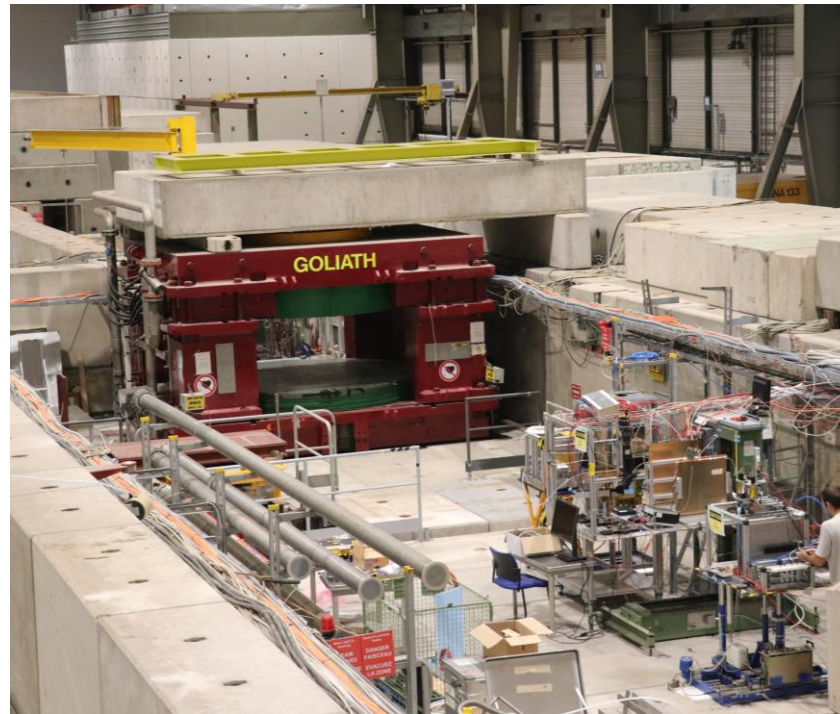


# DRD1-WG7: Common Test Facilities



1 Neutrino Platform

K12

M2

P42

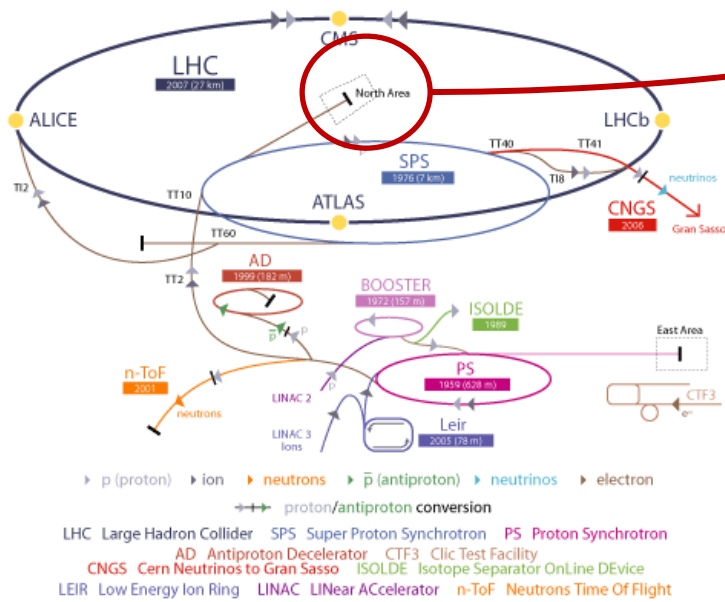
EHN1

H2, H4, H6, H8



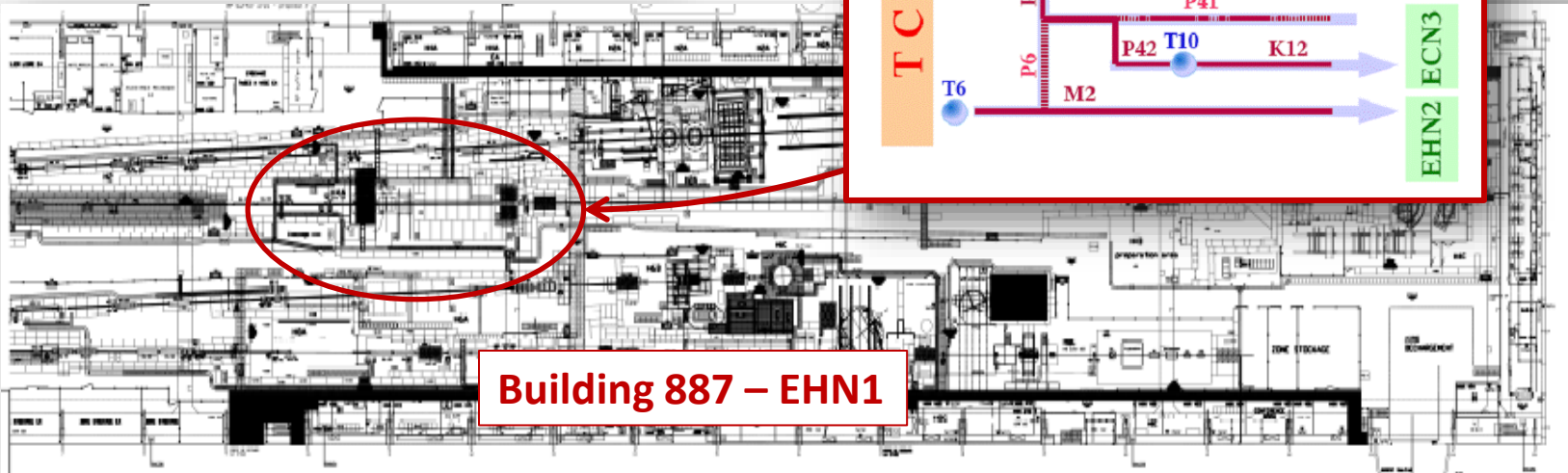
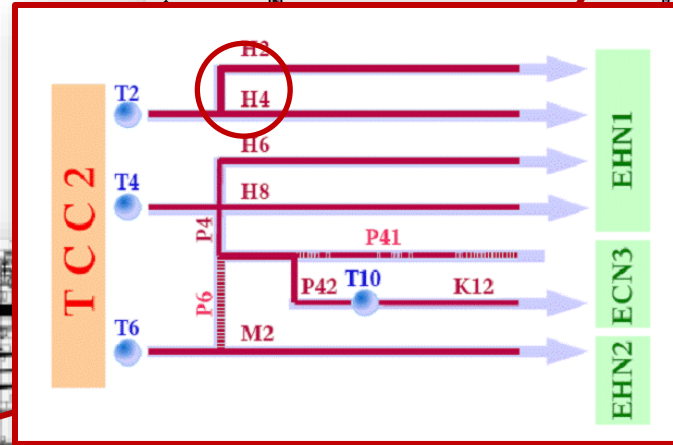
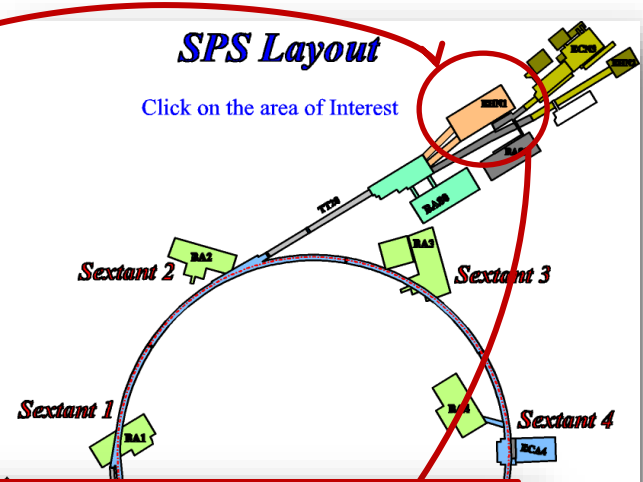


# CERN Accelerator Complex



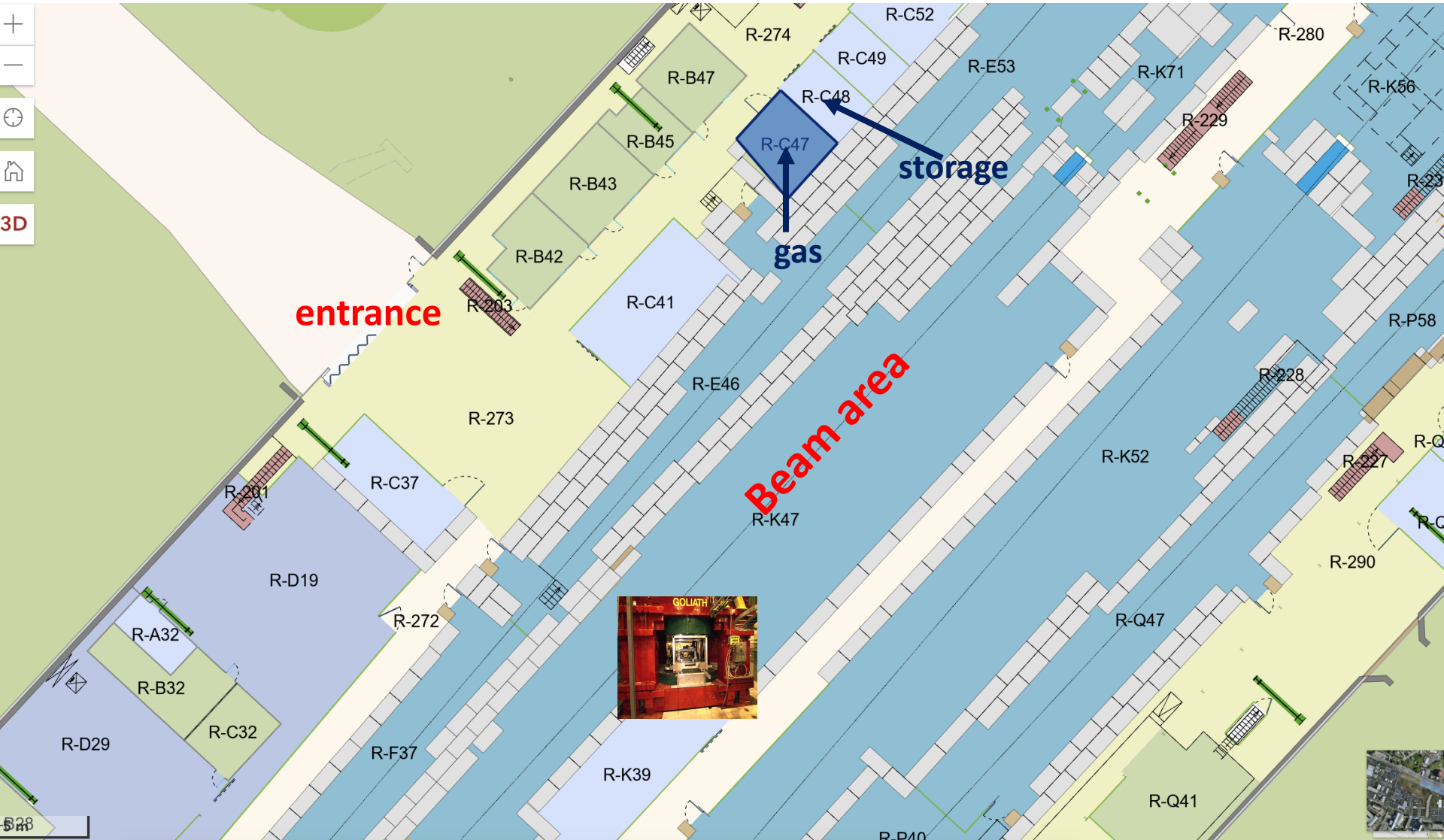
# SPS Layout

Click on the area of Interest



**Building 887 – EHN1**





entrance

gas

storage

Beam area



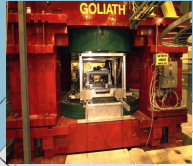
3D

528



**Control Rooms**

**Beam area**

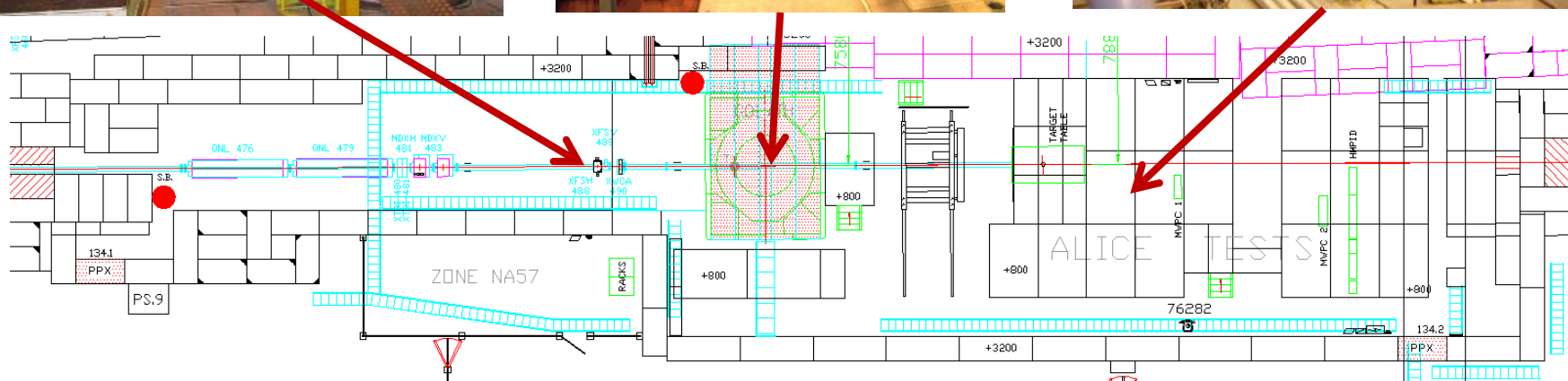
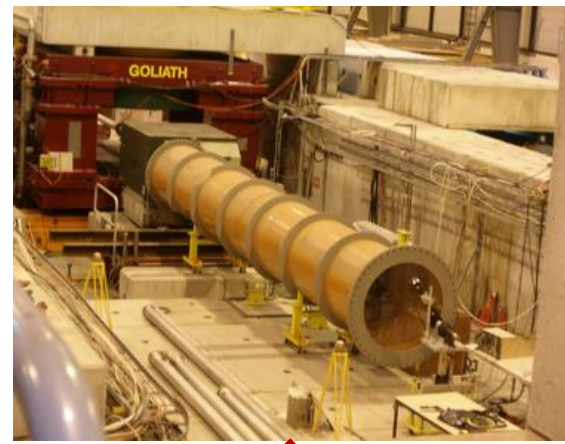
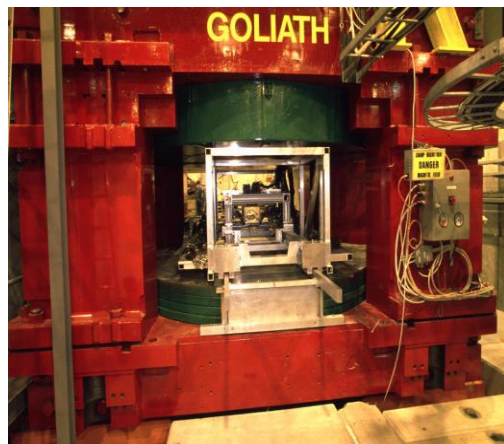


135

528







# H4 beam line

- **The** H4 beam line is located in EHN1. It is a high-energy, high-resolution general purpose beam suitable for both experiments and tests. Main parameters:  $P_{max}= 330$  (450) GeV/c,  $Acc.=1.5 \mu Sr$ ,  $\Delta p/p_{max}= \pm 1.4 \%$  The maximum momentum is 400 GeV/c.
- **detailed user guide:** [H4](#)
- **Beam types:**
  - polarized protons for  $\Lambda 0$  decay, enriched low-intensity beam of anti-protons, or  $K+$
  - electrons from  $\gamma$ -conversion,
  - Attenuated primary beam, Heavy ion beam
- **Maximum intensities** for  $10^{12}$  incident protons at 400 GeV/c:
  - $n+$ , e fluxes similar to H2
  - $\sim 10^7$  protons at 400 GeV/c
  - $\sim 10^7$  Pb

## The type of particles

- Electrons from converted gammas
- Hadrons from decay of lambdas and kaons
- Secondary pions and protons
- Muons

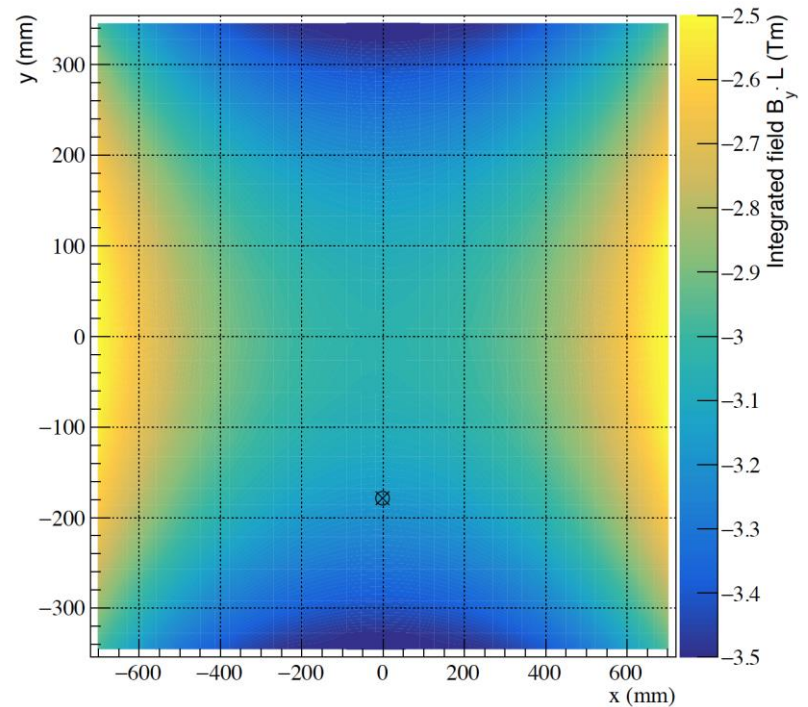
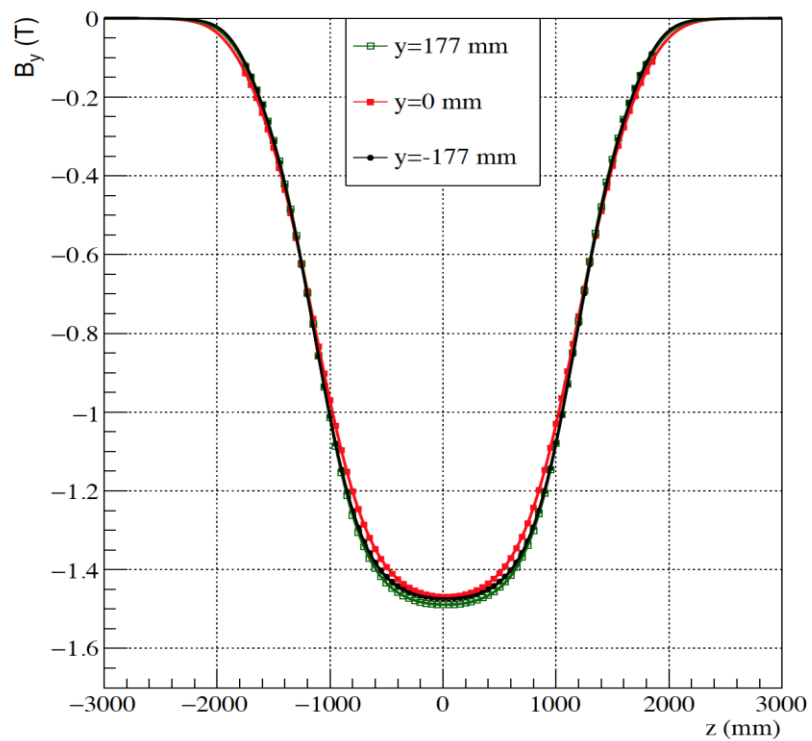
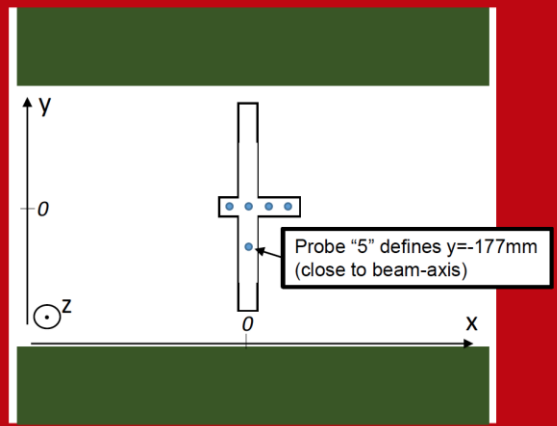
<b>Main Parameters</b>	
<b>Pmax:</b>	360 GeV/c (SPS at 400GeV/c) or 400 GeV/c for primary protons
<b>Acceptance</b>	$\pm 1.5 \mu sr$ (2.5 $\mu sr$ at $p < 200 GeV/c$ )
<b>max <math>\Delta p/p</math></b>	$\pm 1.4\%$
<b>Dispersion at momentum slit (C3)</b>	27 mm / % $\Delta p/p$
<b>Intrinsic <math>\Delta p/p</math> with slit = 0</b>	0.05%
<b>Beam height in EHN1:</b>	2060 mm
<b>Beam length</b>	$\sim 655$ m

<http://sba.web.cern.ch/sba/BeamsAndAreas/resultbeam.asp?beamline=H4>

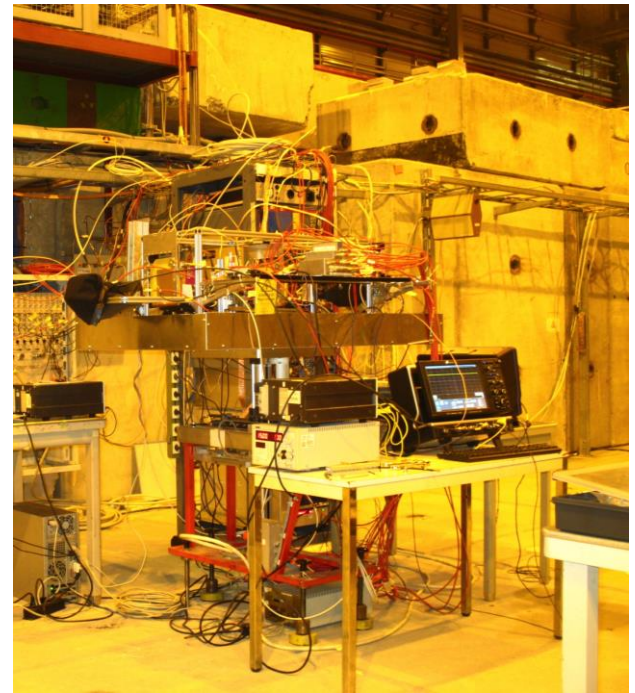
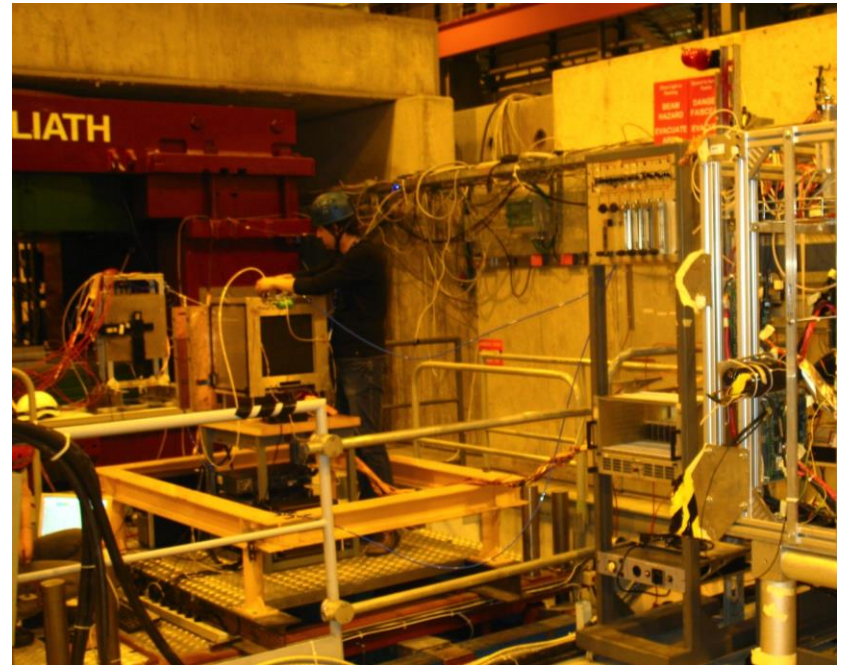
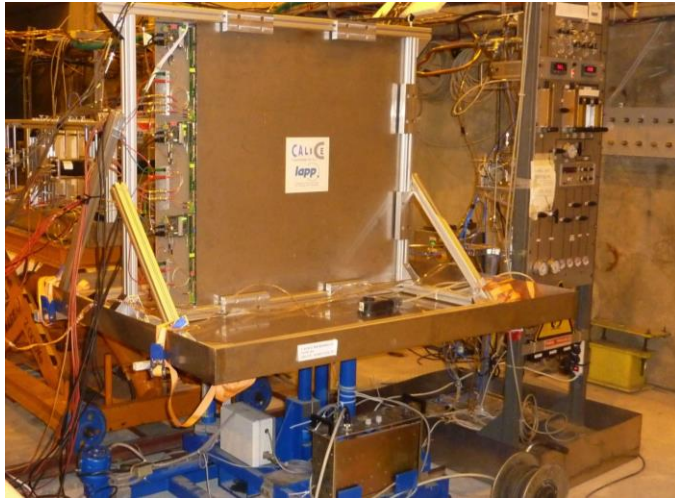


# GOLIATH

CRAMP BEAMLINE  
DANGER  
MAGNETIC FIELD

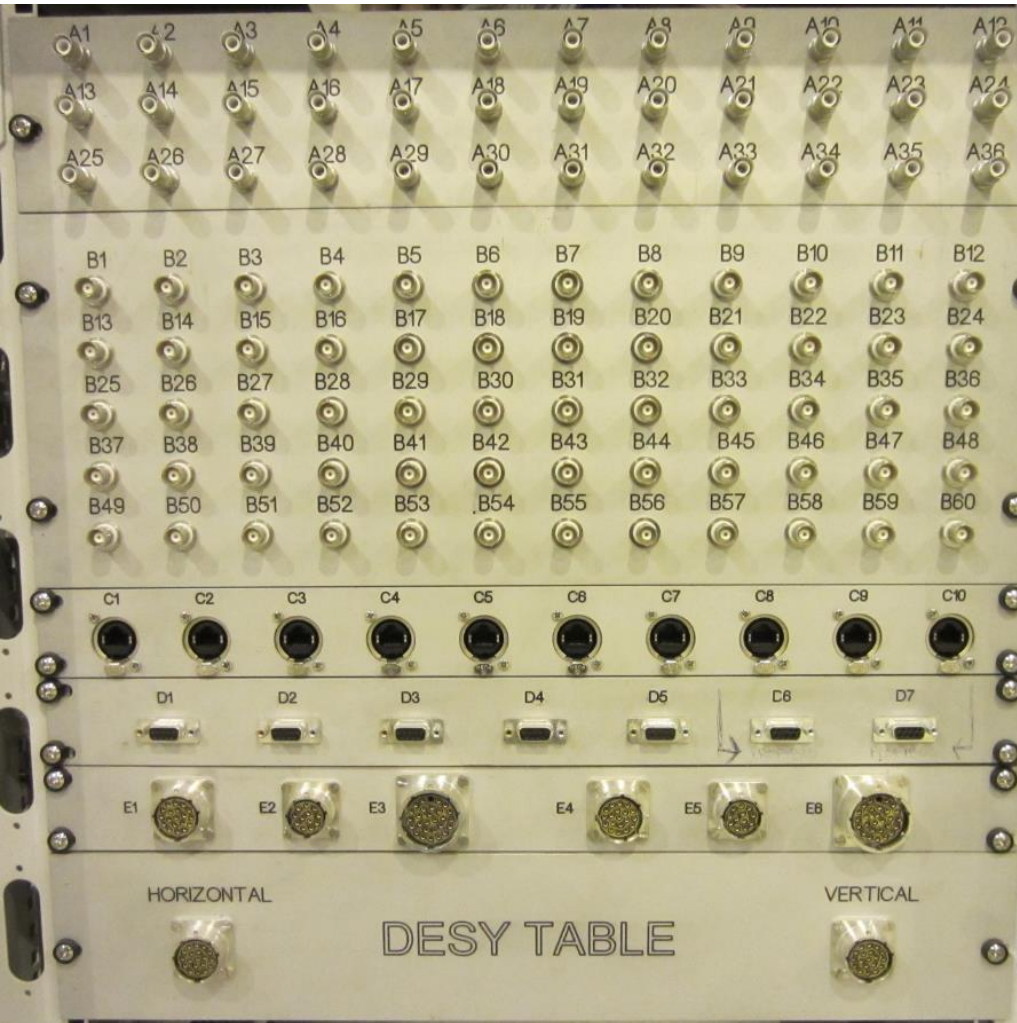


# Moving tables & supports





# Two panels from the area to the CR (one on each side of GOLIATH)



- 36xSVH
- 60xBNC
- 10 x RJ45 (Cat.6)
- 5xSubD9&2xSubD9(Profibus)
- 2 xBurndy 12,19&28
- 2 x Burndy 19 for the DESY table



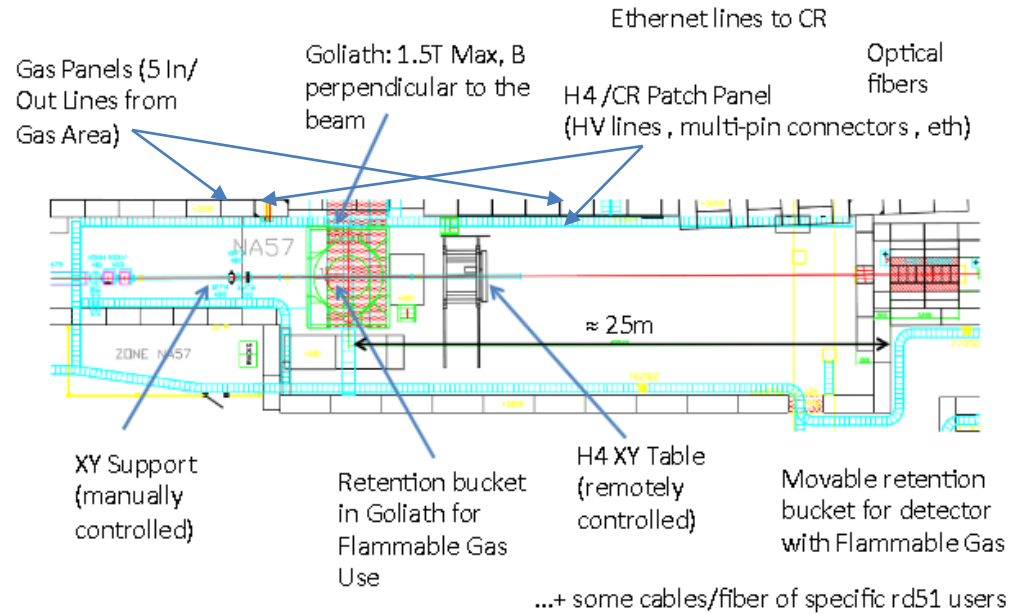
# Semi permanent installation EHN1-H4 (SPS North Area)

## Infrastructures (gas, HV, LV, sensors,...)

**Internal** (beam sharing between groups) and **external** (GIF++ and with any other parallel user) coordination

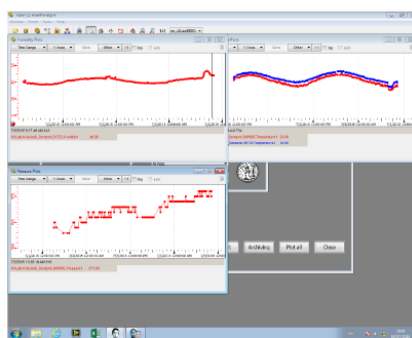
Typical Shift Scheme

	MAIN	Parasitic1	Parasitic2
Shift1	ALICE TPC	WIS/Aveiro/Coimbra	LNF
Shift2	ATLAS NSW	ALICE TPC	WIS/Aveiro/Coimbra
Shift3	CMS GEM	ATLAS NSW	ALICE TPC
Shift4	LAPP/UA/NCSR/IRFU	CMS GEM	ATLAS NSW
Shift5	LNF	LAPP/UA/NCSR/IRFU	CMS GEM
Shift6	WIS/Aveiro/Coimbra	LNF	LAPP/UA/NCSR/IRFU
Shift7	ALICE TPC	WIS/Aveiro/Coimbra	LNF
...			

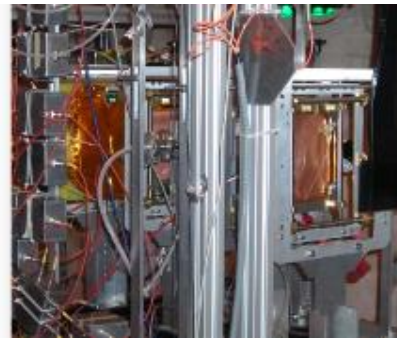


## RD51 DCS (Control and monitoring)

Environmental plots during Test Beam



## RD51 Trackers and SRS/APV25 DAQ



## Mechanical support (Miranda)



# What you need to access the Test Beam

1. Valid CERN Dosimeter
2. CERN Badge + Validated Access to Counting/Control Room
3. Helmets and safety shoes for the experimental area



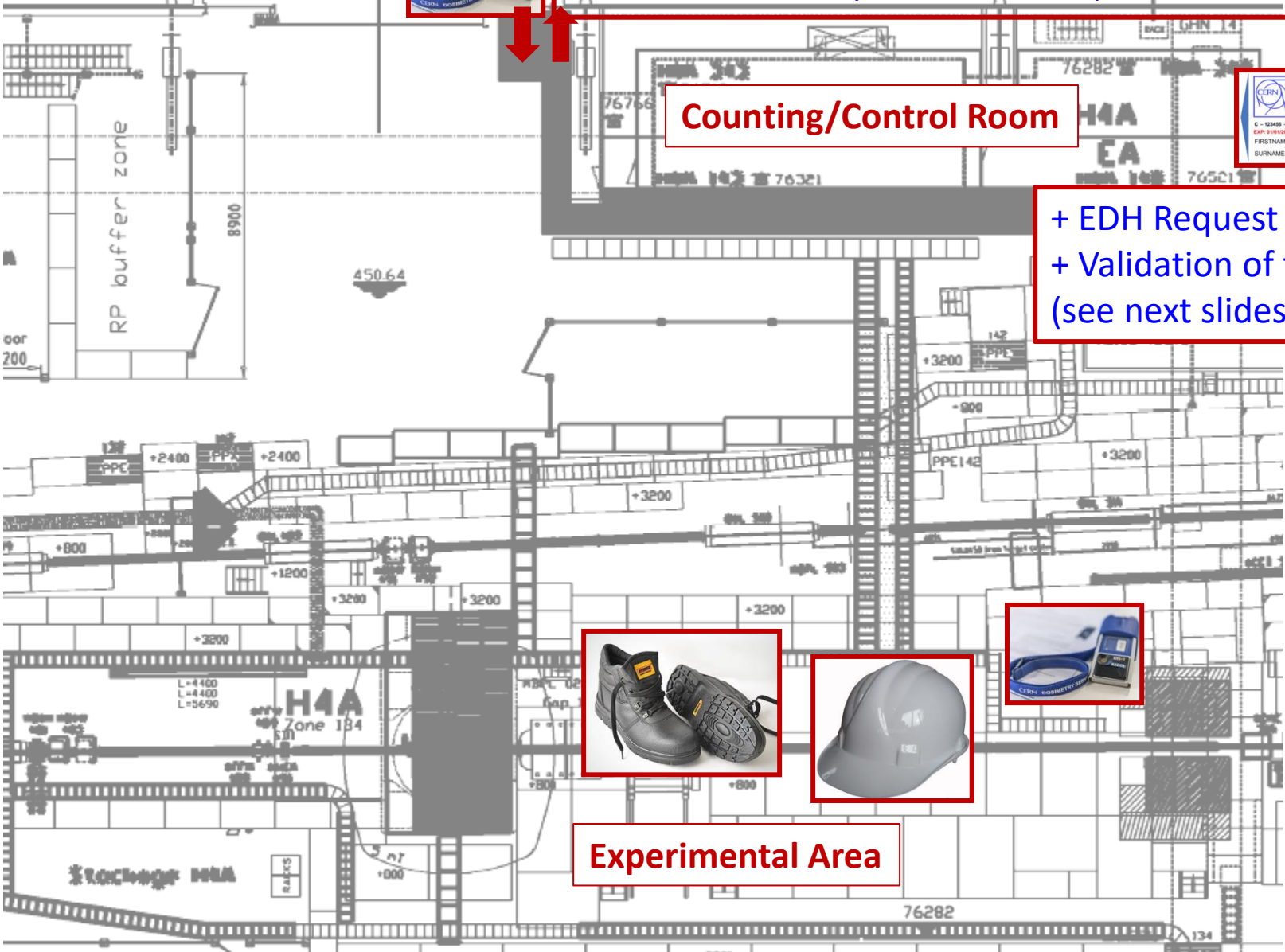
**Counting/Control Room**



+ EDH Request  
+ Validation of the card  
(see next slides)



**Experimental Area**



ACCESS TO THE CONTROL/COUNTING ROOM: To Be requested VIA EDH by each user

<https://edms.cern.ch/document/1421828/1>

Access Request (ACRQ)

Created by Michael JECKEL (EN-MEF-EBE) Tel: 75487 164710 on 29.07.2014

Requester Information

Requester: Michael JECKEL (EN-MEF-EBE) View card

Requester's CERN Status: STAF

Existing Access Line Item

Item	Existing Access
1	AD Target Surface Buildi Start Date: 12.06.2014, E
2	Meeting room EHN1 (069 Start Date: 28.04.2014, J
3	EHN1 access ramps (EH Start Date: 14.03.2014, J
4	Zone d'entreposage de so Start Date: 14.03.2014, J
5	EHN1 material doors (EH Start Date: 10.10.2012, J
6	NA 62 PC farm (NA62-PC Start Date: 06.08.2012, J
7	NA 62 Control Room (NA Start Date: 06.08.2012, J
8	NA 62 Entry hall (NA62-E Start Date: 06.08.2012, J
9	Zone Patrol Rights (big Start Date: 06.06.2011, J
10	Zone Patrol Rights (big Start Date: 06.06.2011, J
11	Zone Patrol Rights (big Start Date: 06.06.2011, J

Line Item Editor

Access Site: MEYRIN

Access Building: 157

Access Zone: 0157-R-012 Control Room T9

Start Date: 30.07.2014

End Date: 15.08.2014

Justification: Test beam LRCP

OK Cancel

End of test beam plus one week



Users are required to renew their access rights every 30 days by holding their card in front of an access control reader.



Hold your CERN card in front of the reader. A **BLUE** light will flash for up to 3 seconds - do not remove the card - while the data is being read/registered.



**ROUGE or VERT** reading / writing completed.

You can now use your card to open the electronic locks for which you have obtained authorisation.

[http://gs-dep.web.cern.ch/en/content/Electronic\\_locks](http://gs-dep.web.cern.ch/en/content/Electronic_locks)

Online Reader to validate your access in: R1, R2, R3, EHN1

Ref. To previous link for more info

See next slide for the references to our Counting/Control Room



## Our Counting/Control Room

SBA zone	Room number	User	Terminal	Phone	Barrack	Building / Office	Host Name
H4-134	<a href="#">887/R-K47</a>	H4A	H4A	76282	HNA-348	<a href="#">887/1-A47</a>	<a href="#">cwo-hna348-h4a</a>

Line Item Editor

Access Site \*: All

Access Building \*: All

Access Zone \*: 0887-1-A47: Control Room HNA-348 ? i

Start Date: ?

End Date: ?

Justification \*: RD51 Test Beam (26 Nov - 15 Dec 2014) ?

OK Cancel

End Date: 1 week more suggested

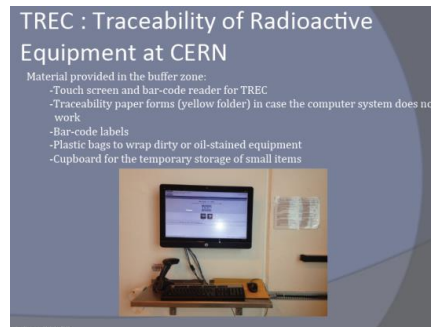
# Material leaving the experimental area... just to keep in mind

any export of material from the CERN Experimental Area halls/buildings 157 (East Area), 193 (AD), 887 (EHN1), 888 (EHN2), 911 (ECN3) to an external destination must be:

registered in EDH using the Shipping Request form <https://edh.cern.ch/Document/SHIP>.

EDH Shipping Requests issued from the above mentioned areas (also for material declared as non-radioactive by the owner) are automatically forwarded to the relevant Radiation Protection Officer that will proceed with the compulsory radiological control before authorizing the transport.

Please note that this procedure also applies to material/goods belonging to external institutes as well as if the material is transported afterwards by the owner itself (e.g. CERN transport services not required in the EDH form).



We will take care of this but keep in mind that you cannot simply leave the area with your equipments without having RP check

New procedure, i.e. possible delay

<https://sps-schedule.web.cern.ch/sps-schedule/RadioProtectionDocuments/BufferzoneEHN1-english.pdf>

# 2024

Physics start ISOLDE	April 8 <sup>th</sup>
Physics start nTOF	March 25 <sup>th</sup>
Physics start PS EA	March 18 <sup>th</sup>
Physics start SPS NA protons	April 10 <sup>th</sup>
Physics start ELENA	April 22 <sup>nd</sup>
Stop protons SPS NA	September 26 <sup>th</sup>
Pb Ion physics start SPS NA	September 30 <sup>th</sup>
Stop physics beams to AD, PS EA, SPS NA, ISOLDE, nTOF	October 28 <sup>th</sup>

requests by Friday December 22<sup>nd</sup> 2023

We requested 3 periods of 2 weeks each