

RD51-WG7 2010-V

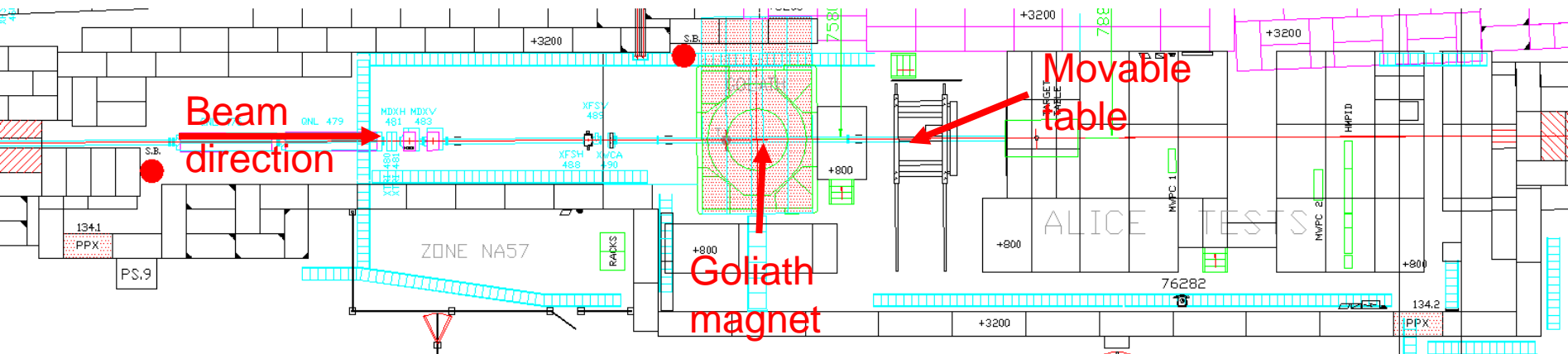
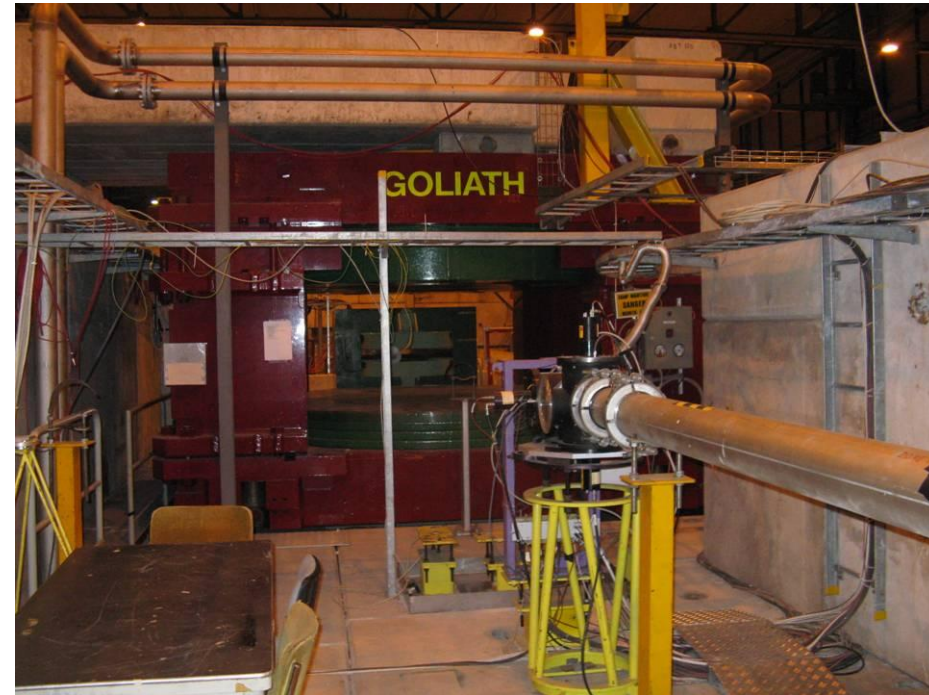
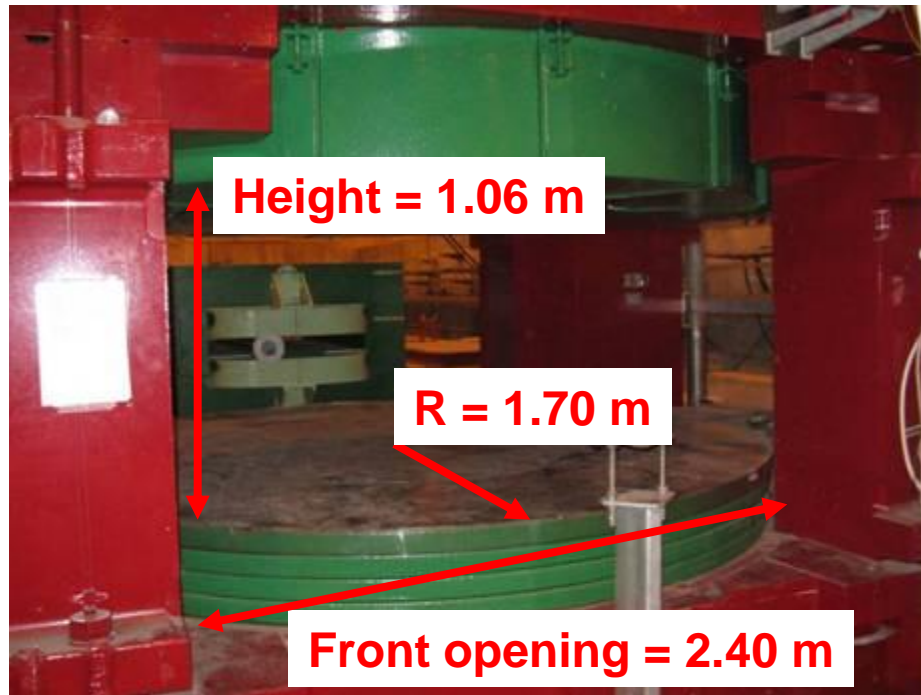
# **RD51 Test beam 2010**

# Outline

- General area description and available services
- Safety
- Schedule
- Period 1 setup
- Final recommendations
- Special announcement

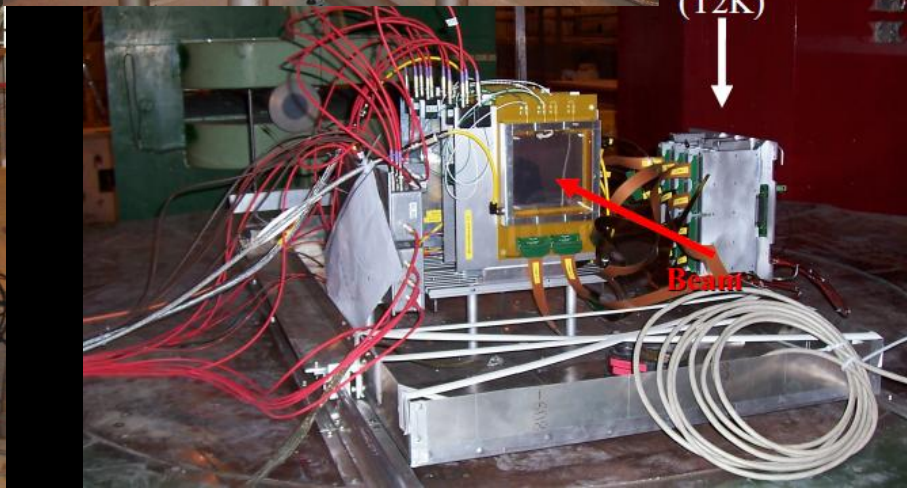
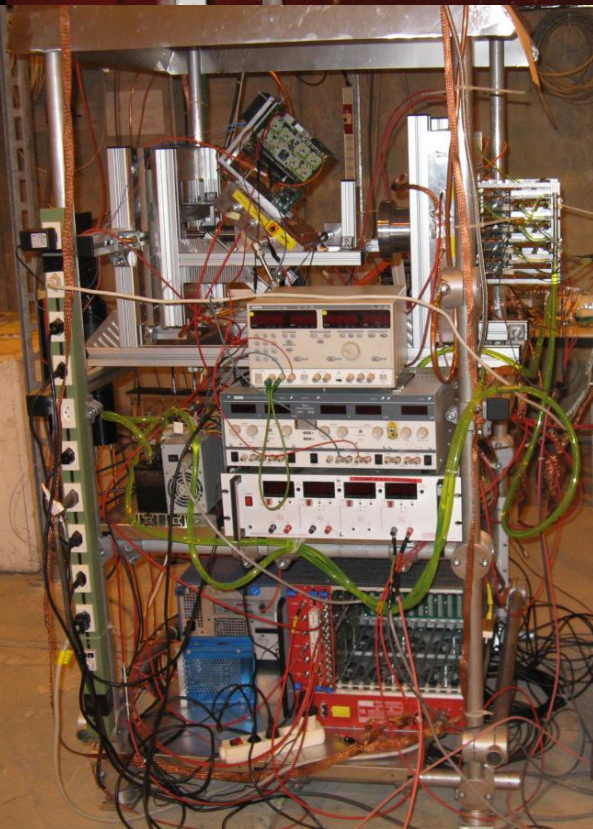
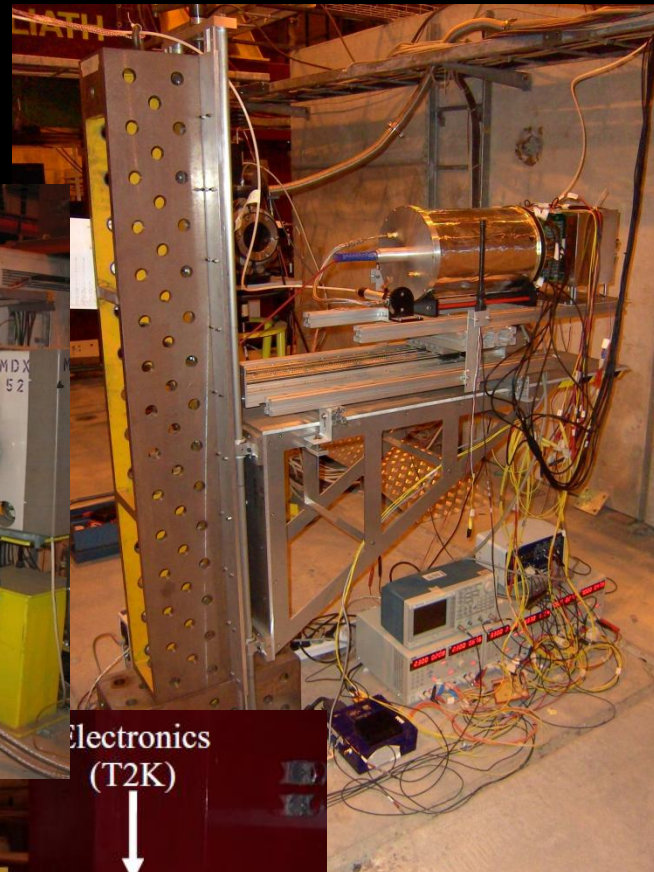
# **Experimental area & services**

# SPS/H4 line at Preveessin North Area





# Pictures of previous RD51 setups



Electronics  
(T2K)

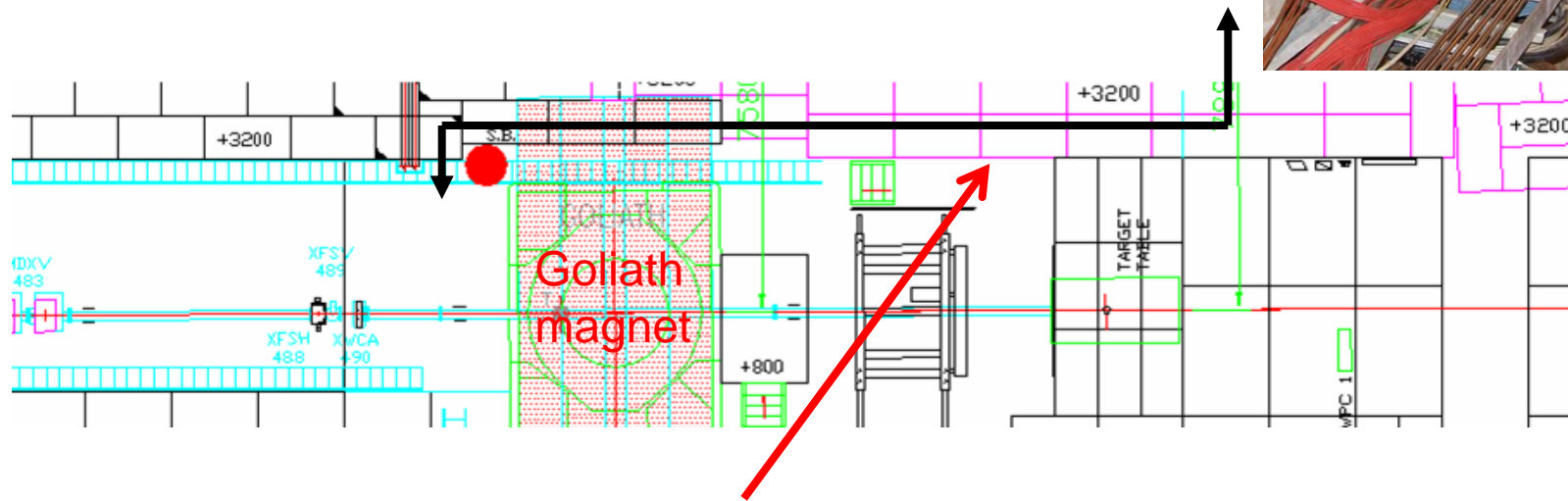


Beam



# Gas services

- **Stainless steel** from gas zone to a **patch panel** in the experimental area
- **5 RD51 lines**, each with 6mm diam. pipes for inlet and 10mm diam. pipes as return lines



- **1 additional 8mm diam. copper line (inlet + return)** from SPS group
- exhaust lines (= going out of the building):
  - 16mm diam. copper tube with flange type fitting
  - 2 in the experimental hall, 1 in the gas zone



# RD51 cables and fibers

From the control room to the experimental area:

- Fiber line x2
- Ethernet lines x3 + 2 small switches at both sides
- SHV lines x4
- 2 x 16 LEMO coaxial cables
- Many other BNC, fibers, SHV cables installed by single RD51 members.. Please ask them before using

## VERY IMPORTANT REMARK:

Services from the control room to the experimental hall can be installed only during Machine Development slots, where all beams are off!

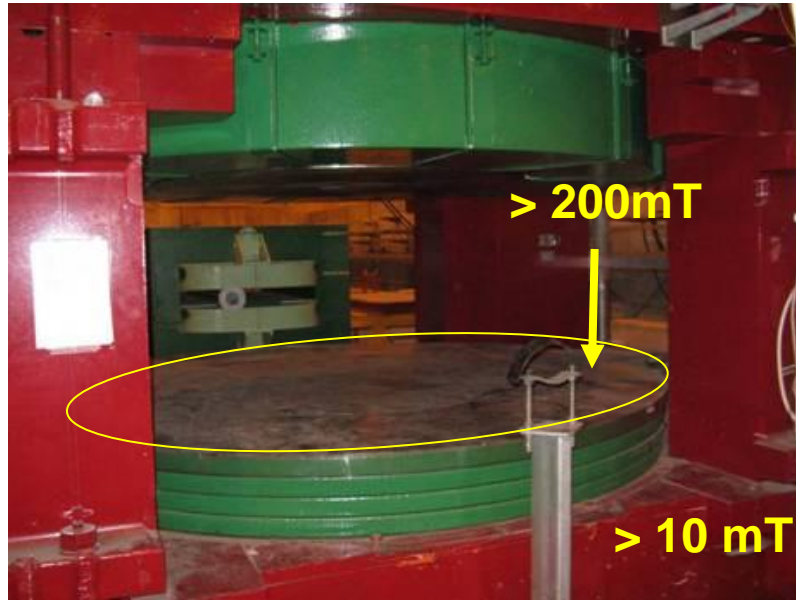
# Crates, HV PS, ..

- Test beam users can share racks
- NIM, VME crates and modules can be rented from the CERN electronic pool
- Common crates and (in some cases) common electronics module can be charged on RD51 WG7 common funds
- The CAEN 1527 mainframe can be rented to supply HV and LV to all test beam users (please let us know the number and type of required channels!)

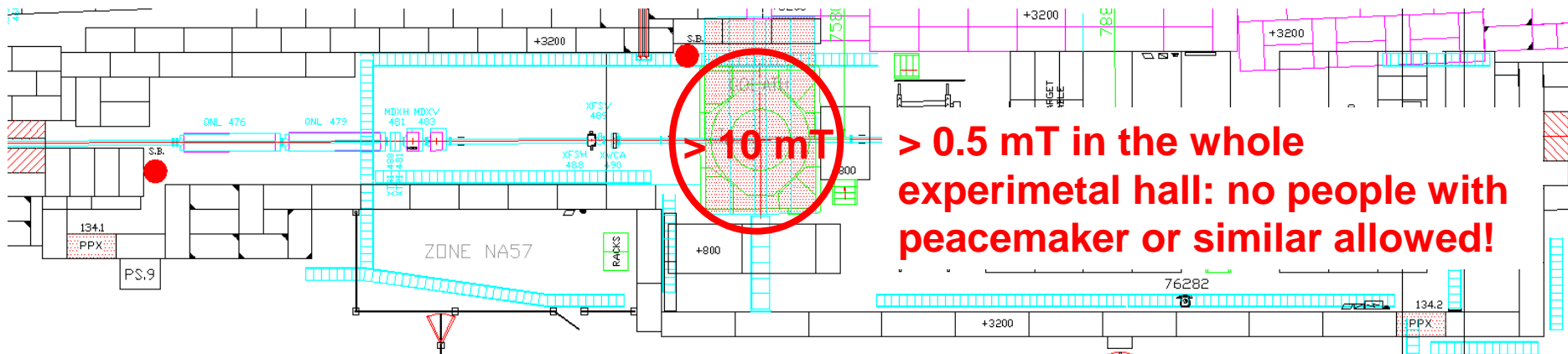


# **Hazards and safety aspects**

# Magnetic field hazards



- The magnet reaches  $1.4\text{T}$  in the central part of the yoke
- All the yoke and coil surfaces has a magnetic field larger than  $200\text{mT}$ , the limit for the worker
- Around the magnet a line on the floor delimits the area of  $10\text{mT}$ , the limit for the public
- The whole experimental hall is affected by a magnetic field larger than  $0.5\text{mT}$ , the limit for people wearing peacemaker or similar device



# Access limitations and rules

- No people wearing peacemakers or metal implants or similar sensitive devices are allowed in the experimental area. Check with your medical service if this is your case.
- You are allowed to work in the experimental area after reading carefully this presentation and the general presentation by CERN Safety Commission about static magnetic field hazards, and after learning the position of emergency equipment (red button, emergency button..)
- Check with the medical service of your home institute for special autorizations or procedures to work with magnetic field. CERN people must communicate their names to the medical service, if they will work inside the magnetic field.
- Remember that: workers can operate at fields larger than 10mT, but recordings must be produced with exposure start, duration and value; the exposure of workers must be avoided if it is not strictly necessary; nobody can stand for a 8h working day inside a magnetic field larger than 200mT.

**These restrictions will apply in every RD51 test beam, even if your team is not involved in the setup inside the magnet, even when the magnet is off.**

# Limitations for detectors and other devices in the magnetic field

- Any device that will equip the setup inside the magnet must be checked for ferromagnetic material
- These devices must be strongly fixed in the setup
- Take into account that metallic devices are subject to eddy currents when the magnetic field change too fast (e.g. for a magnet quench). Eddy currents can induce movements on such devices

# Radioactive sources

**The use of calibration radioactive source inside the magnetic field must be avoided.**

E.g. the casing of the actual  $^{90}\text{Sr}$  source contains ferromagnetic components and it would be attracted by the field.

Any exception, if really necessary, must be discussed with the GLIMOS

**Calibration source cannot be exposed to beam: before leaving the area they should be locked in the safe.**



# Flammable gas

- All the setups and using flammable gas must be equipped with a retention bucket/roof and an alarm sensor
- Limit connections: they must be equipped as well with alarm sensor
- Metallic pipes (few cm plastic pipe for detector connection are derogated)
- Lines must be purged at the beginning/end of the period (the main distribution lines are 20mm diam. 150m long lines!!!)

# ISIEC form

We need the filled ISIEC form before the end of the week.

Please send us the document as soon as possible

# **Schedule and Period 1 setup**

# Period 1 schedule

ie date: 17-May-2010

Version 2.0

(colour code: purple (dark) = scheduling meeting , light green (light) = weekend or holiday)

	Thu 3 Jun	Fri 4 Jun	Sat 5 Jun	Sun 6 Jun	Mon 7 Jun	Tue 8 Jun	Wed 9 Jun	Thu 10 Jun	Fri 11 Jun	Sat 12 Jun	Sun 13 Jun	Mon 14 Jun	Tue 15 Jun	Wed 16 Jun	Thu 17 Jun	Fri 18 Jun	Sat 19 Jun	Sun 20 Jun	Mon 21 Jun	Tue 22 Jun	Wed 23 Jun	Thu 24 Jun	Fri 25 Jun	Sat 26 Jun	Sun 27 Jun	Mon 28 Jun	Tue 29 Jun	Wed 30 Jun	Thu 1 Jul	Fri 2 Jul	Sat 3 Jul	Sun 4 Jul	Mon 5 Jul	Tue 6 Jul	Wed 7 Jul	Thu 8 Jul				
ie	8													8	16																									
	BIG MD							WED MD							BIG MD																									
-H2	8h T Rohe I Lak		CPIX CGRPC							8h D Lazic		CMS-CALO							8h D Lazic		CMS-HCALRO																			
-H4	8h M Prest		PHOTAG dipole				8h M Chefdevill		CALICE-MMEGAS							8h M Alfonsi		RD51																						
-H6	8h Diamond		RD42 SPIDER H W/Velthuis H6A/R				8h CMOSILC A3DSi		8h A Ceccucci							NA62 - IB - MMEGAS APIX H6R																								

- Agreement with CALICE-MMEGAS:
  - All people start earlier on June 21<sup>st</sup> at 8h00
  - Installation must be completed by the end of the day
  - We run parasitically up to 25<sup>th</sup> at 8h00
- Flammable gas installation must be completed before 15h00 !

# Period 2 schedule

Schedule issue date: 17-May-2010

Version 2.0

(colour code: purple (dark) = scheduling meeting , light green

		Thu 12 Aug	Fri 13 Aug	Sat 14 Aug	Sun 15 Aug	Mon 16 Aug	Tue 17 Aug	Wed 18 Aug	Thu 19 Aug	Fri 20 Aug	Sat 21 Aug	Sun 22 Aug	Mon 23 Aug	Tue 24 Aug	Wed 25 Aug	Thu 26 Aug	Fri 27 Aug	Sat 28 Aug	Sun 29 Aug	Mon 30 Aug	Tue 31 Aug	Wed 1 Sep	Thu 2 Sep	Fri 3 Sep	Sat 4 Sep	Sun 5 Sep	Mon 6 Sep	Tue 7 Sep	Wed 8 Sep	Thu 9 Sep	
Machine																				8			8								
	T2 -H2																				BIG MD										
	T2 -H4		8h Z Fodor																												
	T2 -H4		8h M Alfonsi										RD51								8h A di Mauro							8h M Battaglia		SOIPIX	8h W L
4	T4 -H6		8h H W /H Kagan										Diamond RD42																	ALFA F	

- Installation start on August 12<sup>th</sup> at 8h00
- Flammable gas installation must be completed before 15h00 !



# Period 3 schedule

meeting , light green (light) = weekend or holiday) -2010

Version 2.0

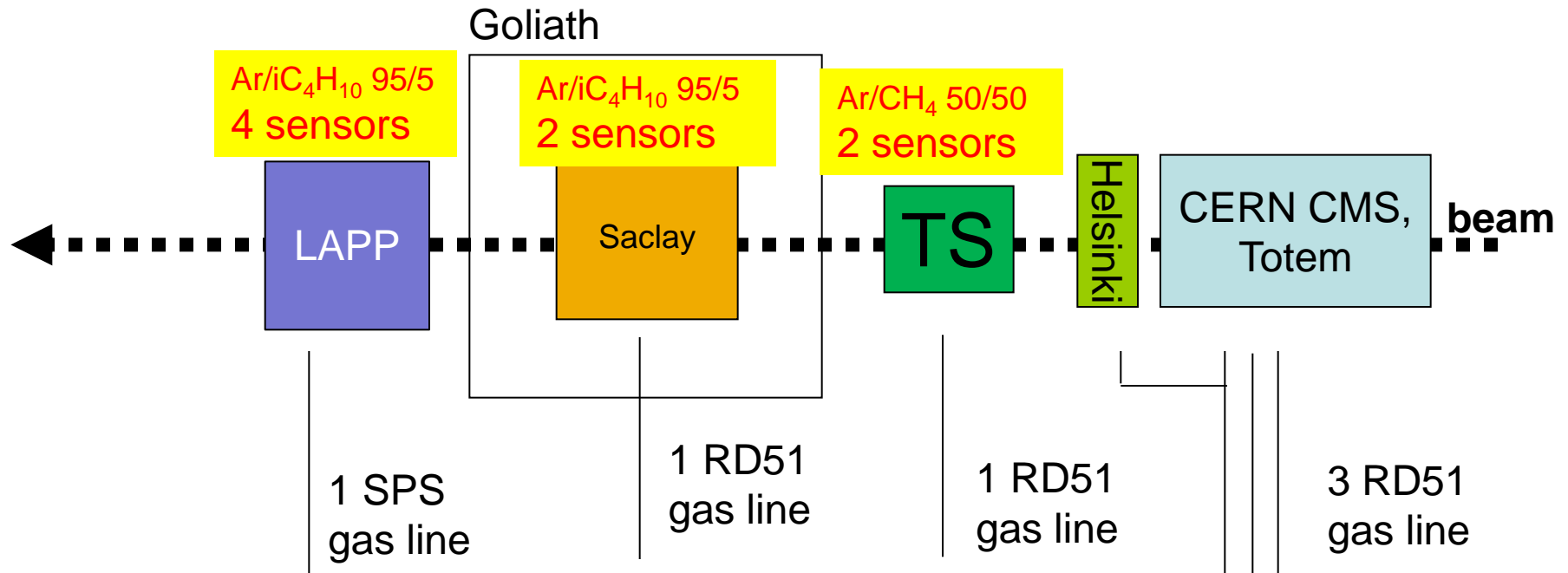
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Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu		
10	11	12	13	14	15	16	17	18	19	20	21		
Oct	Wk41	Oct	Oct	Oct	Oct	Oct	Oct	Wk42	Oct	Oct	Oct		
8		BIG MD										8	
								NA61					
								phys					
CMS-ECAL				8h RD51									
				M Alfonsi									
ET		8h		CMOSILC		APIX							

Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue
22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9
Oct	Oct	Oct	Wk43	Oct	Oct	Oct	Oct	Oct	Oct	Wk44	Nov	Nov	Nov	Nov	Nov	Nov	Wk45	Nov
						816												
						WED MD												
8h NA61			8h NA61			CREAM			8h NA61			8h						
Z Fodor			A Malinin			H2B			Z Fodor			P Luukka						
phys									test									
			8h RD51			RD51			8h ALICE-VHMPID			8h						
			M Alfonsi			A di Mauro			A di									
									MMEGAS			AIBL			8h			

- Installation on October 18<sup>th</sup> at 8h00
- Flammable gas installation must be completed before 15h00 !

# Period 1 (June 21<sup>st</sup> – July 8<sup>th</sup>)



Total sensors in the experimental area: 8

Total sensors in the gas zone: 2

Flammable gas: isobutane, methane

**Conclusion**

# Reminders and recommendations

- Send your gas cylinders orders a.s.a.p. They must be delivered to gas point:
  - ❑ 887-G0-921 if not flammable
  - ❑ 909-G0-921 if flammable
- Let us know a.s.a.p. if you need HV/LV channels, NIM/VME crates, etc..
- Prepare your installation in advance, in order to complete it the first day
- Cables, fibers, etc. from control room to experimental area can be installed only during MD: the next one is from May 31<sup>st</sup> to June 2<sup>nd</sup>
- **Send filled ISIEC form a.s.a.p.**

# Let's conclude TB with a BBQ!



- I booked the **Prevessin BBQ area** (just outside the building) for the last TB day (8<sup>th</sup> July)
- Please let me know the number of people that can stay until the end of the day!