



JOINT COMPASS AMBER Technical Board 13-July-2021

Stefano Levorato
13.07.2021

Approval of the minutes

Approval of the minutes of the last TB

Agenda of the TB

- Pretty dense Agenda (Short part from the TC)
- Approval of the minutes of the last TB
- News from EACM meeting, Electrical conformities
- 3He beam pipe
- RW reinstallation
- ECAL1/HCAL1 platform and SM2 displacement
- H1 reinstallation
- Power infrastructure upgrade
- IKAR TPC

Joint COMPASS AMBER Technical Board		
Tuesday 13 Jul 2021, 14:00 → 19:20 Europe/Zurich		
892/1-D20 (CERN)		
Videoconference COMPASS Technical Board Please log in		
14:00 → 14:05	Approval of the minutes	5m
14:05 → 14:25	Communications from the TC Speaker: Dr Stefano Levorato (INFN Trieste (IT) and CERN)	20m
14:25 → 14:55	PT Update Speakers: Michael Pesek (Charles University (CZ)), Norihiro Doshita (Yamagata University (JP))	30m
14:55 → 15:15	DC status update Speaker: Vincent Andrieux (Univ. Illinois at Urbana Champaign (US))	20m
15:15 → 15:35	GEM update Speakers: Bernhard Ketzer (University of Bonn (DE)), Jonathan Floethner (University of Bonn (DE))	20m
15:35 → 15:45	W45 update Speaker: Carlos Davide Da Rocha Azevedo (University of Aveiro (PT))	10m
15:45 → 16:05	DC5 repair planning Speaker: Caroline Kathrin Riedl (Univ. Illinois at Urbana Champaign (US))	20m
16:05 → 16:25	Silicon Update Speakers: Christian Dreisbach (Technische Universitaet Muenchen (DE)), Jan Michael Friedrich (Physik-Department)	20m
16:25 → 16:45	RW and MWPC status report Speakers: Daniele Panzieri (Universita e INFN Torino (IT)), Maxim Alexeev (Universita e INFN Torino (IT))	20m
16:45 → 17:05	RICH-1 Update Speaker: Shuddha Shankar Dasgupta (INFN Trieste (IT))	20m
17:05 → 17:25	Coffee Break	20m
17:25 → 17:45	ECAL1/2 update Speakers: Sergey Donskov (Institute for High Energy Physics of NRC Kurchatov Institute (R)), Vladimir Poliakov (Institute for High Energy Physics of NRC Kurchatov Institute (R))	20m
17:45 → 17:55	DCS Speaker: Christophe Menezes Pires (LIP Laboratorio de Instrumentacao e Fisica Experimental de Part)	10m
17:55 → 18:15	Planning for 2021 run Speaker: Jan Matousek (Charles University (Prague, CZ))	20m
18:15 → 18:35	TPC update Speaker: Evgueni Maev (Petersburg Nuclear Physics Institute (PNPI))	20m
18:35 → 18:55	Unified tracking station update Speaker: Martin Jan Losekamm (Technische Universitaet Muenchen (DE))	20m

Electrical Installation conformities

 HSE
Occupational Health & Safety
and Environmental Protection unit

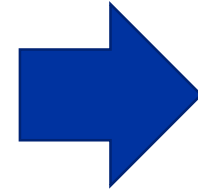
Projet mise en conformité des
installations électriques ELECNC SOL
ZONE EST – ZONE NORD

Jean-Paul Jullien - Olivier Tison / HSE
EACM / 6 Juillet 2021

EDMS 2602915

PROJET ELECNC SOL (ELECticit  Non Conformit  SOLution)

- D but du projet en 2019
- Projet de traitement des observations  lectriques g r  par HSE
- Liste infrastructures communiqu e par HSE
- Budget HSE
- Suite aux v rifications accompagn es, les travaux sont r alis s
- Programme de 140 infrastructures en 2021

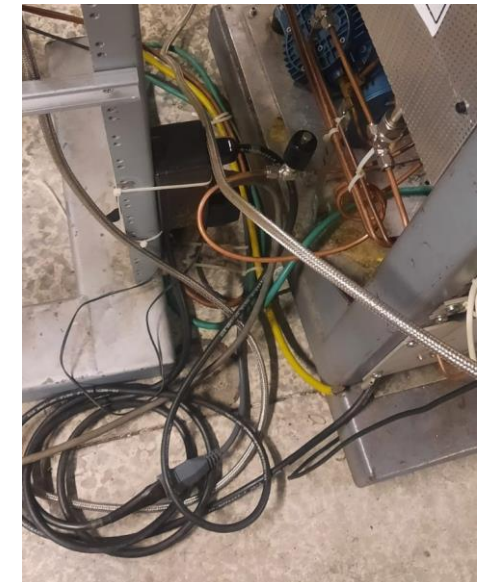


Verify existing electrical installations and if they are conforming: absence of protection, overloads, broken panels, accessible wires. Reduce accidents due to electrical problems

Different goal from consolidation (LS3 for EHN2?)

All new installations have to be inspected

- Demande d'inspection initiale: Electrical-Verifications.Service@cern.ch



Communications: 908 commissioning

908 installation of new rack as well as detection system on schedule.
Delay in the material delivery of the air extraction system



Triggered the discussion with
EN-EA, EN-CV, FGSO, BE-BA, COMPASS, HSE/HSO

Activity	Date / Deadline	Proposal
Launching the quotation request	10.04.2021	
Offer received (Drawings and 3D model)	20.04.2021	23.04.21
Release Order sending	26.04.2021	
Delivery of the documentation described as Before starting material procurement and installation	30.04.2021	Not before 21-05-2021
Start of dismantling existing installations	01.05.2021	24-05-2021
Delivery of ALL the electrical and mechanical components at CERN	Before 30.05.2021	Not Before 30-06-2021
Start of the new installation work	Before 15.05.2021	1-06-2021 To be discussed
Completion of the works (908)	Before 15.06.2021	1-07-2021 To be discussed
Commissioning (908)	Completed by 28.06.2021	Completed by 15-07-2021
Completion of the works other installations	Before 20.07.2021	Before 20.08.2021
Commissioning other installations	Completed by 10.08.2021	Before 10.09.2021
Provision of technical documentation	Before 20.08.2021	Before 20.09.2021
Acceptance	Before 15.09.2021	Before 20.10.2021

Table 10 – Delivery schedule

Sent from Blue
On 28 Apr 2021, at 10:08, David Jaillet <david.jaillet@cern.ch> wrote:
Dear all,

Please find attached the onsite meeting to validate the proposition to use a temporary (In waiting of the final)ATEX air extraction linked with gas detection in view to avoid delay and impact for the COMPASS run.
if you are not available, please have someone that can represent your service:

EN-AA (Gas detection)
EN-CV (ATEX air extraction/ HVAC)
FGSO
BE-EA
COMPASS experiment
HSE/OHS

Sorry for the late notice, I saw this slot available for most of all of you in your Outlook calendar.

Thanks
Regards,
David

From: Dany Gain <dany.gain@cern.ch>
Sent: mercredi 28 avril 2021 09:06
To: David Jaillet <David.Jaillet@cern.ch>
Cc: Nikolaos Charitonidis <nikolaos.charitonidis@cern.ch>; Aziz Amamou <aziz.amamou@cern.ch>; Fred Juban <Frederic.Juban@cern.ch>; Jani Lehtinen <Jani.Lehtinen@cern.ch>; Johannes Bernhard <johannes.bernhard@cern.ch>; Alexander Gerbershagen <a.ge@cern.ch>; fulvio.tessarotto@ts.infn.it; Dipanwita Banerjee <dipanwita.banerjee@cern.ch>; Stefano Levorato <Stefano.Levorato@cern.ch>
Subject: Re: Flammable gas 908 commissioning

REMINDER

Today at 16:00 → final planning should be presented, expected ~ 2 (optimistic estimate) 4 weeks (pessimistic estimate) of delay.
Possible changeover during COMPASS run with buffer batteries (w.n. impact)

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Planning.pdf (1 page)

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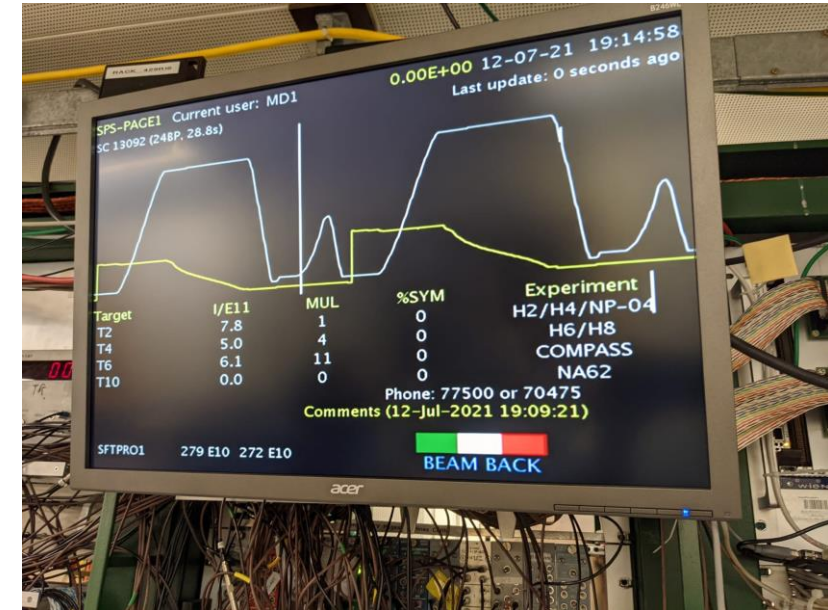
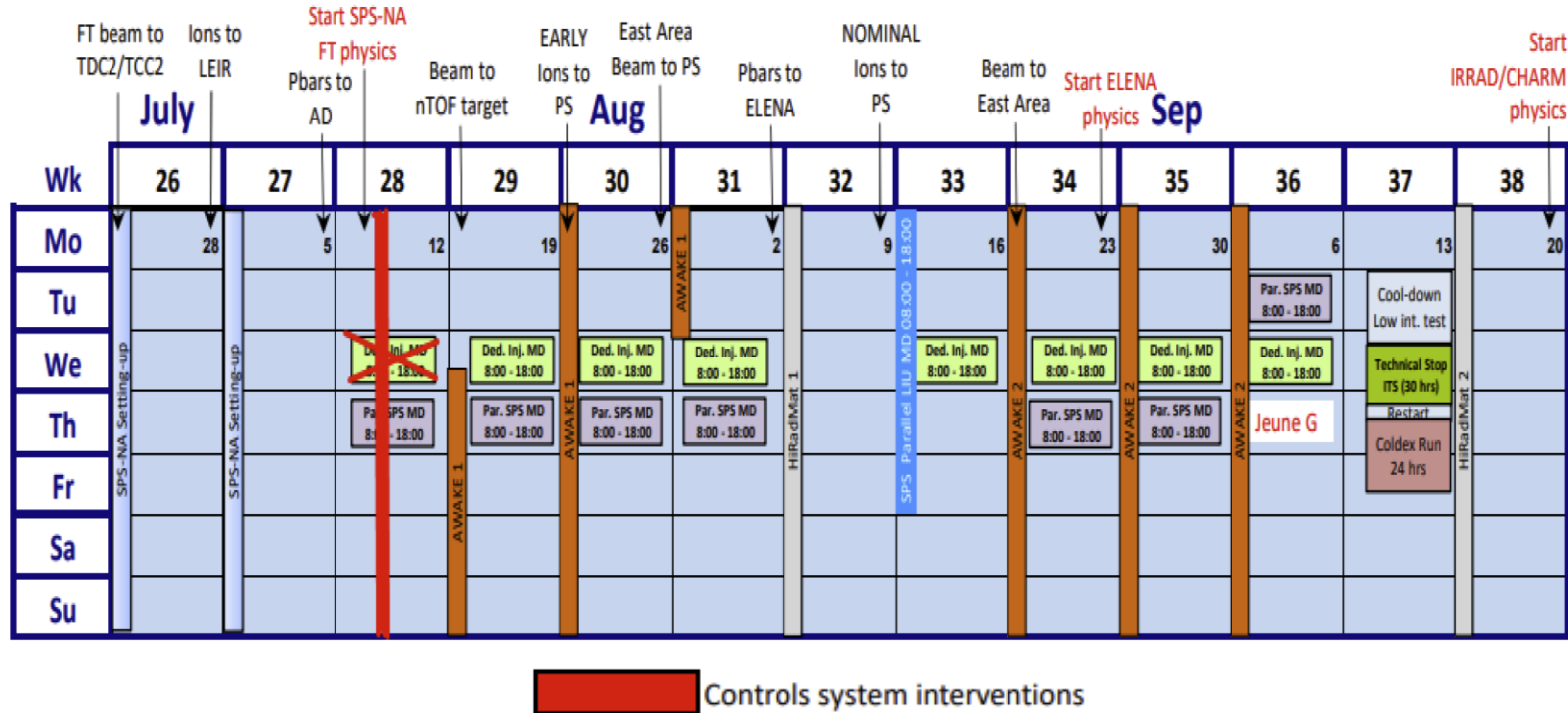
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**Flammable gases at COMPASS
 Since 23-06 after safety inspection
 (minor non conformities noticed)**

**CF4 problem last night, the two bottles were empty,
 Vincent contacted David Jaillet → replacement
 The gas monitoring is not available: waiting for the
 installation of the final air extraction system**

Beam delivery schedule

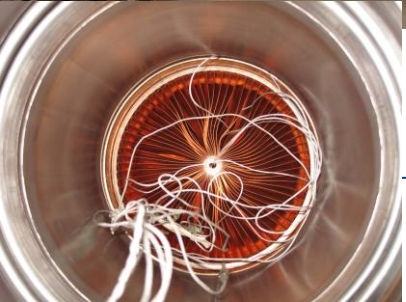
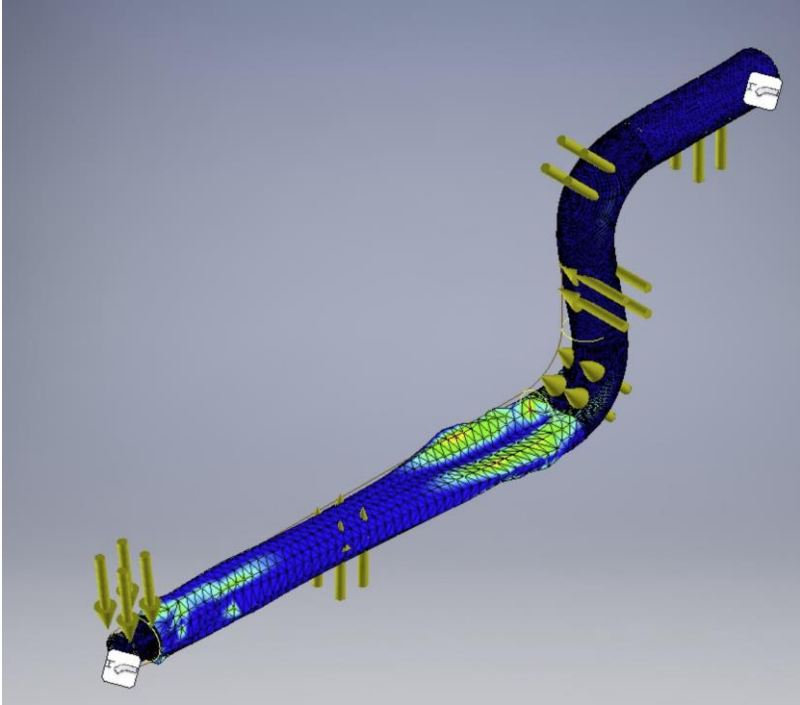


Communication issues with CESAR to control the beamline element, most of the problems related to the wrong addressing of beamline elements, as well as absence of publishing of the monitoring parameter. Checks ongoing as well as the fixing being performed. Jan was in contact with Johannes yesterday till late. SM1 and SM2 ramped up to nominal currents

Polarized Target: ^3He recovery line

Weakness of the line due to the reduced thickness of the wall (2 mm) has resulted in the collapsing of the line observed on the 3rd of July.

FEM computation performed by Jaakko (redrawn pipe, not 100% identical) → interesting results



TE-CRG team (L. Stewart, O. Pirotte), BE (F. Galan, B. Orgaz, G. Canale, J. Bernhard, M. Brugger) → support
Leak Test this week, reinstallation on 15 (Oring via TE CRG L. Stewart)
In the meantime warming up of the system



Polarized Target: ^3He recovery line (to pump room, investigating)



Silicon Trakers, medium accident on 09/07

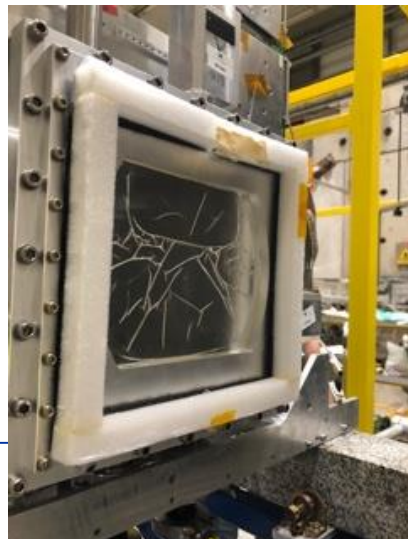
from Friday to Sunday I tested the windows of SI01 (up-/downstream) and SI02 (up-/downstream) separately with our test bench. The windows of SI02 (up-/downstream) are fine. SI01 upstream is also fine. SI01 downstream failed during the first test - no decrease in vacuum at all. I opened the window and checked for any possible damage and it might be possible that the rims of the stainless steel cut into the window foil on the top and bottom side. **I added an extra layer of Kapton (24x24cm²) covering the full area of the o-ring.** After this the window was fine again during the test. The results in mBar are the following (different length of pumping times wrt before and between windows! Everything on the E-4 level is fine from my experience):

For SI03 no damage from the outside is visible therefore I tested it in place. If I remember correctly we added already Kapton foil layers to both windows of SI03 - since the foils do not bent inwards when applying vacuum.

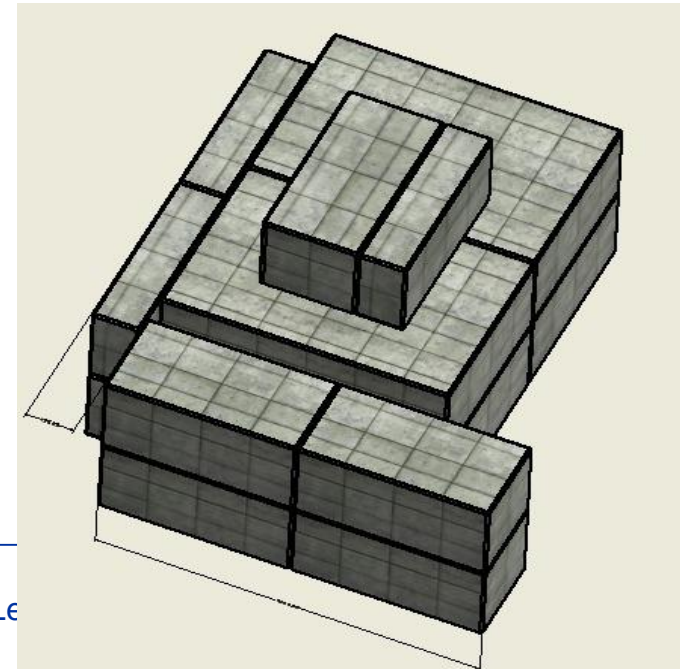
SI01: 8.1E-4 (before: 8.9E-4)

SI02:

SI03:



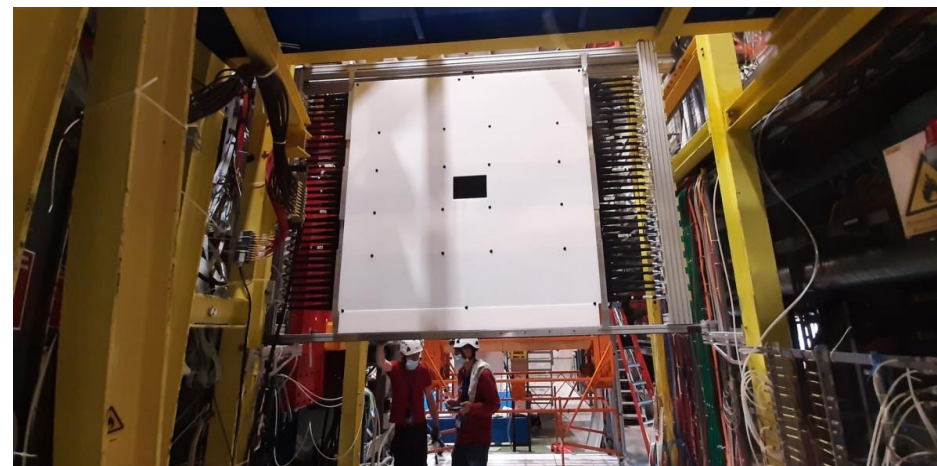
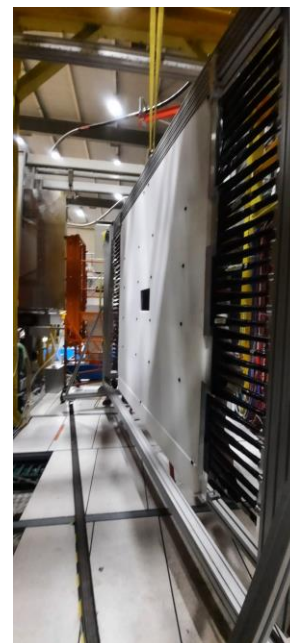
In addition, we have to be in close contact with the target people to be prepared to disassemble the test setup next to the beam line. I would say we need about 2 days for a removal



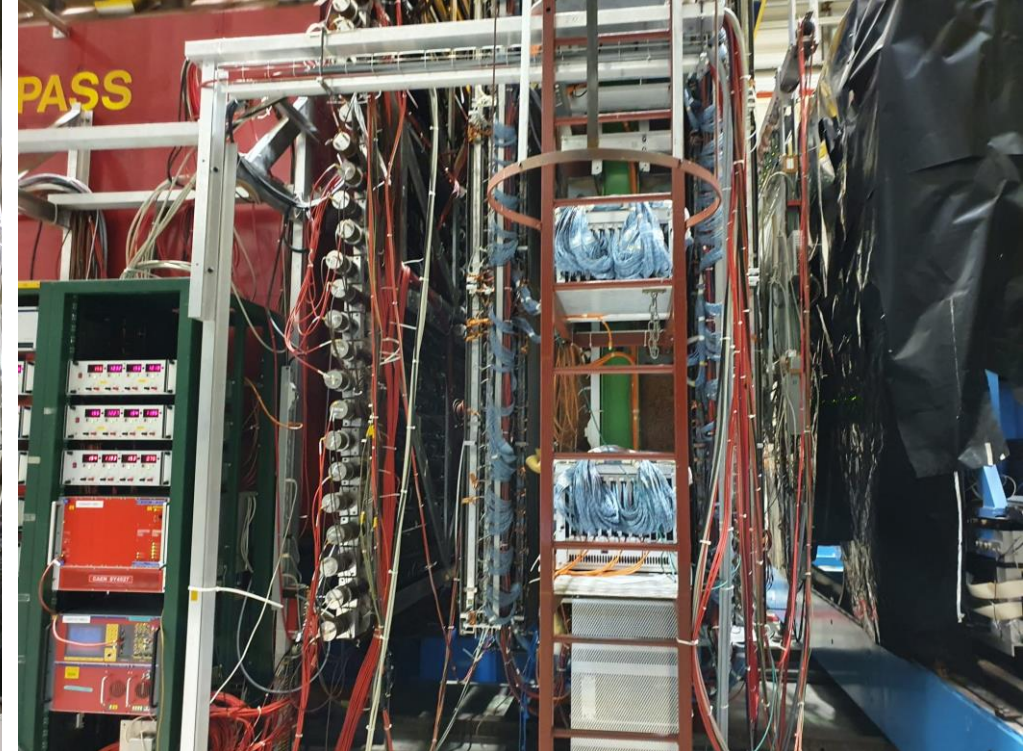
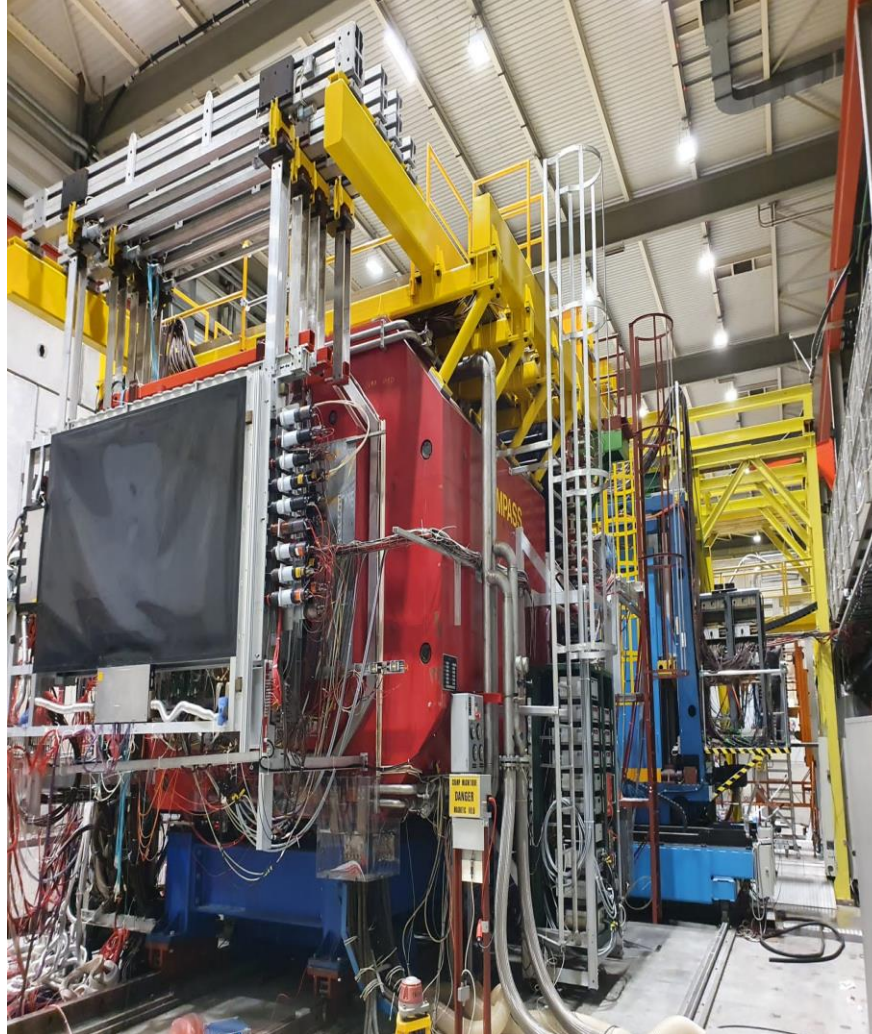
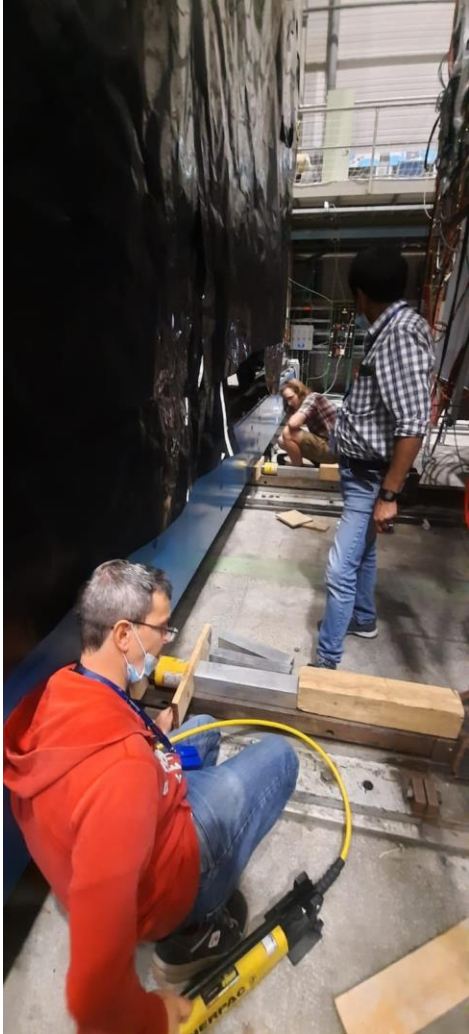
RW reinstatement: successfully completed on 17/06



H1 moved 24/06 from clean room to 888, installed in position

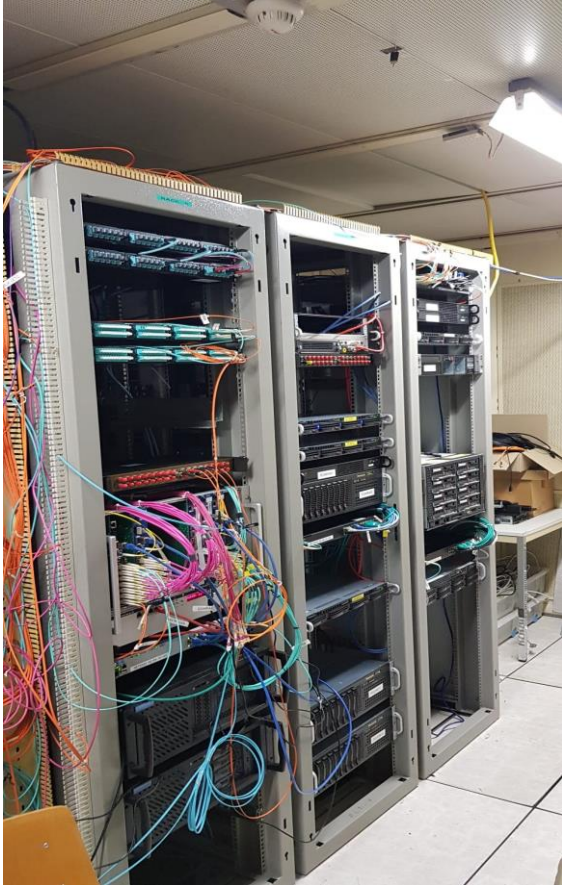


ECAL1- HCAL platform moved successfully on 25/06 SM2 moved to nominal position on same day



+ survey immediately asked to P. Sanvitu
Thanks to all colleagues who helped

Communications: DAQ AMBER + Amber infrastructure



EN-EL has been on site → visited the DAQ room
Request of 12 lines for the 3 AMBER racks
each PDU has 2 input 220X16 A 2 PDUs for rack 4 lines on two different power phases → 4 per rack
3 racks to be equipped → 12 lines

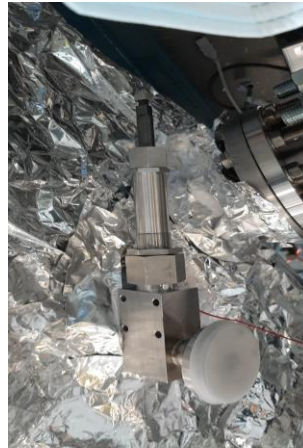
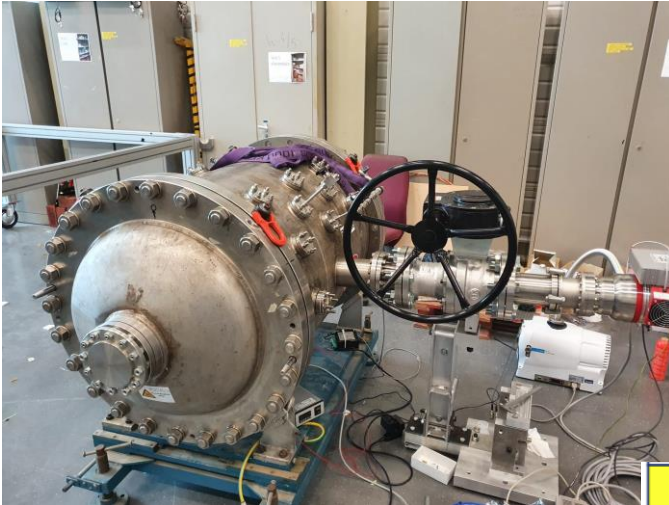
888 R-413
- 15 kW
- 220 10A UPS line



Power line upgrade launched, ready for beginning of September

IKAR TPC and gas system

- **No circulation gas system this year, only flushing and venting**
 - Main exhaust line in place, a second exhaust will be added for the normal venting (no recirculation)
 - All the materials needed for the gas system have been purchased → manpower for installation realization to be discussed (dates, tools needed...)
 - Still missing PLC + programming + interfacing for monitoring and generating alarm(s) for HV power off, discussed with Christophe, no internal manpower available → EP-DT discussion triggered. Specification protocol to be prepared
 - TPC successfully tested @ 12.5 bar pressure, leak rate measurement performed with He sniffer, no major issue.



Intense activity to be performed during the months of august/September to be ready for the pilot run, to be programmed

COMPASS/ AMBER	2 weeks pilot run in 2021 for preparation of SPSC decision for 2022+ running, measurement of proton radius.	Hydrogen safety / exhaust, Space for Hydrogen re-circulation (existing barrack – 888-R413) H-ATEX rack (existing already for COMPASS) Vacuum pipes and windows	Integration OK for 2021, user requirements for Vacuum pipes received. Temporary installation for flammable gas confirmed → All OK	BE-EA	S. Girod, M. Lazzaroni, D. Jaillet, S. Levorato (AMBER), C. Dreisbach (AMBER), J. Bernhard, D. Banerjee
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