

# TOTEM

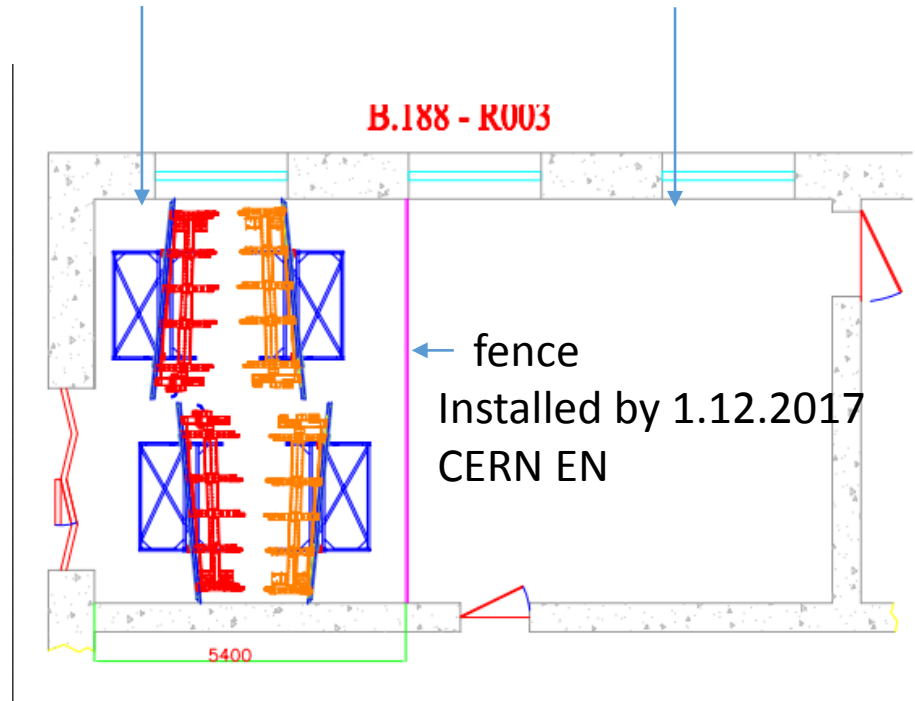
- T1
  - T2 -> present and new
- 
- RP in tunnel -> Si strip (TOTEM)
  - Diamond detectors (TOTEM development)
  - Upgrade installation during YETS  
UFSD (CT-PPS development)  
in vertical 220near top/bottom
  - Timing electronics SAMPIC
  - LASER based precision clock

combination with CT-PPS

# T1 storage in bat 188 R-003

## lab reservation until end of LS2

Declared as radioactive zone      non radioactive area zone



Bat188 R-003

will be separated in two areas:

**The declared radioactive area will be Accessible only with the door facing the parking place outside of bat188 -> new key lock (key in TOTEM secretariat).**

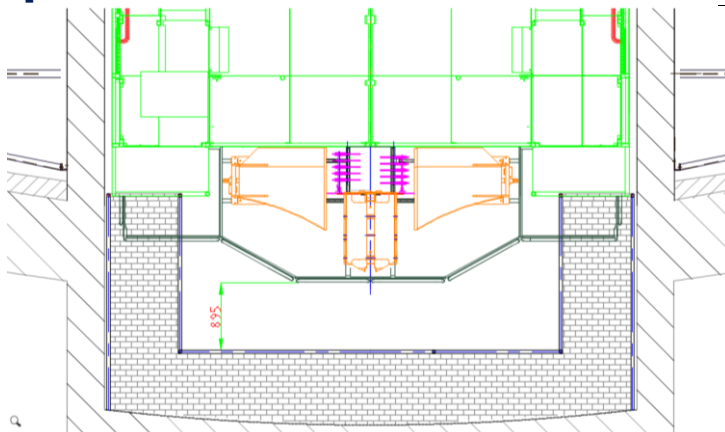
**The non radioactive area will be accessible with the already existing keys.**

Transfer as soon as the area is declared officially as Radioactive zone -> goal to finish transfer by end 2017

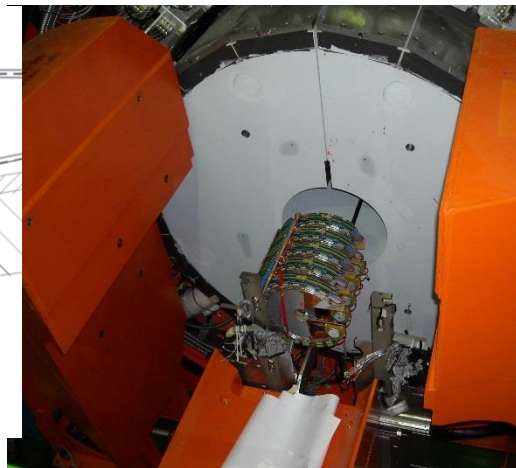
Coordinated  
By  
Dmitry Druzhkin

## T2 removal

**Position of T2 removal:** HF in garage, CASTOR table is moved on 600mm (max), BCLM2 is temporary removed, T2-halves are opened. Apparently there will be a **level 1 controlled area**, the possibility of installing additional protection to follow the ALARA principles have to be study. It is preferable to start the work at the end of YETS to have a longer cooling period.



Position in the garage

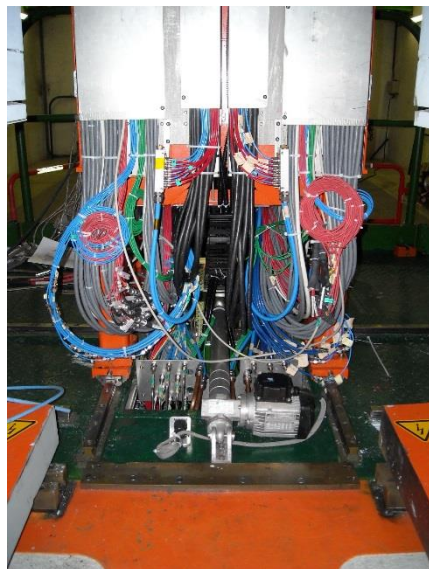


(One T2-halve removed)

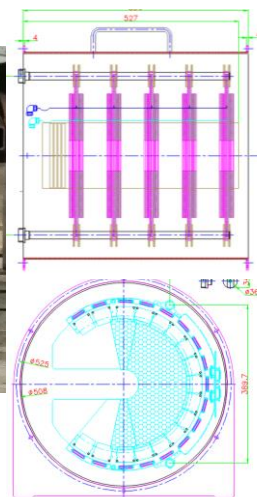


(T2 services are fixed on the bars)

**T2 cooling an gas lines are removed up to manifolds**



**T2-quarters will be placed inside the special container  
The containers can be storage in standard RP box  
(yellow box)**



# RP detector for TOTEM and CT-PPS

- Separation in view of upcoming programs

TOTEM, TOTEM-CMS and CT-PPS joined their activities, however we have to review the use of detector packages for the different programs and define run conditions also concerning DAQ and trigger.

## CT-PPS

- Dec 2015 decision to use TOTEM Si-strips horizontals for CT-PPS
- 2016 - Only Si-strip detectors were used for CT-PPS tracking
- 2017 - RP210far Si strip - RP220far Si pixel
- 2018 - RP210far-horizontal Si pixel and RP220far-horizontal Si pixel  
-> For CT-PPS alignment runs the vertical RPs with Si-strip will be used in future in the present planning even beyond LS2

DAQ and timing  
operational  
DCS,HV,LV integrated

## TOTEM and TOTEM+CMS

2017: Special run low energy :  
Si strip vertical 220 near and 220 far

2018: high beta 90 m:  
Si strip: vertical RP210 far (b,t) and RP220far (b,t)

USFD: 220 near vertical (b,t)  
Si-Pixel: 210near and 220far horizontal

DAQ integration of  
USFD and timing  
New timing electronics  
New HV channels

## Challenge:

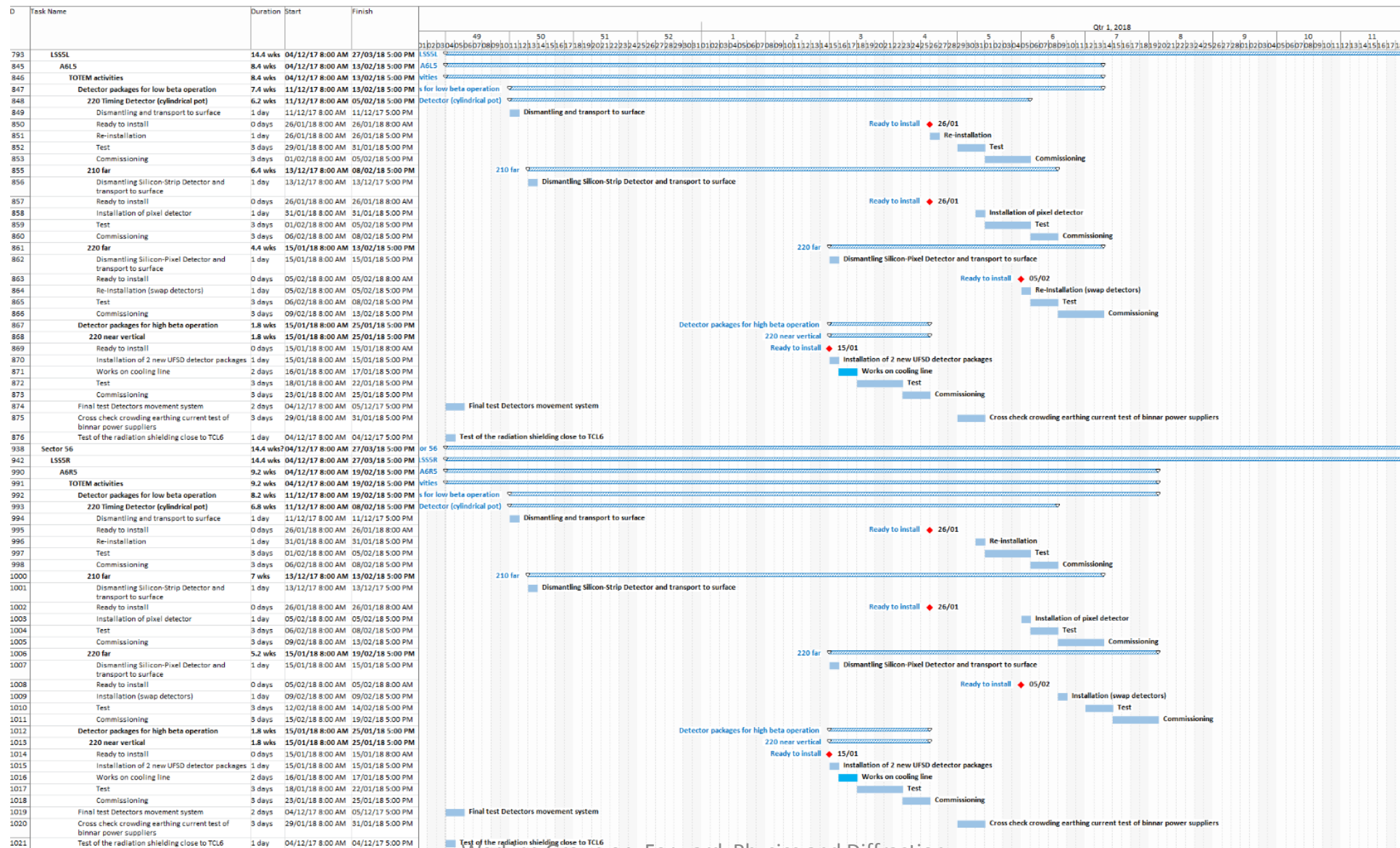
CT-PPS: 2018 we rely on Si pixel for CT-PPS : spare detectors (?) + limited radiation tolerance in fixed position

TOTEM: 2018 we rely on USFD timing detectors + timing SAMPIC: new detectors + timing electronics under assembly and test ongoing – installation and commission during YETS2017 and TS12018



# YETS2017 Workpackages in the LHC tunnel

## Plan of CT-PPS works in LSS5 (according to LHC coordination's schedule)

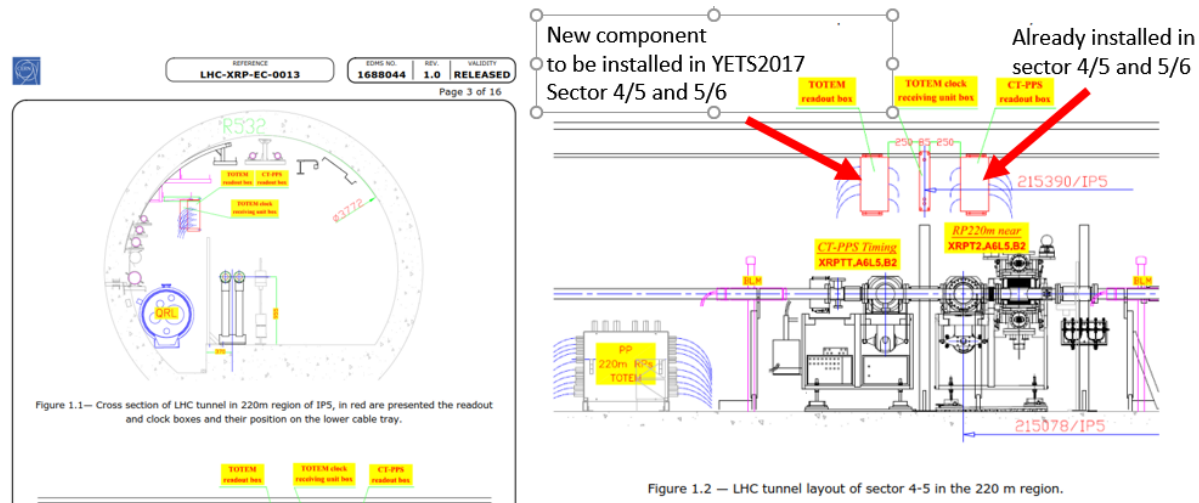


Working Group on Forward Physics and Diffraction

TOTEM status December 2017 J.B.

# Timing electronics -> TOTEM installation during YETS2017

Present situation



TOTEM / CT-PPS YETS2017 installation ICL CERN 8.11.2017  
J. Baechler and D. Druzhkin

26/11/2017

TOTEM / CT-PPS YETS2017 installation ICL CERN 8.11.2017  
J. Baechler and D. Druzhkin

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# LHC schedule 2018 (draft)

ML

## LHC Schedule 2018 Draft

January 22, 2016  
V0.3

	Jan				Feb				Mar			
Wk	1	2	3	4	5	6	7	8	9	10	11	12
Mo	1	8	15	22	29	5	12	19	26	3	10	17
Tu												
We												
Th												
Fr												
Sa												
Su												

	Apr				May				June			
Wk	14	15	16	17	18	19	20	21	22	23	24	25
Mo	14	21	28	5	12	19	26	3	10	17	24	31
Tu												
We												
Th												
Fr												
Sa												
Su												

	July				Aug				Sep			
Wk	27	28	29	30	31	32	33	34	35	36	37	38
Mo	27	28	29	30	31	1	8	15	22	29	6	13
Tu												
We												
Th												
Fr												
Sa												
Su												

	Oct				Nov				Dec			
Wk	40	41	42	43	44	45	46	47	48	49	50	51
Mo	40	47	54	1	8	15	22	29	6	13	20	27
Tu												
We												
Th												
Fr												
Sa												
Su												

Technical Stop	Machine development
Recommissioning with beam	Special physics runs (indicative - schedule to be established)
Scrubbing (indicative - dates to be established)	

Working Group on Forward Physics and Diffraction  
TOTEM status December 2017 J.B.

CMS-TOTEM  
special high  
beta\* run  
**UFSD** in  
vertical RPs  
+ new timing  
electronics  
**(SAMPIC)**

# Conclusions:

- T1 will be stored safely in bat188 (Meyrin) with option to go back to ip5 for run after LS2
- T2 will be dismantled during YETS2017  
-> new T2 under development to be installed before next high beta run after LS2
- Si strip reserved for TOTEM and TOTEM-CMS runs (special runs) and alignment runs for CT-PPS
- UFSD needs to be installed in YETS2017 to perform high pu special run in 2018