



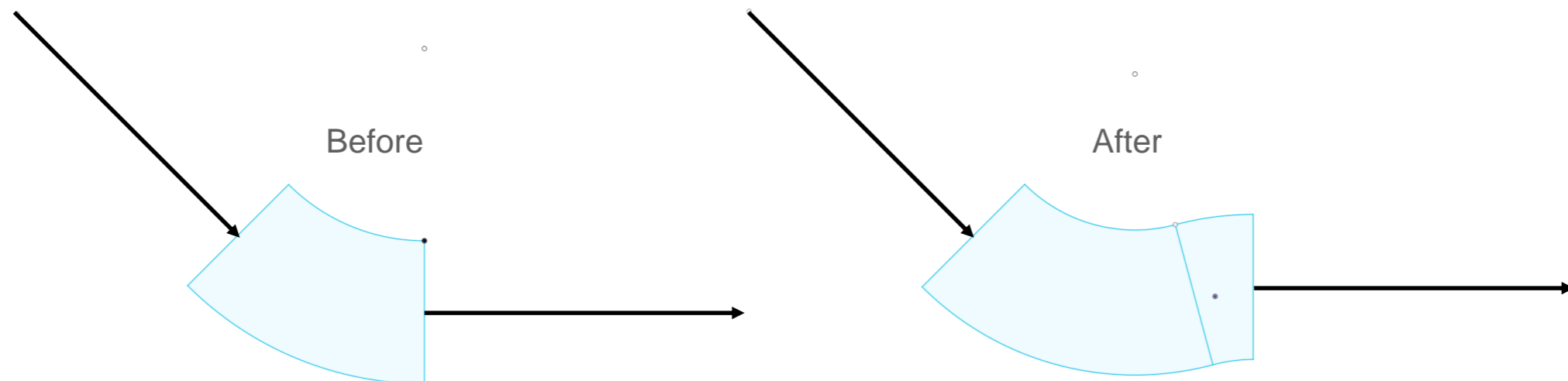
# MAGiC Update

## Diffraction STAP meeting

21/10/2020

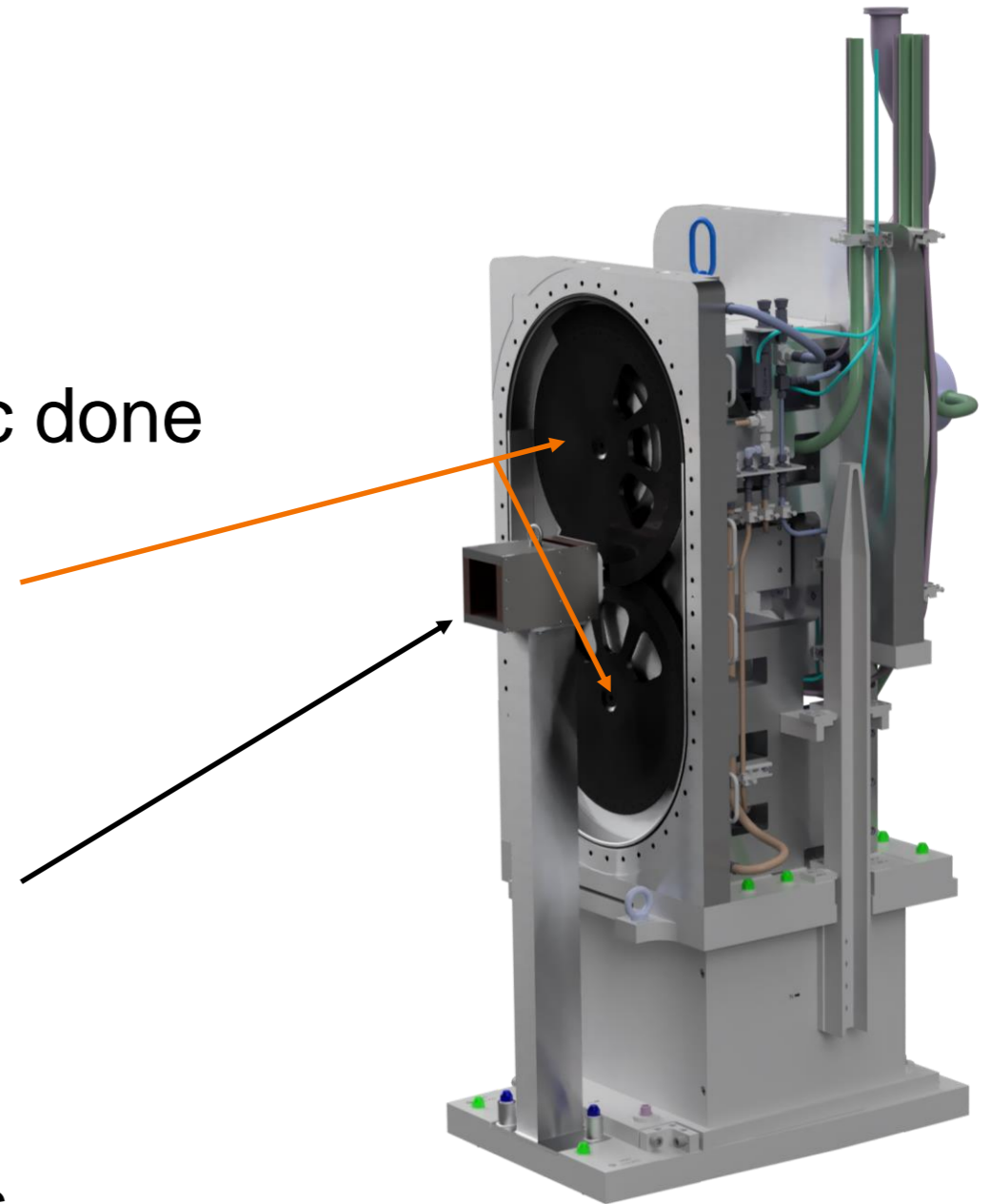
# Solid state bender

- Mistake in simulation spotted before last ICEB
  - Sdown reflectivity wrong
  - Direct LoS with part of neutrons entering guide system
- Solution found
  - S-like shape
  - Small transmission loss
- Installation in March 22 OK



# Choppers

- Design well advanced
- CDR scheduled for 26th of November
- Kick-off meeting for Carbon Fibre Disc done
  - Airbus
  - No difficulties
- Magnetic guide field integration done
- Installation in-Bunker:
  - 2 weeks foreseen including margins
  - Can be done in parallel with other activities
  - On time for March 22 access



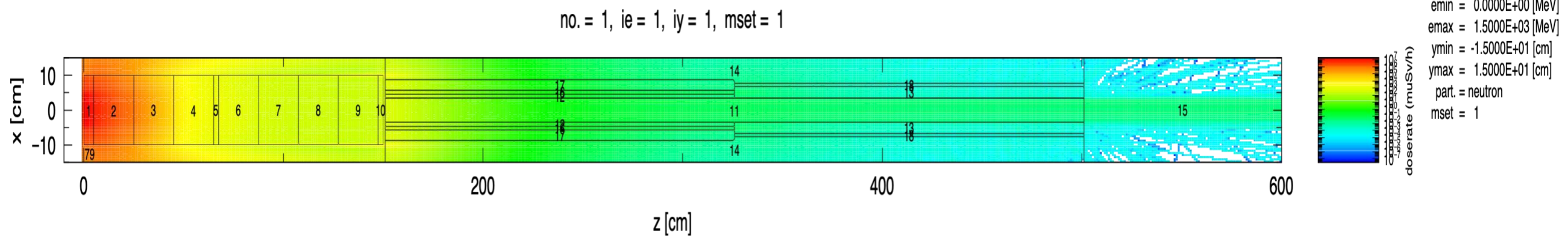
# Guide system



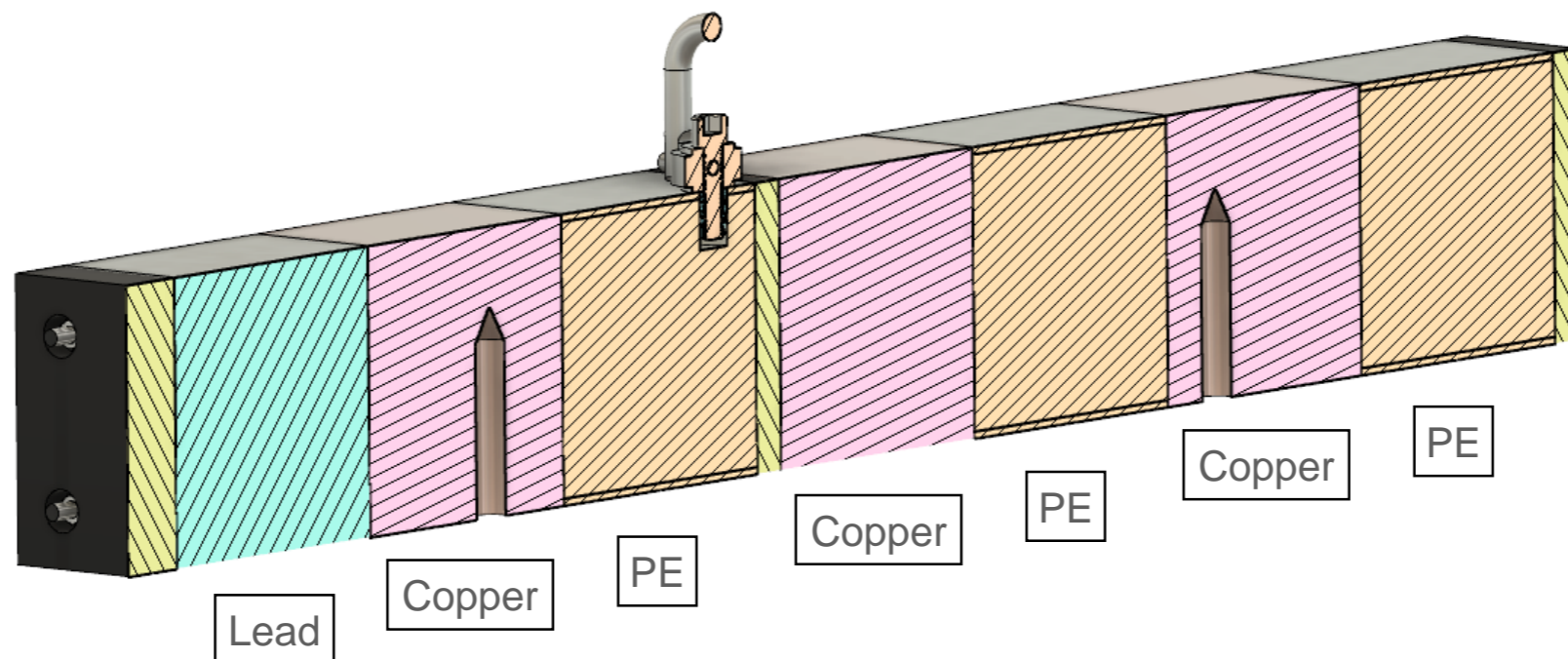
- Call for tender ended
- Only one offer received from SdH
  - Covering in-Bunker, Feedthrough and Guide Hall lots
  - Polarizer not covered (republished alone)
- Delivery way after proposed schedule
  - In-bunker delivery: December 22
  - Feedthrough delivery: July 22
  - Guide Hall delivery: March-October 23
- Cost is as expected
- Negotiation phase to speed up in-Bunker delivery

# Heavy Shutter

- Neutronics OK



- Detailed design and manufacturing delayed to properly fit the guide elements



# Experimental cave

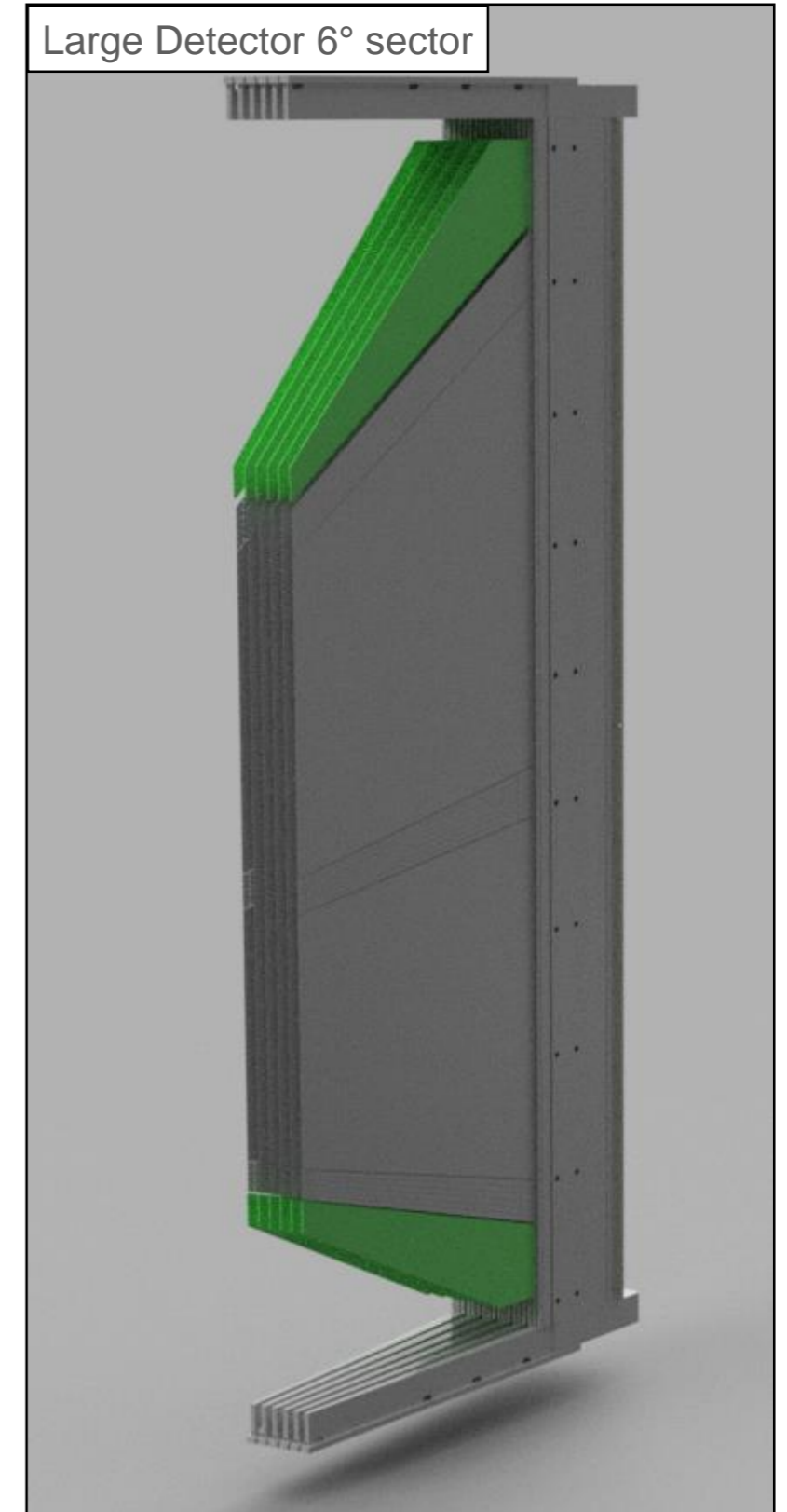
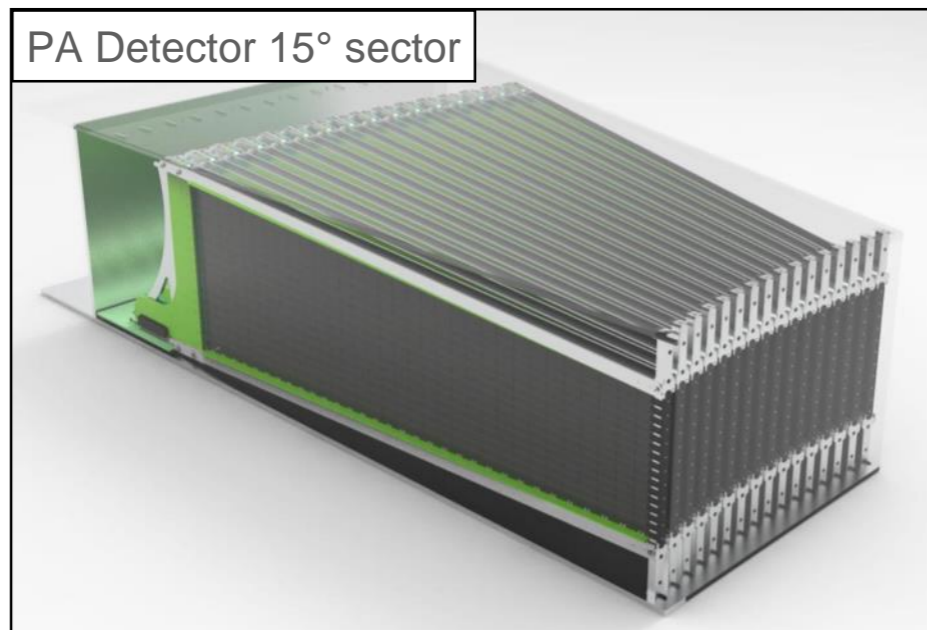


- Neutronics OK
- Increased wall thickness to 70 cm to be on the safe side
  - Small radiation leak detected around beamstop
  - At 5MW in the worst case scenario
- Tendering ... complicated
  - Stuck at administrative level
  - Commercial department has no expertise in "concrete" structure
  - Expected start of work: 12/20
- Installation will start ~12 months after (~December 21)

# Detectors

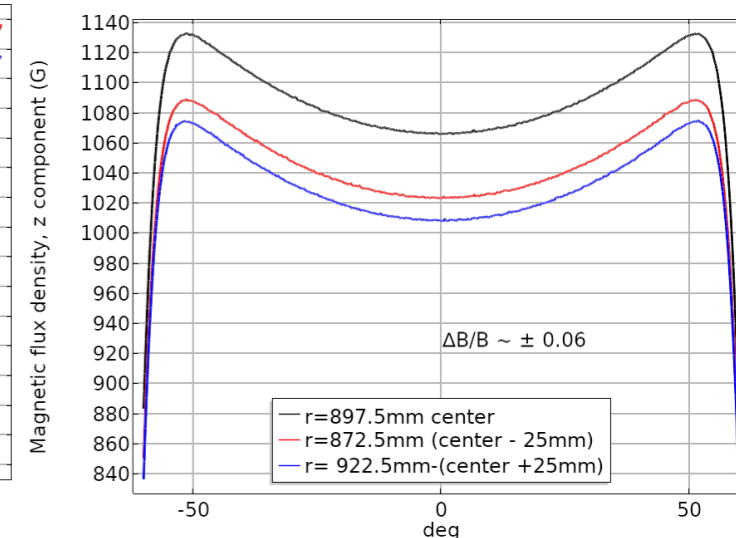
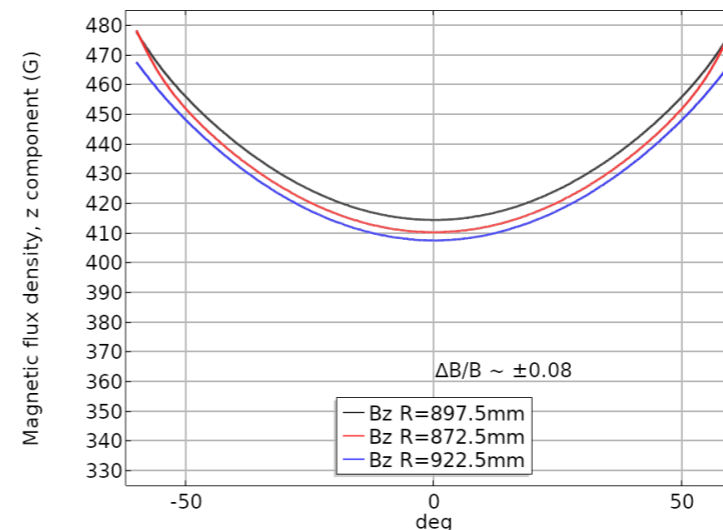
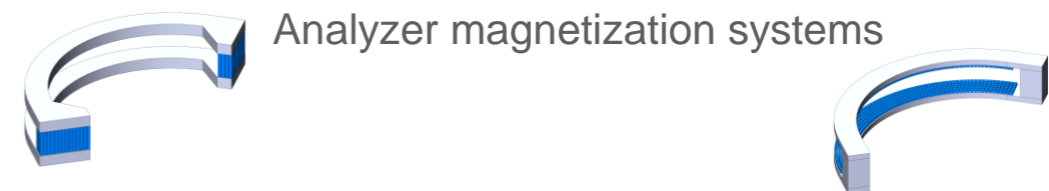
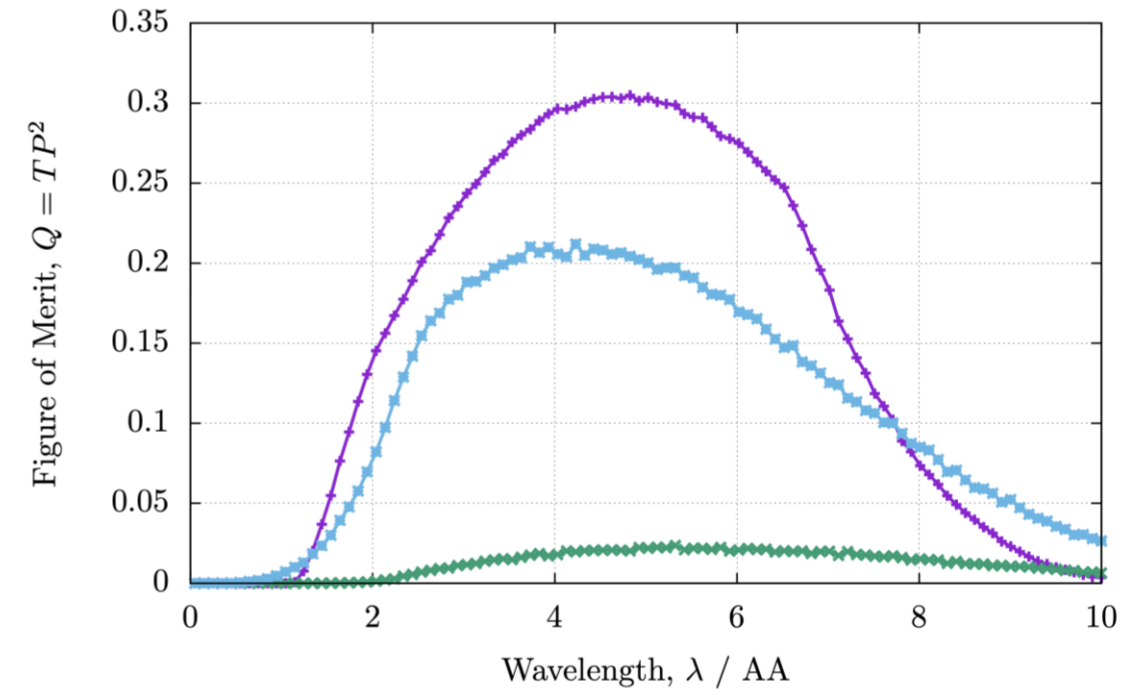


- Internal IDR in June 20
- Blades tilted in forward directions
- sub-TG3 in 11/20 and 01/21
- Documentation in progress
- Process to be finalised with NSS



# Analyzer

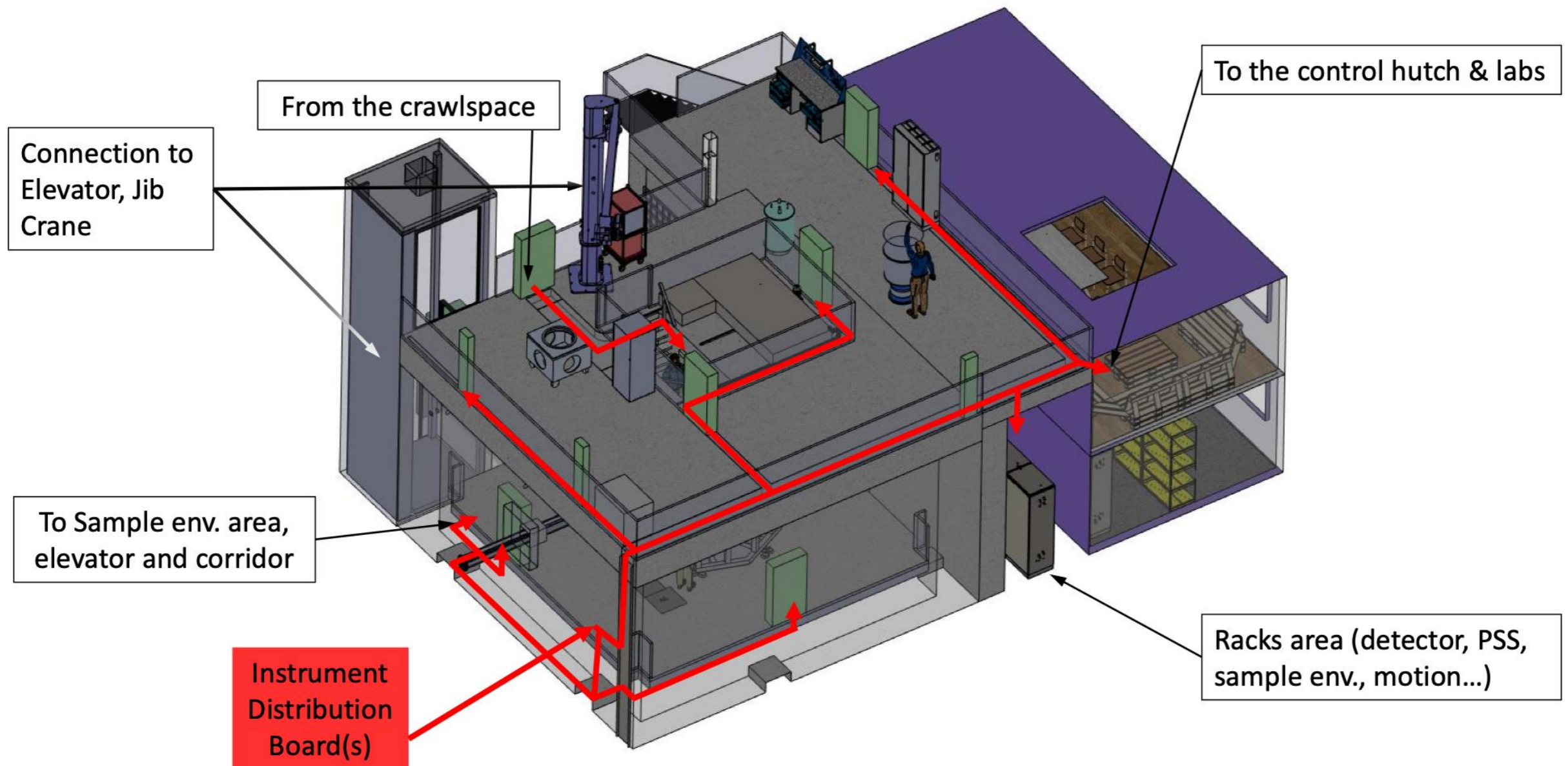
- Report from E. Knudsen (DTU)
  - McStas component
  - Comparison with FOCUS and HYSPEC designs
  - MAGiC design is the best one performance wise
- Long production time (~3-6 years)
- Delivery between 23 and late 27
- TG5 process to be properly defined for next ICEB



# Common electrical project

- L2/L3 scenario
- Cost estimate in progress

## E01 building Electrical Routing



# Common utilities project



## UTILITIES FOR MAGIC

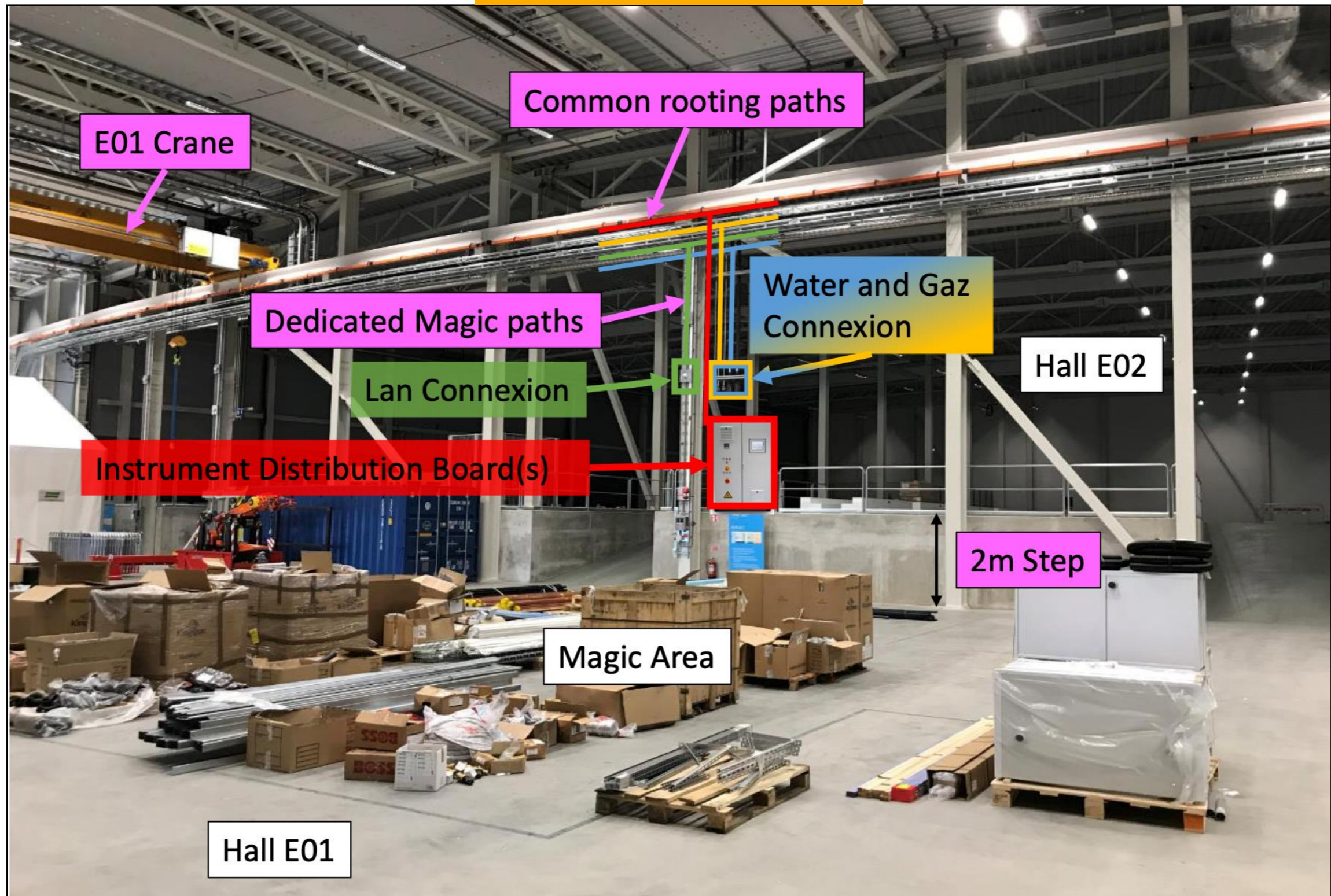
15/07/2020

SES Supply For each subset	Main characteristic	No's	ESS Main Connection	Connector type	Valve/ regulator/ IP class	Meter, control NEUS- PLC <sup>2</sup>	General	Panel 1	Panel 2	Panel 3	Panel 4	Panel 5	Panel 6	Panel 7	Panel 8	Panel 9	Panel 10	Panel 11	Panel 12	Panel 13 Specific	Panel 14	Elevator	Hutch & Lab	Racks Area	
Cooling water	5°C	0					Main cooling loop															Specific electrical board (provided by supplier)	Specific electrical board (provided by supplier)	Specific electrical board (to be defined)	
	14°C TBD	3	D40	Defined	Y/N	Yes	Secondary loop Capacity 20kW	YES	YES			YES	YES					YES							
Pwr. Conn. Sum	230V / 400V {16A;32A}	8/2/2	Wires	CEE	IP44 <sup>b</sup>		Slow fuses			YES		YES			YES			YES				YES			
Box #1 Mennekes 950004	230V / 400V {16A;32A}/RJ45	2/1/1/4	Wires 5x25mm <sup>2</sup>	CEE	IP44 <sup>b</sup>		Slow fuses	YES	YES	YES	YES	YES		YES	YES		YES	YES	YES			YES			
Box #2 Mennekes 940018	230V / 400V {16A;32A}	6/1/1	Wires 5x25mm <sup>2</sup>	CEE	IP44 <sup>b</sup>		Slow fuses	YES		YES	YES	YES	YES, 2		YES	YES		YES	YES	2 sockets 230V	YES				
Box #3 Mennekes 920003	230V / 3x10A/15min	3	Wires 5x10mm <sup>2</sup>	CEE	IP44 <sup>b</sup>		UPS			YES		YES			YES			YES			YES				
Gases	CO2 / Argon Mix for detector	2	Cylinder		Y/Y	Yes	ESS supply, independent extraction points			YES	YES	YES													
	Nitrogen 4.6	2	D25 <=8bar		Y/Y	Yes	ESS supply, independent extraction points																		
	Helium 4.6	2	Cylinder		Y/Y	Yes	ESS supply, independent extraction points	YES		YES		YES	YES		YES			YES		1 connector					
	Compressed air	3	D25 <=8bar		Y/Y	Yes	ESS supply, independent extraction points	YES		YES	YES	YES	YES		YES			YES	YES			YES			
	Exhaust	2	D100 ?		Y/N		Needs special consideration see ref [5]					YES ?	YES ?												
	He Recovery	3	KF DN 25	KF DN 25	Y/N		Ref. TEFI	YES						YES		YES			YES						
	RS232, sensors plugs, etc.	1			Dsub 9	-	-	Serial communication																	
Communication/patch panel <sup>1)</sup>	General comm.	5			Dsub 25		Contact and serial communication																		
	Ethernet conn Data, USB	15			Cat6, RJ45		Network compatible connectors																		
	4 Pin connector Temp, Heater	20			Lemo / Fischer		Thermometer, SE Process signal																		
	General signal	10			BNC		Contact and small low power, low voltage signals																		
	General signal	5 pair			4 mm "Banana"		Contact and small low power, low voltage signals																		
Power Câble Length (m)								17.6	23	21.4	12.4	11.4	25	15	12.6	16.3	20	16	18.7	21.4	22	15	16	19	

- Meeting with project leader at IKON
- Define perimeter
- Start cost estimate (~150 k€)

# Common projects

Current instrument view



# Timeline

