



# **JOINT COMPASS AMBER Technical Board 04-May-2021**

Stefano Levorato  
04.05.2021

# Approval of the minutes

Approval of the minutes of the last TB

# Agenda of the TB

- Approval of the minutes
- Candidates for the TB: end of mandate of Marcin Ziembiki
- Power cut test
- RP status
- FGS status
- ECAL-0 Storage
- 888 Compass CTRL room
- 888 R-413
- Light Installation 888
- Wiener PS units
- R&S PS units
- 891 Clean room status
- Wireless 888 + HMT
- Overview of the activities ongoing

Joint COMPASS/AMBER Technical Board		
Tuesday 4 May 2021, 07:55 → 18:00 Europe/Zurich		
892/1-D20 (CERN)		
Videoconference Rooms COMPASS Technical Board		
09:00	09:05	Approval of the minutes Speaker: Dr Stefano Levorato (INFN Trieste (IT) and CERN)
09:05	09:35	Communications from the TC Speaker: Dr Stefano Levorato (INFN Trieste (IT) and CERN)
09:35	09:50	Beam commissioning status and plans Speaker: Johannes Bernhard (CERN)
09:50	10:10	PT Update Speakers: Dr Michael Pesak (Charles University (CZ)), Norihito Doshita (Yamagata University (JP))
10:10	10:30	COLD silicon update Speaker: Christian Dreisbach (Technische Universität München (DE))
10:30	10:50	Coffe Break
10:50	11:00	DC4 status report Speaker: Stephane Platchkov (Université Paris-Saclay (FR))
11:00	11:10	MM update Speaker: Damian Niyraz (Université Paris-Saclay (FR))
11:10	11:25	RW update Speaker: Maxim Alexeev (Università e INFN Torino (IT))
11:25	11:45	RICH1 status Speakers: Daniele D'Agò (Università e INFN Trieste (IT)), Silvia Della Torre (Università e INFN Trieste (IT))
11:45	12:05	Detector Survey Speaker: Jan Matousek (Charles University (Prague, CZ))
12:05	12:10	W45 planning Speaker: Dr Stefano Levorato (INFN Trieste (IT) and CERN)
12:10	12:20	H1 Status report Speaker: Benjamin Moritz Velt (Johannes Gutenberg Universität Mainz (DE))
12:20	12:30	DCS report Speaker: Christophe Meneses Pires (LIP Laboratório de Instrumentação e Física Experimental de Part)
12:30	12:40	PRM SciFi Speaker: Martin Jan Loselkamm (Technische Universität München (DE))
12:40	12:50	TPC update Speakers: Evgenii Mady (Petersburg Nuclear Physics Institute (PNPI)), Dr Oleg Kiselev (IIT Demetrius)

# Communications: EN-EL Power cut tests

## Summary

5 UPS and one 48VDC system must to be replaced in the N.A.  
It requires 1-2 hour power cut for each outlet of the switchboard

- BL4 (B.892) – UPS : **Done**
- BAA85 (B.911) – UPS : **Done**
- BA81 (B.890) – UPS : **Done**

- EHN1 (B.887) – UPS
  - Power cut EOD210/HN1 : **07/06/21 – 09/06/21**
  - Power cut EOD211/HN1 : **14/06/21 – 16/06/21**

- EHN1 (B.887) – 48VDC
  - Power cut ECD210/HN1 : **14/06/21 – 18/06/21**
  - Power cut ECD211/HN1 : **07/06/21 – 09/06/21**

### Power cut test:

**19/05 09h - EOD210/HN1 and EOD211/HN1**  
**19/05 13h - ECD210/HN1 and ECD211/HN1**



← **Approved** by EATM,  
TIOC, Stakeholders

Star points  
Cryo systems  
Fire detection  
Emergency lighting  
+...?

**Seeking approval**

- from:
- EATM
  - TIOC
  - Stakeholders

AULs  
Emergency lighting  
+ ...?

POWER CUT TEST - Due to the important number of unidentified stakeholders, **a 40 minutes power test** cut will be organized on the **19.05.21 at 9:00** for the **UPS-related circuits**, and a second one at **13:00** for the **48VDC-related circuits**. You invited to participate in order to clarify any doubts and update useful information related to your circuits. In case of unexpected events, please contact the CCC.

PT Target Cryo → carefully monitor the system

Ramon Folch  
BE/EA  
164413

# Candidates for the TB: end of mandate of M. Ziembicki

Elected members as of 21.05.2020		Mandate N - EoM
<a href="#">Jens</a>	Barth	III - May 2022
<a href="#">Norihiro</a>	Doshita	I - Feb 2022
<a href="#">Bernhard</a>	Ketzer	III - May 2022
<a href="#">Igor</a>	Konorov	III - May 2022
<a href="#">Jan</a>	Friedrich	I - Nov 2021
<a href="#">Daniele</a>	Panzieri	III - May 2022
<a href="#">Stephane</a>	Platchkov	I - Nov 2021
<a href="#">Marcin</a>	Ziembicki	II - March 2021

Two names received for the replacement of Marzin Ziembicki

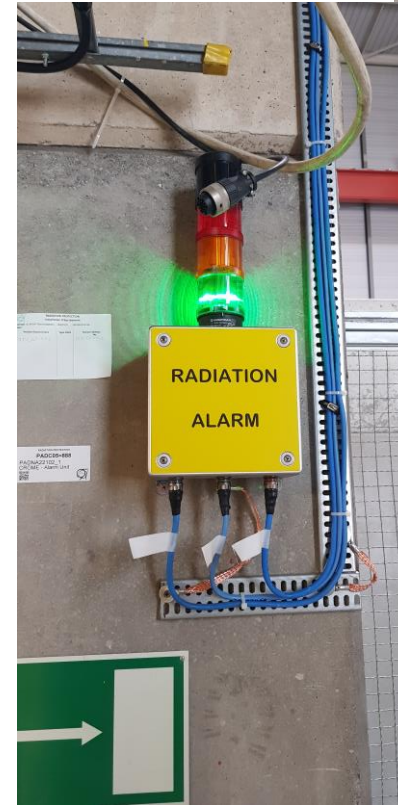
- Christophe Pires
- Michel Pesek

# Communications: RP monitors

RP detection system installation is over, the new detection system is in place.

- Extensive testing is indeed planned
  - o Source tests
  - o Alarm tests
  - o Interlock tests
  - o Stability verification

The plan is that the monitoring array is ready and tested (by RP) **before the DSO tests that are planned from the 10th to the 11th of June. During DSO test no access is possible to the Area**



# Communications: FGDS

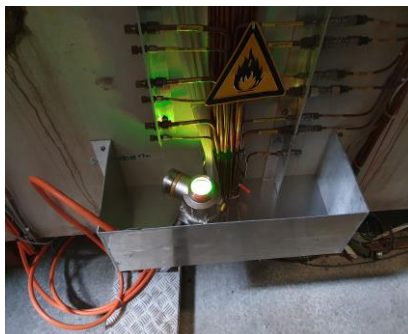
Flammable Gas Detection system is fully installed, during this/next week it will be commissioned.

The extra retention boxes have been installed below the two flammable gas patch panels (PT and MW2)

For RICH-1 detector work is ongoing to place the sensor in the collection system for the Bottom PD.

For the top PD ok, Bottom PD missing

All other spectrometer detectors position ok



# 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](mailto: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

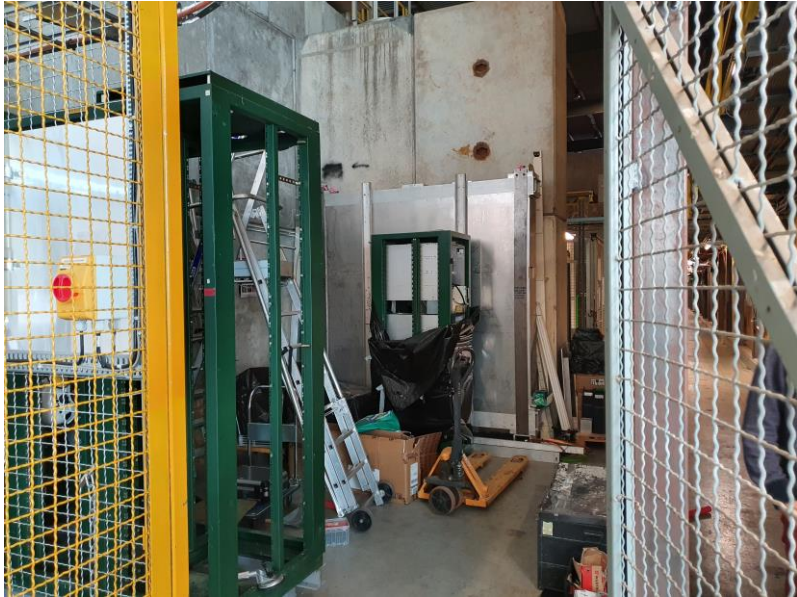
From: Dany Gain <[dany.gain@cern.ch](mailto:dany.gain@cern.ch)>  
Sent: mercredi 28 avril 2021 09:06  
To: David Jaillet <[David.Jaillet@cern.ch](mailto:David.Jaillet@cern.ch)>  
Cc: Nikolaos Charitonidis <[nikolaos.charitonidis@cern.ch](mailto:nikolaos.charitonidis@cern.ch)>; Aziz Amamou <[aziz.amamou@cern.ch](mailto:aziz.amamou@cern.ch)>;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

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)



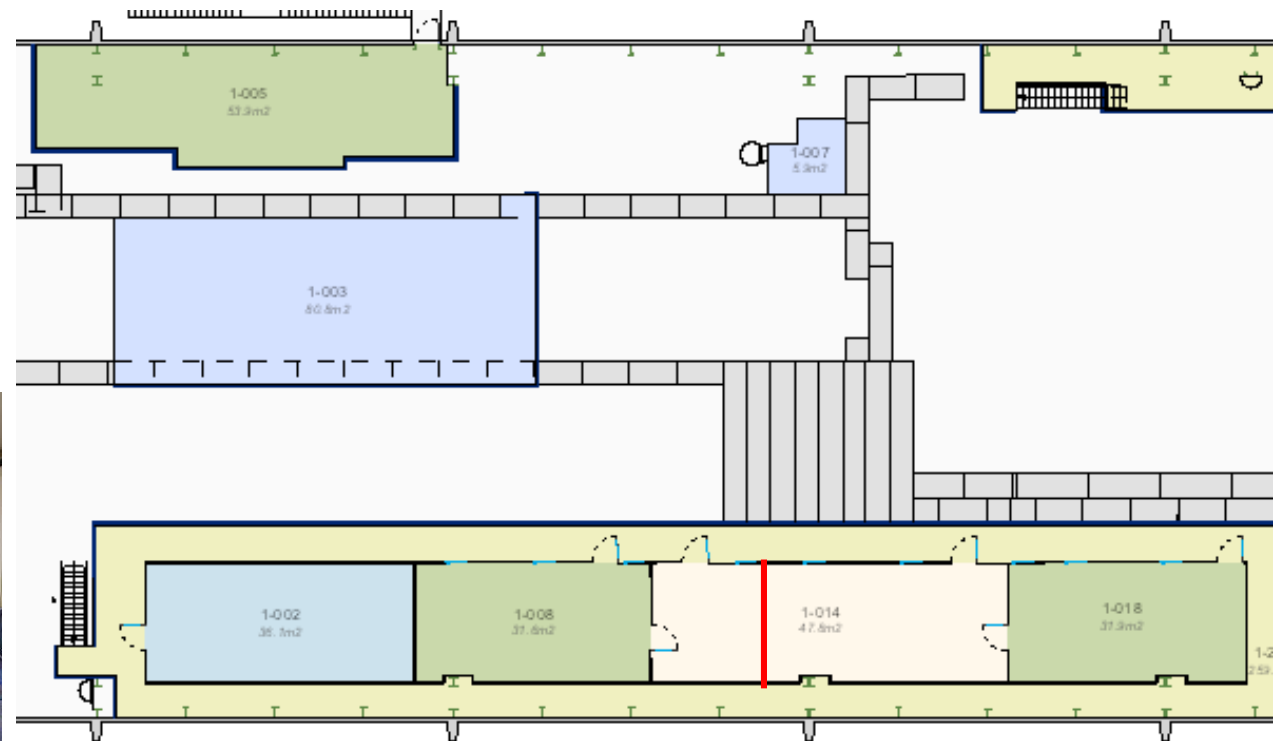
# Communications: ECAL0 Storage

Work in the ECAL0 storage has started, the area will be divided in two separate parts, both separation fence and door are foreseen to be installed: → access reserved for ECAL0 material



# Communications: 888 Ctrl room

Work for the reshuffling of the COMPASS 888 control room has started, 3 meters of space will be used from the separation wall. We will need to move the DCS PC. Some minor intervention needed for the power and network distribution. Reduced/no impact on our activities.



# Communications: 888 light Installation

Nearly all sodium lights installed in 888 are not longer working, Installation of the new light system in ongoing during this week. It is performed via the 40T Crane.

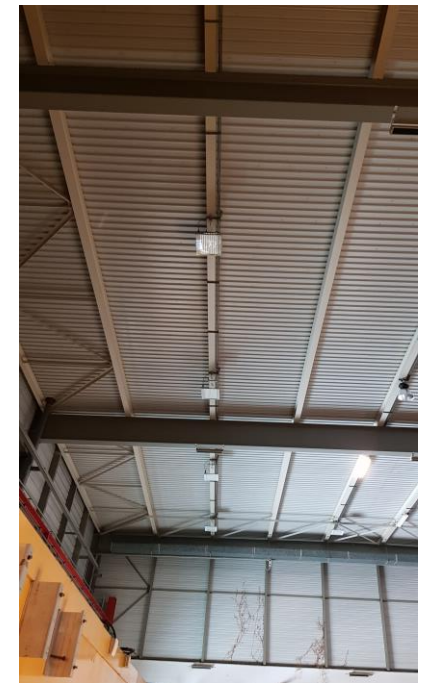
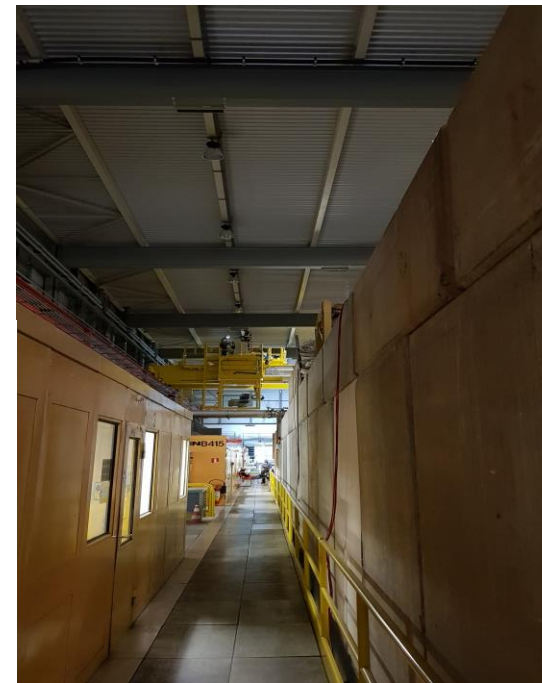
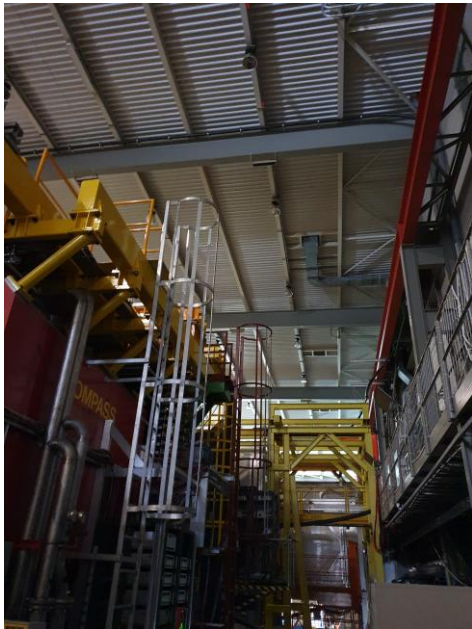
Two steps:

part one installation of light over M2 beam line and barracks

Part 2 installation above the Spectrometer with the installation of retention system for the possible fall of objects.

No use or very limited use of crane during this week. Operation will be over for Thursday/Friday this week

LED illumination system



# Communications: Wiener PSU

All repaired wiener power supply have finally been delivered to COMPASS



Type	RMA	Part No.	Serial No.	Input
UEP 5021	RMA 200447	0384.2130k	1697098	90-265 VAC/ 47-63Hz max. 16A
UEP 5021-K40-2	RMA 200456	0384.2130k	2099014	90-265 VAC/ 47-63Hz max. 16A
UEP 6021	RMA 200450	0P00.0004	1700107	92-264VAC/47-63Hz
UEP 5021-040-2	RMA 200449	0381.2130e	0100059	92-264VAC/47-63Hz
UEP 5021-E40-2	RMA 200448	0384.2133e	0200034	92-264VAC/47-63Hz
UEP 5021-K40-2	RMA 200452	0384.2130K	2099013	90-265VAC/47-63Hz max. 32A
PL 6021	RMA 200455	0P00.0142	2199009	90-265 VAC/ 47-63Hz max. 16A
PL508 L	RMA 200454	0P08.L156	1494121	100-240VAC/50-60Hz max. 16A

# Communications: R&S PSU

GEM LV PSU, R&S DAI prepared, Justification prepared and order submitted.

**MEMORANDUM  
FOR A  
SINGLE OR SOLE SOURCE**

**AMOUNT IN CHF: 39,618.50**  
**CRITERIA FOR ACCEPTING A SINGLE SOURCE<sup>1</sup>:**

- Standardisation
- Compatibility
- Only available in one Member State
- Urgency
- FC approved

**CRITERIA FOR ACCEPTING A SOLE SOURCE<sup>2</sup>:**

- Only one supplier exists

**TECHNICAL DESCRIPTION**  
*Four-channel power supply 0V to 32V, max. 20A per channel max. 200W per channel (800W total) OVP, OPP, OTP USB/LAN interface, fast voltage sensing.*

8724189 - Purchase Requisition (DAI) Procurement officer

This document has 2 attachments

By signing this request, you acknowledge your responsibilities related to the approval of the DAI.

Created by Stefano LEVORATO (EP-SME-CO) Tel: 65389 164850 on 22.04.2021 09:41 (Last modified on 03.05.2021 14:09)  
Created by BAAN: No

**General Information**

General Description \*: LV PSU GEMS  
Technical Contact \*: Stefano LEVORATO (EP-SME-CO) Tel: 65389 164850  
Contract:  
Departmental Request (DR):  
Supplier: ROSCHI ROHDE & SCHWARZ AG, Muhlestrasse 7, 3063 ITTIGEN, CH (ROSC50, MA01)  
Contact for order:  
Currency \*: CHF (Swiss Franc)  
Transport Cost \*: Transport costs are included in the unit prices of the bid  
Packaging \*: Packaging costs are included in the unit prices  
Indicate whether this request involves "Research and Development" No (If yes, please provide additional details in a justification to be enclosed to this DAI, and/or prototype work? \*)

Articles appearing in the CERN catalogue, or similar articles must be requisitioned from the store.

Total Value: CHF 39,618.50 (CHF 39,619.00)

**Order Lines**

Item	Quantity	Description	Unit Price	Price
1	10	<b>NGP804</b> Four-channel power supply 0V to 32V, max. 20A per channel max. 200W per channel (800W total) 5" capacitive touch screen QuickArb, Sense electronic fuse, FuseLink OVR, OPP, OTP USB/LAN interface Discount (not deducted): 15%, Country of origin: MALAYSIA (MY), Delivery: 892-R-D02 LABORATOIRE PREVESSIN, Procurement Code: 03050100 - Low voltage power supplies for electronics [Material], Goods already delivered: No, Lead time: 4 Weeks Budget Codes: T293900 - COMPASS COLLABORATION	CHF 4,370.00	CHF 37,145.00
2	10	<b>ZZA-GE23</b> 19 Inch rack adapter, 2HU, for R&S*NGP800 power supplies (accessory) Discount (not deducted): 15%, Country of origin: CZECH REPUBLIC (CZ), Delivery: 892-R-D02 LABORATOIRE PREVESSIN, Procurement Code: 03050100 - Low voltage power supplies for electronics [Material], Goods already delivered: No, Lead time: 4 Weeks Budget Codes: T293900 - COMPASS COLLABORATION	CHF 291.00	CHF 2,473.50

To: Stefano Levorato <Stefano.Levorato@cern.ch>  
Subject: RE: request of information DAI 8724189

Dear Stefano,

So in principle we have to do a competitive price enquiry to select the supplier of these supplies. It's hard to accept a single source justification for this, considering that these supplies have never been purchased before and considering that we know this is a competitive market. I have been trying to reach the technical teams in EP-ESE with better knowledge of these products than me to ask if there is any possibility to purchase supplies meeting your need under one of our existing contracts e.g. from Wiener.

I'll get back to you as soon as I have information from them.

Thanks,  
Josh

From Joshua Luke Davison <joshua.luke.davison@cern.ch> ★

Subject RE: request of information DAI 8724189

To Stefano Levorato ★

2:04 PM

Dear Stefano,

I just reached EP-ESE. They had a look at your requirement and agree that R&S is the only supplier able to meet it. I am just going to clarify a couple of points about their offer with them and then I will be able to sign the order.

Thanks for your patience on this!  
Josh

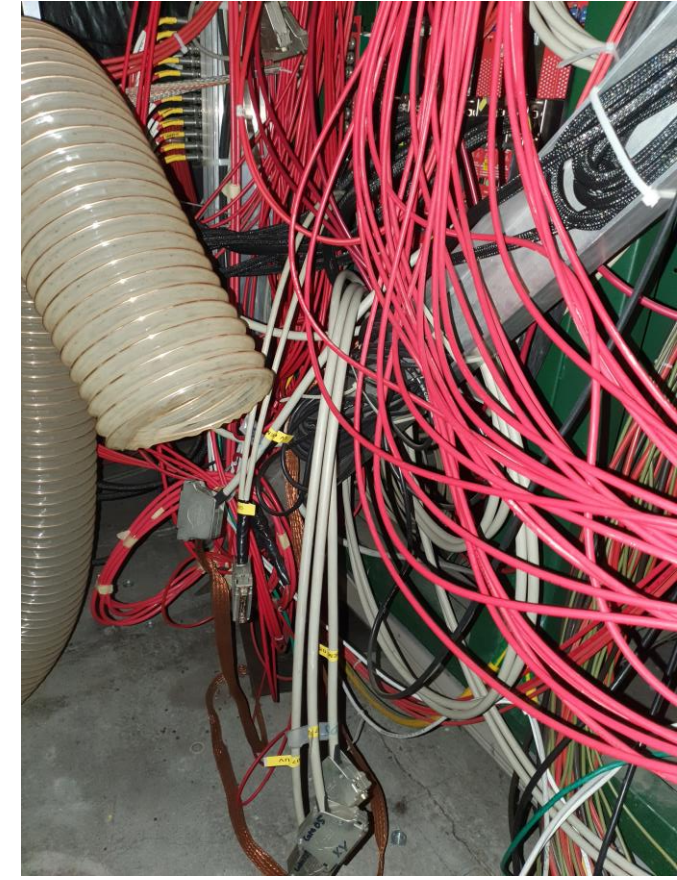


Delivery should be approximately 4 weeks → planning of the intervention

# Communications: R&S PSU



Preparation of interface connector + cables as well as positioning of the PS units to be discussed  
→ Christophe for the DCS status and integration



# Communications: 888 R-413



888 R-413 is being refurbished.

First half, non ATEX for target material, Helium for CEDARs and/or any other storage/use

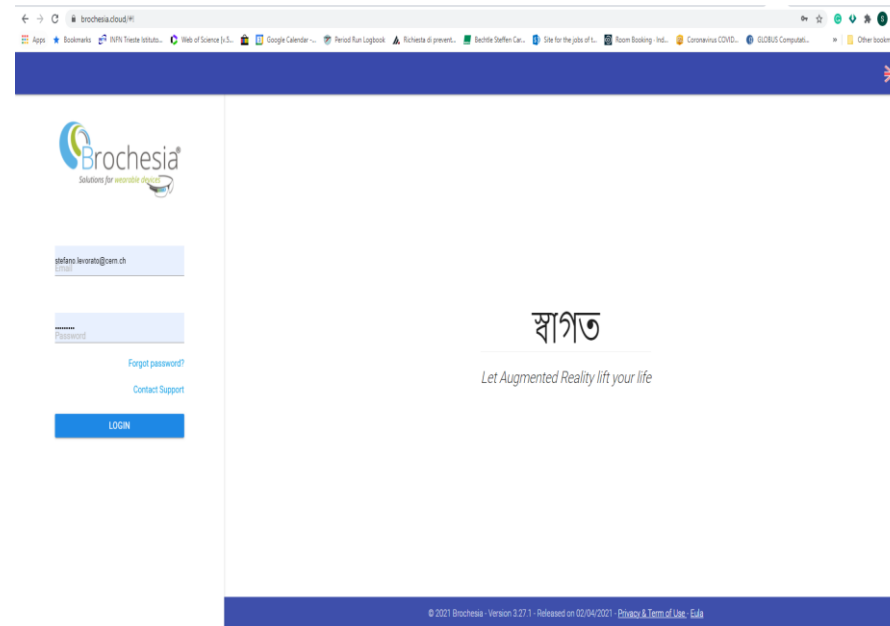
Second half ATEX, access via door, TPC gas circulation system

*Possible benefit of the presence of H → do not use any longer ARCAL mixture and prepare the 2% H<sub>2</sub>, 98% Ar  
For the regeneration of the filters for the spectrometer*

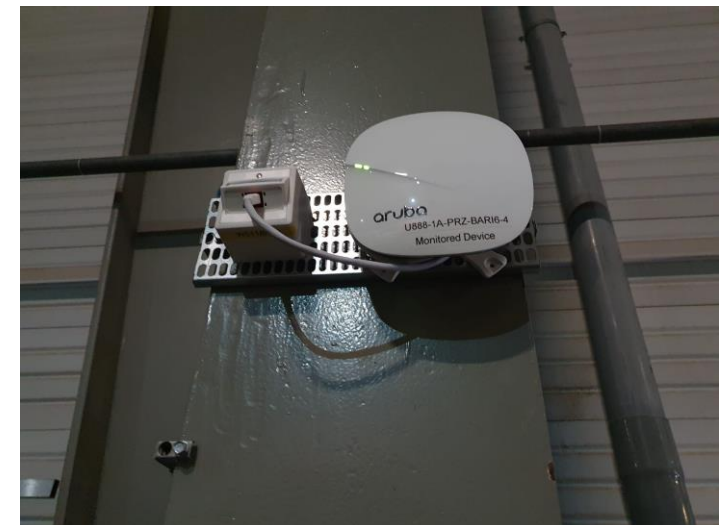
*GEM, MWPC, STAWS, RICH... Proposal for dedicated system Two ATEX MFM + mixer, ~ 12 kCHF, useful also  
in the future*

# Communications: HMT

Realwear HMT-1 ready and fully operational, software license paid for 1 year  
Simple booking system via web interface under preparation.

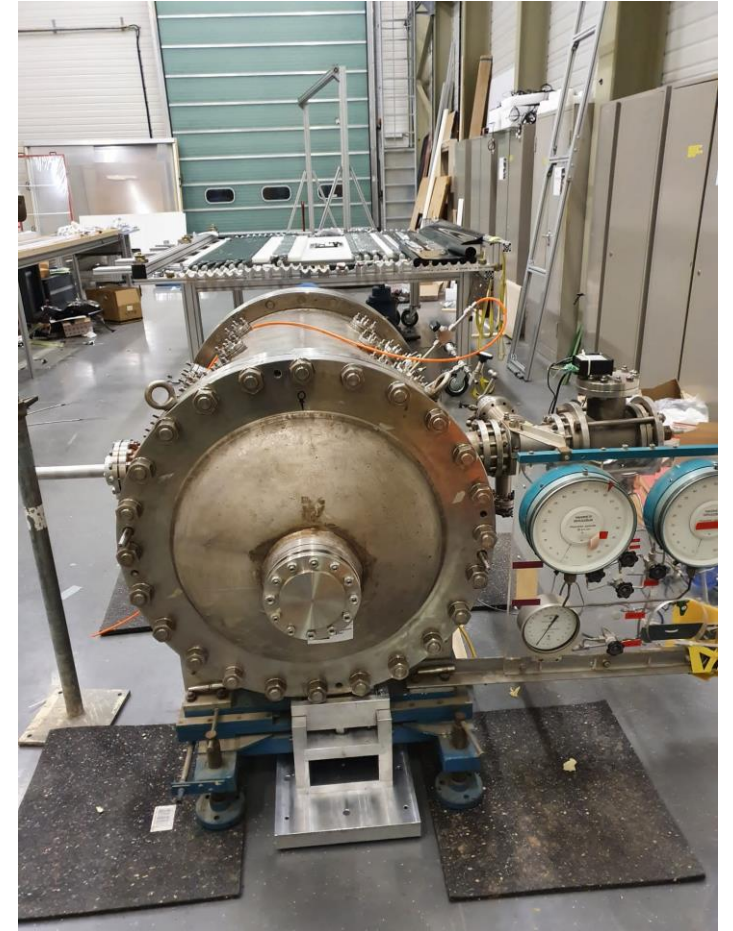
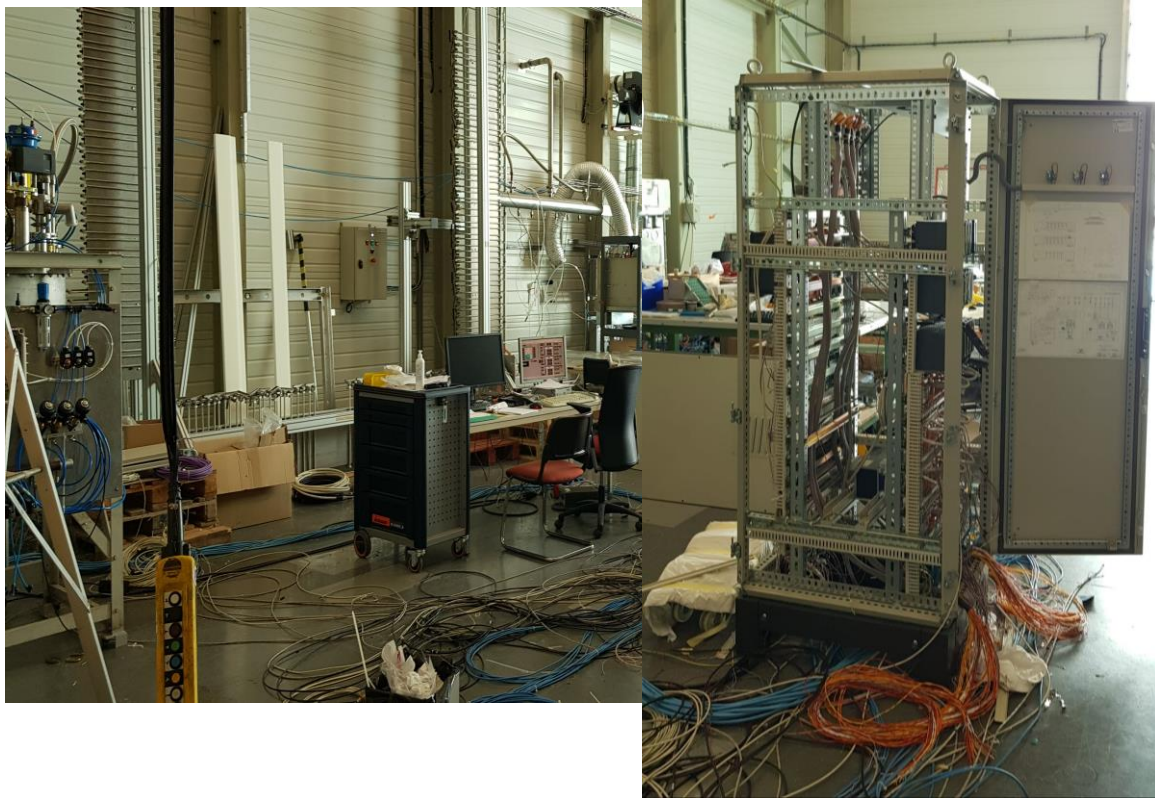


<https://brochesia.cloud/#!>  
user: stefano.levorato@cern.ch





# Communications: 891



Full clean room is in use by the

- 1) IKAR TPC setup
- 2) Cold Silicon Tracker and cooling system
- 3) H1
- 4) Reserved space for DC5 repair → waiting for the decision on the intervention

# Communications: PT loading



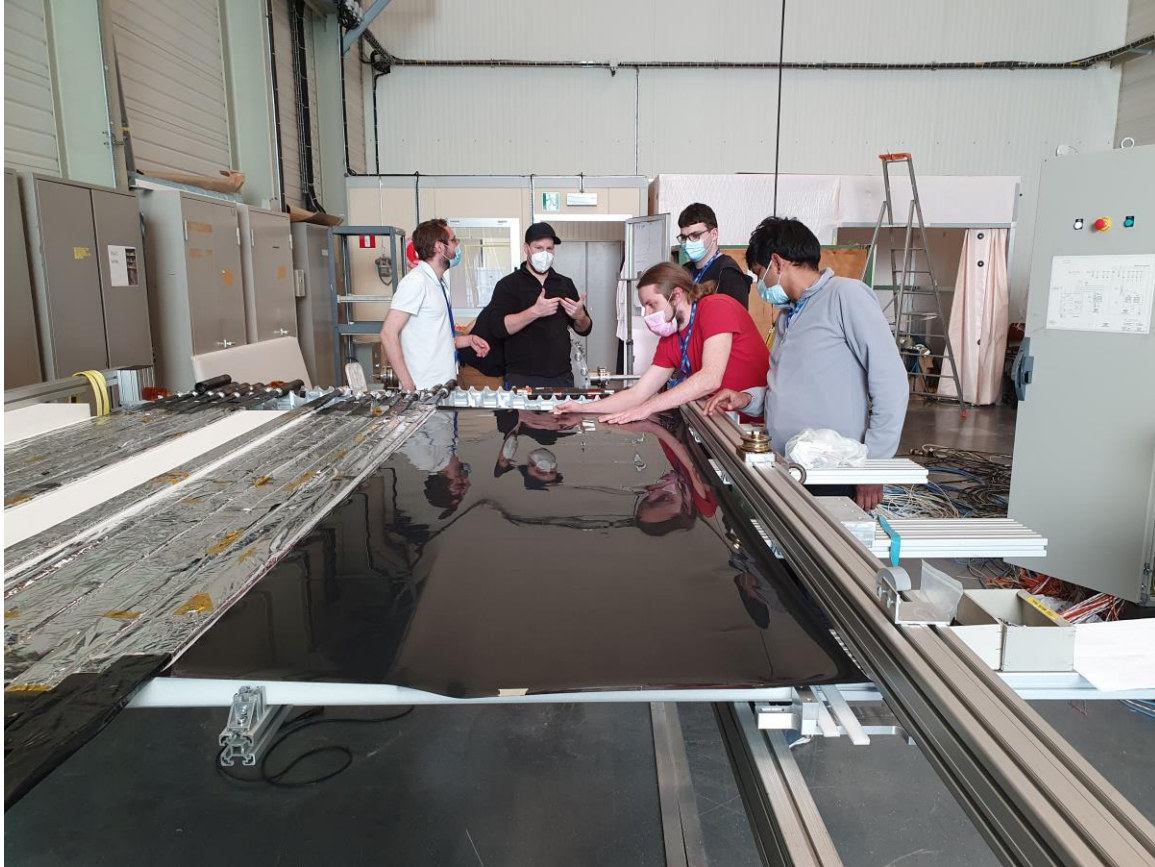
Successfully performed on 28 → Nori

# Communications: RW intervention



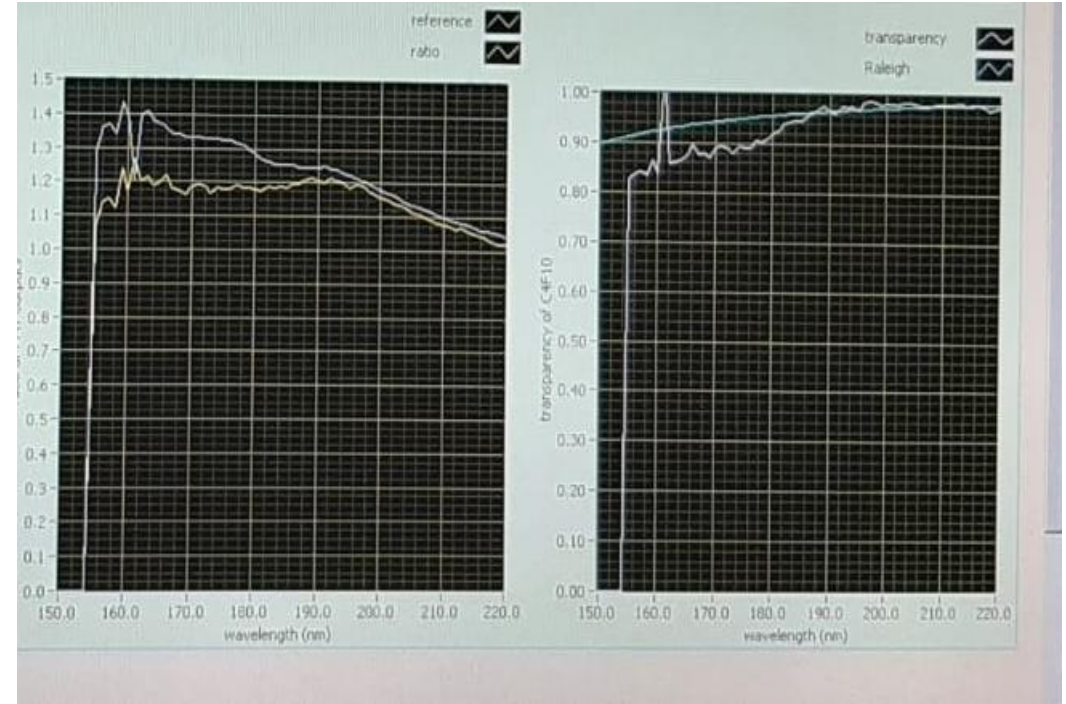
Rapidly progressing, on site Chiara Alice (TO) , Davide Giordano (TO), Antonio Amoroso (TO), Georgy Golovanov (Dubna), Alexei Piskun (Dubna)  
→ Maxim

# Communications: H1 refurbishing



Progressing, on site: Moritz, Johannes and Johannes (Mainz) Livio Rinaldi + support of Triloki and Daniele D'Ago (TS) → Moritz

# Communications: CH<sub>4</sub> and C<sub>4</sub>F<sub>10</sub> radiator cleaning



Triloki and Daniele D'Ago (TS)

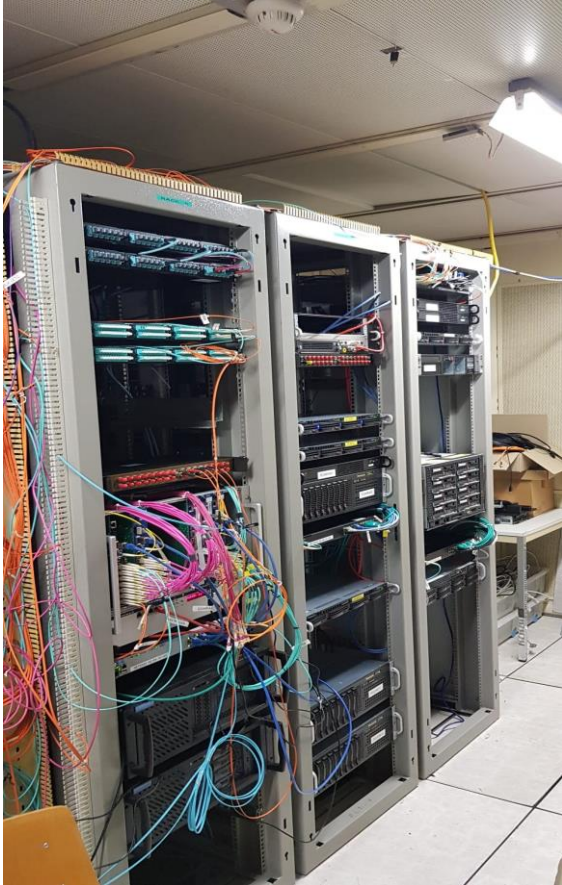
Advancing well, on track for 2021 run for the radiator gas → Silvia, Daniele

# Communications: IKAR TPC



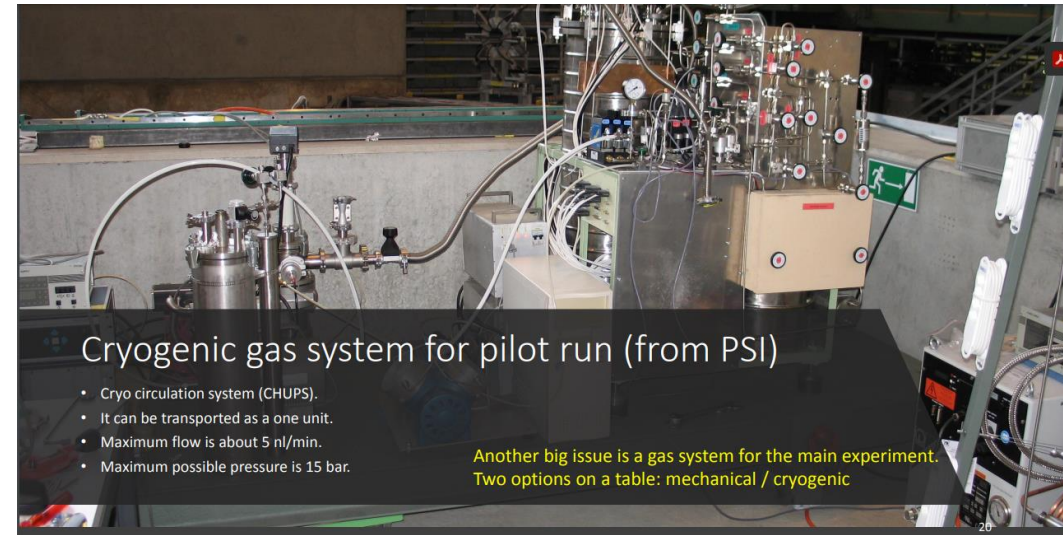
Oleg Maev + Alexander Granick  
TPC closed, waiting for the main valve delivery.  
Support structure for the beam position ordered  
Pressure tests second half of May → Oleg

# 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  
Each PDU can switch ~ 7 kW , as for COMPASS we have been using the 10 A line → 4 kW per PDU → 8 kW per rack ( looks reasonable, I have asked the cost evaluation for this solution, in we are willing to have the 16 A line it is the time to ask for it, for this solution we expect a cost of 12 kCHF

888 R-413  
Missing the power requirements  
They are going to be defined soon according to the choice of the gas system circulation



Cryogenic gas system for pilot run (from PSI)

- Cryo circulation system (CHUPS).
- It can be transported as a one unit.
- Maximum flow is about 5 nl/min.
- Maximum possible pressure is 15 bar.

Another big issue is a gas system for the main experiment.  
Two options on a table: mechanical / cryogenic

# Communications: Intervention's schedule

Cooling system of Silicon Tracker

Work ongoing with EP-DT and TC for preliminary testing of the gas system (not in cold mode)

Final test at the end of May, beginning of June

Tentative presence of Jean-Yves for the commissioning during week 25 (20-25 June) in cold mode → requires the installation of the platform in front of PT during week 23 and 24. Christian should be available (Meeting on 30 April: Christian, Nicole, Jean-Yves, Sylvayn, Laurent, Stefano)

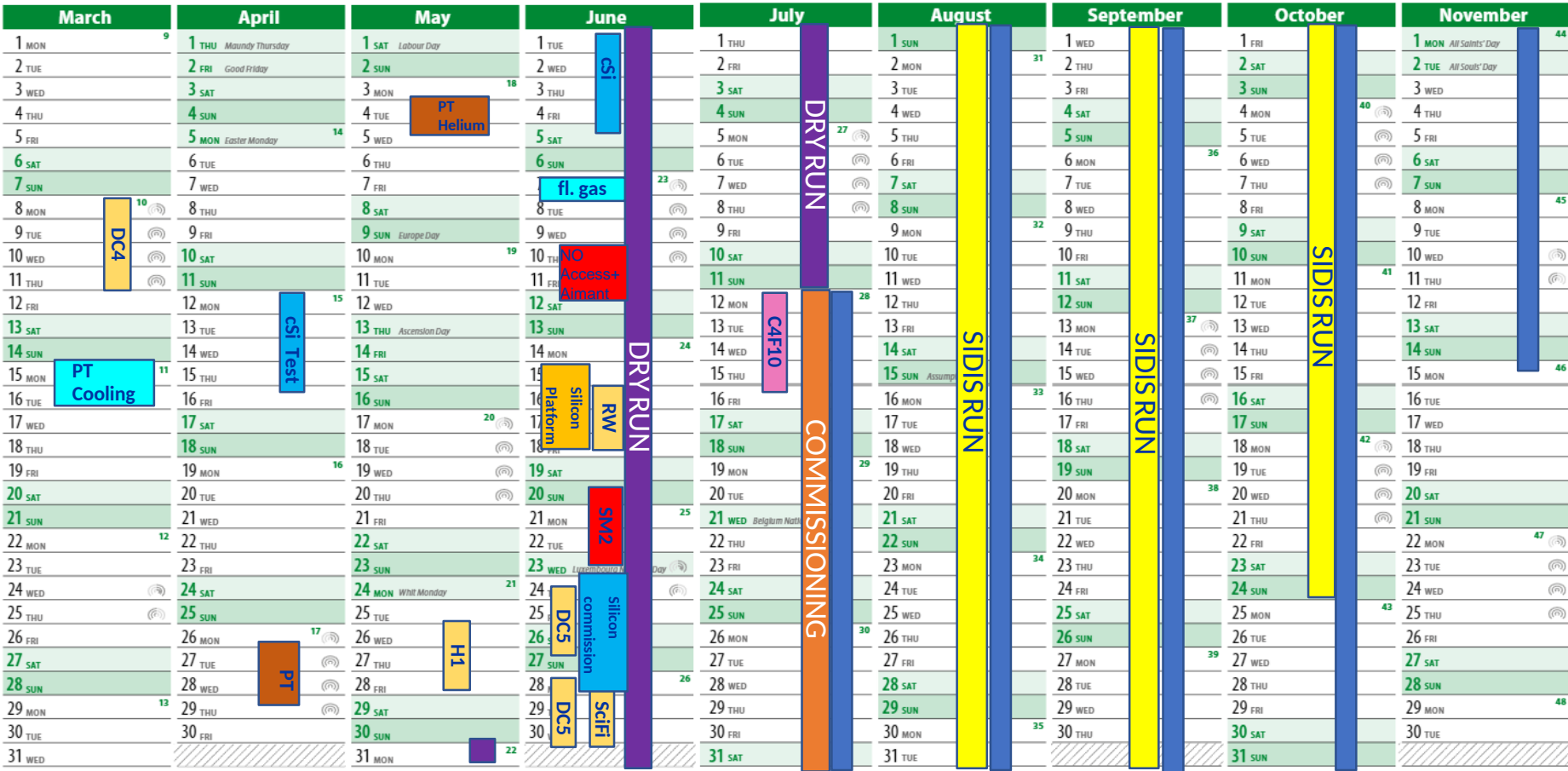
H1 reinstallation

little delay, most likely beginning of June H1 will be rotate from horizontal to vertical → plan the intervention  
According to access to 888: 10 and 11 of June no access to the area!

→ To be discussed also according also with the availability of Anosov on site



# Communications: Intervention's schedule



GEM

10-11 June DSO TEST + SM1 and SM2 tests → No access +