tests	2 mons	Tue 04/11/14	Mon 29/12/14										
	XT02 installation	2 mons	Tue 11/11/14	Mon 05/01/15										
	XT02 ready	0 days	Mon 05/01/15	Mon 05/01/15								▲ 05/0	1	
	XT02 tests	2 mons	Tue 06/01/15	Mon 02/03/15										
	XT03 installation	2 mons	Tue 06/01/15	Mon 02/03/15										
	XT03 ready	0 days	Mon 02/03/15	Mon 02/03/15									02/03	
	XT03 tests	2 mons	Tue 03/03/15	Mon 27/04/15										





Task Name 👻	Duration 🚽 Start	t 🗸 Finish 🗸	UIL '13 01 Oct, '13 11 Dec, '13 21 Feb, '14 01 May, '14 11 Jul, '14 21 Sep, '14 01 Dec, '14 11 Feb, '15 21 Apr, '15 01 Jul, '15 11 Sep, '15 13/08 13/09 22/10 26/11 31/12 04/02 11/03 15/04 20/05 24/06 29/07 02/09 07/10 11/11 16/12 20/01 24/02 31/03 05/05 09/06 14/07 18/08 22/09 27/10
Dry run / Hardware commissioning	125 days Mon 03	8/11/14 Fri 24/04/15	
Hardware tests by XT line	125 days Mon 03	3/11/14 Fri 24/04/15	
 XT00/XT01 ready	0 days Mon 03	3/11/14 Mon 03/11/14	
 XT02 ready	0 days Mon 05	5/01/15 Mon 05/01/15	
 XT03 ready	0 days Mon 02	2/03/15 Mon 02/03/15	● 02/03
XT00/XT01 tests	40 days Mon 03	3/11/14 Fri 26/12/14	
test magnetic elements	2 mons Mon 03	3/11/14 Fri 26/12/14	
test DB's	2 mons Mon 03	3/11/14 Fri 26/12/14	
vacuum tests	2 mons Mon 03	3/11/14 Fri 26/12/14	
- XT02 tests	40 days Mon 05	5/01/15 Fri 27/02/15	
test magnetic elements	2 mons Mon 05	5/01/15 Fri 27/02/15	
test DB's	2 mons Mon 05	5/01/15 Fri 27/02/15	
vacuum tests	2 mons Mon 05	5/01/15 Fri 27/02/15	
- XT03 tests	40 days Mon 02	2/03/15 Fri 24/04/15	
test magnetic elements	2 mons Mon 02	2/03/15 Fri 24/04/15	
test DB's	2 mons Mon 02	2/03/15 Fri 24/04/15	
vacuum tests	2 mons Mon 02	2/03/15 Fri 24/04/15	
Cryo Modules installation	105 days Thu 25	5/09/14 Wed 18/02/15	
CM1 installation	41 days Thu 25	5/09/14 Thu 20/11/14	
 roof part open for installation	1 day Thu 25	5/09/14 Thu 25/09/14	transport,F. Perez-Duenas GS/SE
 CM1 arrival in hall, handling and mounting	5 days Wed 01	/10/14 Tue 07/10/14	Characteristic state in the second state in the second state is a second state in the second state is a second state in the second state is a second state i
Vac. Connections (pumps, intertank sector,	4 days Wed 08	3/10/14 Mon 13/10/14	
Electr. Connections (RF, motor cntrl, etc)	4 days Tue 14	1/10/14 Fri 17/10/14	D. Valuch BE/RF
Cryo connections (flexibles, thermo cpls, etc	4 days Mon 20	0/10/14 Thu 23/10/14	J. Metselaar TE/CRG
close roof part	1 day Fri 24	1/10/14 Fri 24/10/14	transport
Survey alignment work	5 days Mon 27	7/10/14 Fri 31/10/14	$\mathbf{\dot{\psi}}$
 adjust CM1 for stage 1	5 days Mon 27	7/10/14 Fri 31/10/14	β ₀ JC Gayde BE/AB <mark></mark> ₽,\$ <mark>∅</mark> team
Vacuum pumping CM1 & tests	14 days Mon 03	3/11/14 Thu 20/11/14	🦕 Ġ. Vandoni ΤεγΥSC
CM2 installation	50 days Thu 11	/12/14 Wed 18/02/15	
 roof part open for installation	1 day Thu 11	/12/14 Thu 11/12/14	
 CM2 arrival in hall, handling and mounting	5 days Mon 05	5/01/15 Fri 09/01/15	
Vac. Connections (pumps, intertank sector,	4 days Mon 12	2/01/15 Thu 15/01/15	
Electr. Connections (RF, motor cntrl, etc)	4 days Fri 16	3/01/15 Wed 21/01/15	
Cryo connections (flexibles, thermo cpls, etc	4 days Thu 22	2/01/15 Tue 27/01/15	
close roof part	1 day Wed 28	3/01/15 Wed 28/01/15	
Survey alignment work	15 days Thu 29	0/01/15 Wed 18/02/15	
 adjust CM1 for stage 1	5 days Thu 29	0/01/15 Wed 04/02/15	JC Gayde BE/ABP,SU team
commissioning monitor alignm system	15 days Thu 29	0/01/15 Wed 18/02/15	JC Gayde BE/ABP,SU team
follow-up cav. Sol. Position during vac pi	1 day Thu 29	0/01/15 Thu 29/01/15	
Final tests	112 days Fri 30	0/01/15 Mon 06/07/15	
Vacuum pumping CM1 & 2 and tests	1.35 mons Fri 30	0/01/15 Mon 09/03/15	
 Cryo cooldown tests jumper boxes + CM1 & 2	2 mons Tue 17	7/02/15 Mon 13/04/15	
 RF power tests with CM1 & 2	1 mon Tue 14	4/04/15 Mon 11/05/15	D. Valuch BE/RF
 Machine check-out - all systems go	2 mons Tue 12	2/05/15 Mon 06/07/15	
Beam commissioning	70 days Tue 07	7/07/15 Mon 12/10/15	
 Beam commissioning for 5.5MeV/c	3.5 mons Tue 07	7/07/15 Mon 12/10/15	BE/OP
Physics at 5.5 MeV/c	0 days Mon 12	2/10/15 Mon 12/10/15	▲ 12/10



