



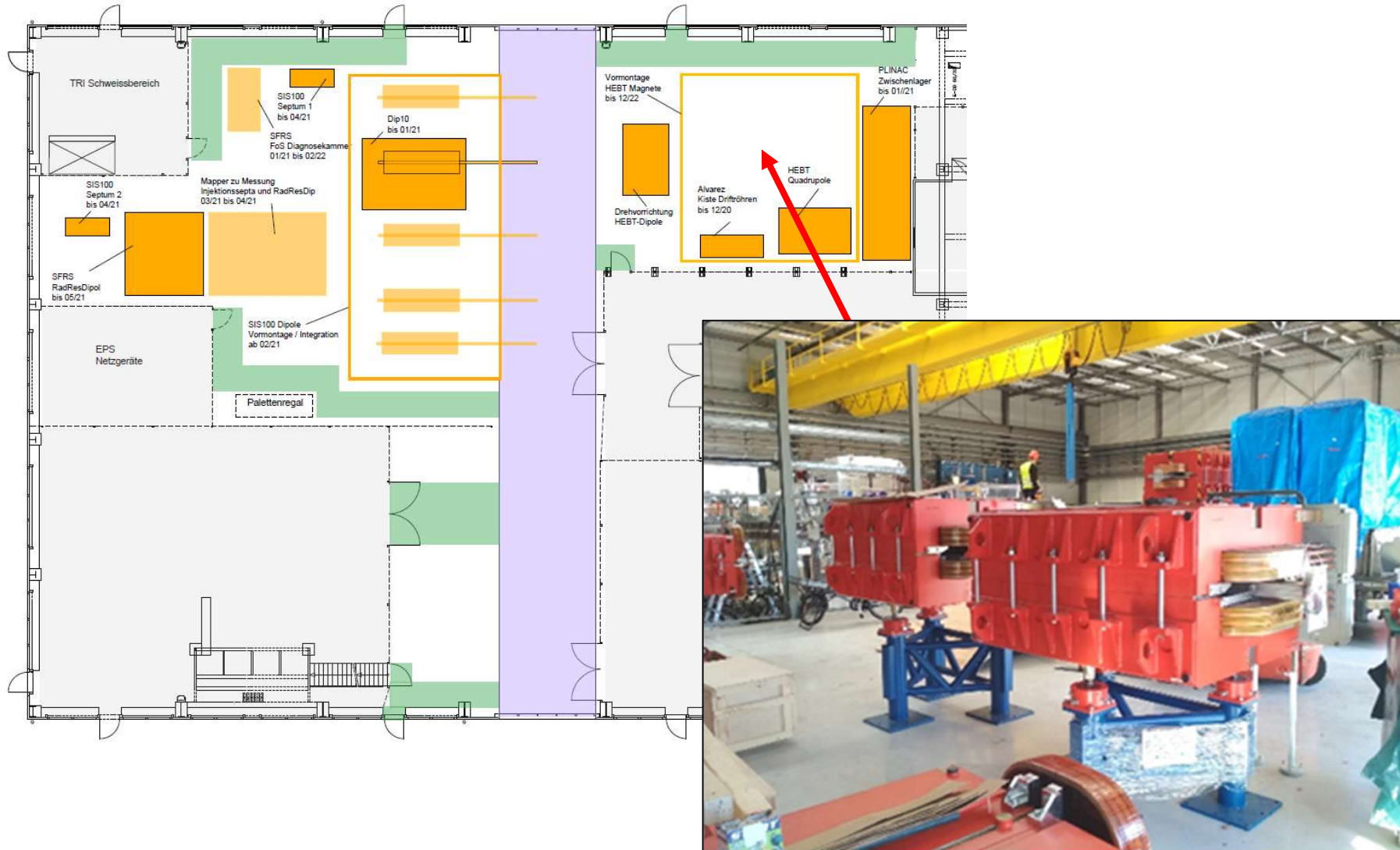
6th Joint BINP-FAIR Workshop
26.04.21 - 30.04.21

Site Management – Machine installation
Dr. Hartmut Reich, Roman Cannas, Marie Cabioch

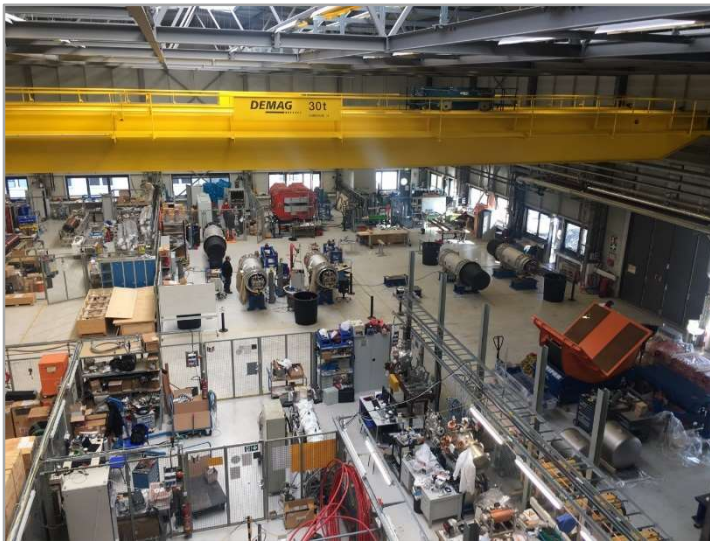
Pre- Assembly HEBT and CR



Pre-Assembly Testinghalle – Main activities



Pre-Assembly Testinghalle



LCM work planning and coordination:

- column → daily time schedule
- row → Pre Assembly Unit
- cards → pre-assembly activity /work
- card colour → responsibility / techn department



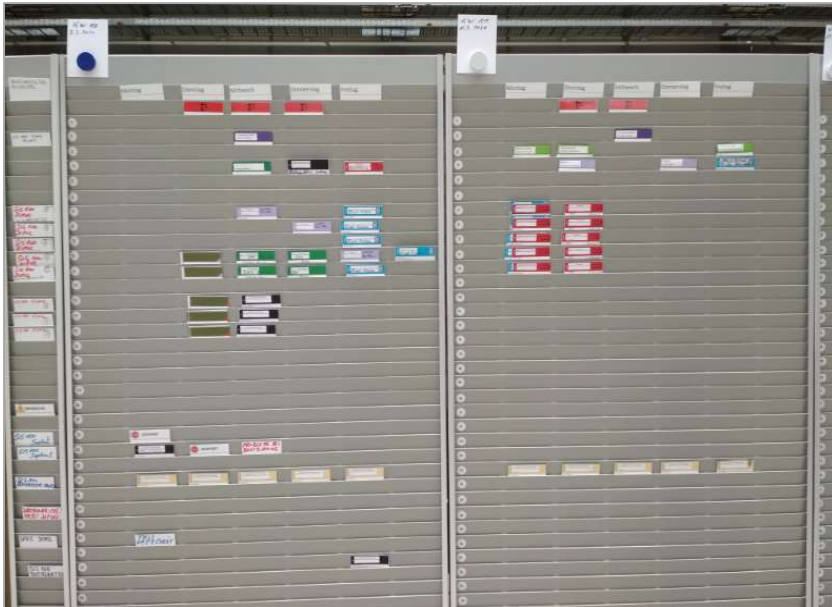
Pre-Assembly Testinghalle – Main activities

- **SIS100 Dipol Integration (108 magnets)**
 - started end 2/2021
 - ongoing
 - high output of integrated Assembly groups (2-3 integrated magnets/week)
 - last magnet will be finished in Q2/2022
- **HEBT Magnets Pre-Assembly (>250 magnets to be pre-assembled)**
 - **waiting for BINP deliveries : Magnets, Vacuum chambers**
 - preparation of turning process for vertical magnets
- **SFRS RadRes Dipol preparation of magnetic measurements**
 - delayed, Power converter still under testing
- **SFRS Diagnostic chamber Pre-Assembly**
 - **cancelled / delayed (no released FAT at BINP)**

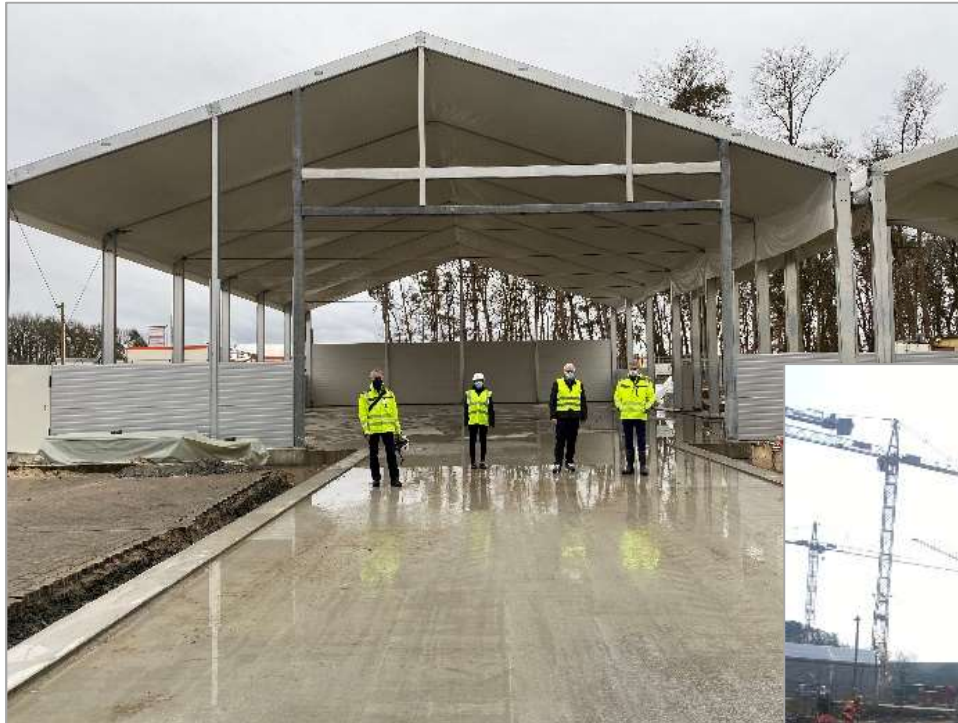
Pre-Assembly Testinghalle – LCM Process Control

SIS100 Dipole Integration

- working area, working steps and documentation process established
- 15 of 108 Dipoles completely integrated → approx. 5 magnets each 2 weeks
- Dipoles stored in Betriebshof will be successively integrated and transported to Weiterstadt → subsequently area in Betriebshof can be used for pre-assembly of HF racks



CR/SFRS storage building



Status KW 3/2021

Status KW 15/2021



LCM-Process Flow Pre-Assembly CR Dipole Process Analysis (BINP in-kind)

Work steps pre-assembly and testing of CR Dipoles (proposal for Target Hall)																	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.
Compile Work Instructions	Delivery of magnet in parts to TH	Unpack	Assembly of parts of magnet	Fiducialisation	Testing connection box	Leak testing of coil	Installation of magnetic test equipment	Magnetic measurements	Documentation / Protocol	PA w/o VC							
	Mobile crane needed				four cables of 4*95mm ² type for testing, no cooling water available Intermediate connexion needed (BINP) Infrastructure to be installed		Infrastructure to be installed			Dipole stays in TH till delivery of VC Or transfer to temporary hall if 2 nd dipole delivered before VC							
	Delivery of 4 feet for mounting to TH	Unpack															
	Delivery of frame to TH	Unpack	Frame and feet needed for transport and storage														
	Delivery of 3 feet for final installation to TH	Unpack															
	Check if design of frame is suitable for air cushion transport																
		Additional feet needed for tunnel installation															

Party responsible for installation



In Kind

External company

Responsibility to be clarified

VC Vacuum Chamber

RFI Ready for Installation

TH Target Hall

PA Pre-Assembly

57 Work instruction available (doc. number, German version)

52

Similar Work instruction available (doc. number, German version)

No work instruction available

Work instruction given by Manufacturer

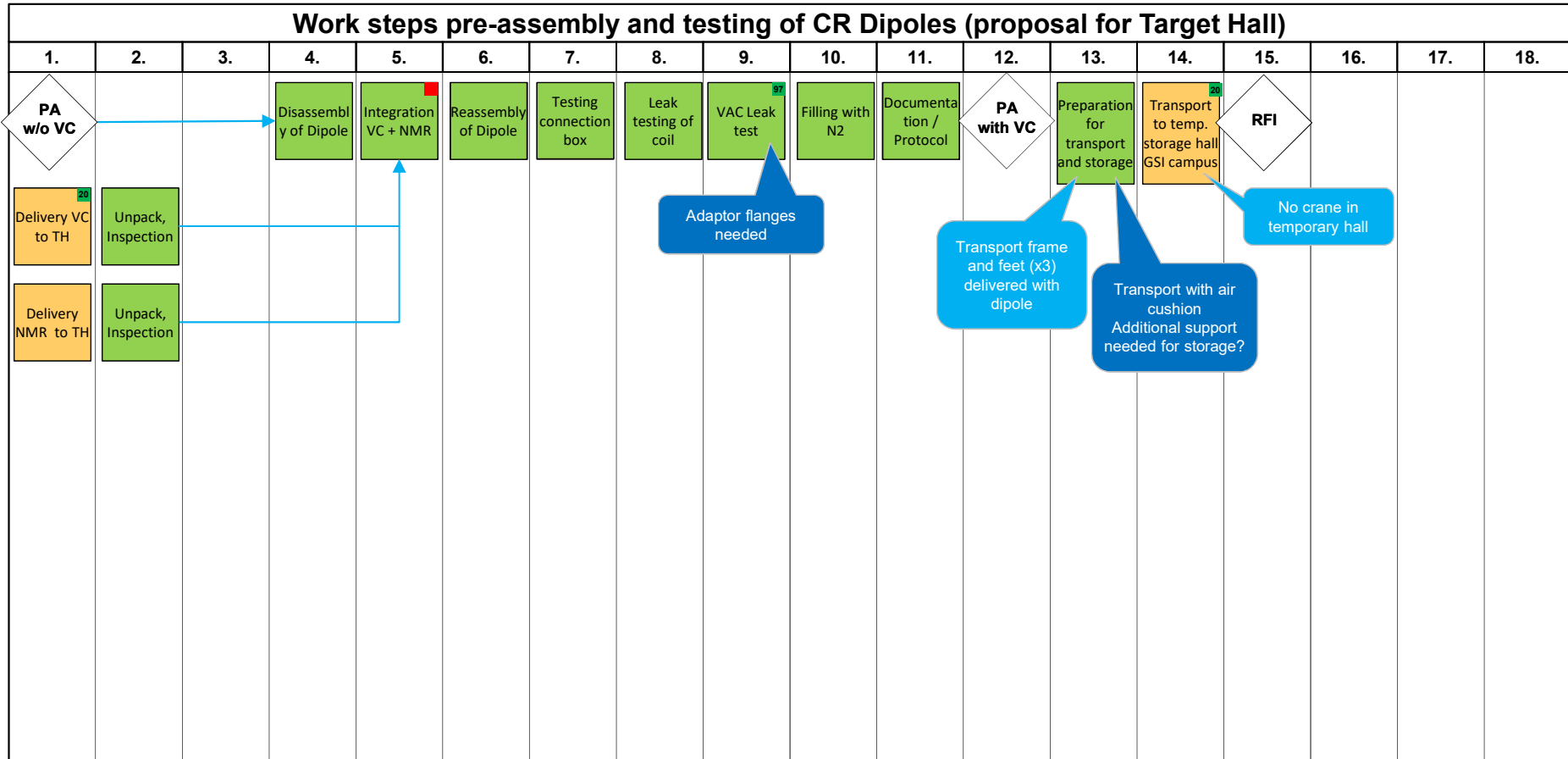
No Work instruction needed



Open points

Remarks

LCM-Process Flow Pre-Assembly CR Dipole Process Analysis (BINP in-kind)



Party responsible for installation



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No work instruction available

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No Work instruction needed



Delivery of first CR Dipole

1. Transport

- Check if transport frame is suitable for air cushion
→ BINP / A. Starostenko, Mai 21

2. Electrical connection

- Power converter delivered with 1st Dipole (Quadrupole PC, but will be used to test dipole) → BINP delivery in 9 / 2021 ?
- Full documentation (Manual) of Power Converter needed → BINP
- Connection of Power Converter in TH- EPS / T. Mohite, Mai 21:
Ongoing - organised
- Procurement of cable - CW10Check delivery date - EPS / T. Mohite, Mai 21:
Four cables of 4*95mm² type2021.09.04: Cables already delivered
- Connection of cables to the grid and to the Power Converter - EPS / T. Mohite, Mai 21: Ongoing – organized

Delivery of first CR Dipole

2. Electrical connection

- Connection to magnet – Confirmation from BINP needed for connection box
→ BINP / A. Starostenko, 12.03.2021:
2 adaption boxes to be delivered by BINP (1 at PC and 1 at magnet). Those are needed for testing because no water cooled cables available
- EPS organises connection to Power Converter - EPS / T. Mohite, Mai 21:
organized, ongoing
- Analogue input in PC needed for testing - check if BINP can add it, H. Leibrock to send requirements → BINP / D. Senkov, GSI / H. Leibrock, T. Mohite, Apr 21

3. Water connection

- Cooling water system – Water connection point available in Target Hall
- Connection to Magnet: Check if GSI grid suitable for Magnet - T. Ziglasch / H. Reich, 19.03.2021: Cost estimation (20,000€) to be validated (SMG),
Work will be performed during next shut down (06/2021)

Delivery of first CR Dipole

4. Working space

- Clean up and organise dedicated area in TH - H. Reich, R. Cannas, Apr 21: Temporary hall available end of April, FOPI and ALADIN will be moved during next shut down (06/2021)
- Signals – GSI Network connection incl. computers, Phone, WiFi, printer... - H. Reich, N. Azevedo Simoes, Mai 21:
Office: SB3 area - request sent to D. Ossot
TH: Ethernet connection to be checked → ongoing
- Table, social room, cupboards, lockers - H. Reich, N. Azevedo Simoes, Jun 21: Available in SB3
- Standard tools for mechanical work - TRI / M. Bevcic, Mai 21: Already existing
- Mechanical bench - TRI / M. Bevcic - Mai 21: In stock
- Layout of Magnet position in Hall to be defined - GSI / BINP, O. Dolinsky: Done

Delivery of first CR Dipole

5. Storage

- Storage in temporary hall - Magnet to be stored on feet? → BINP / A. Starostenko, Mai 21

6. Documentation

- "Documentation for pre-assembly - BINP / A. Starostenko - 09.03.2021:
 - Working instructions
 - Protocols
 - Technical drawingsSend current status, even if not complete for now
- Risk analysis for the electrical and mechanical works -→ BINP / A. Starostenko, Apr 21

7. Installation

- Provide more feet for installation? → BINP / A. Starostenko, Mai 21

The FAIR Project

