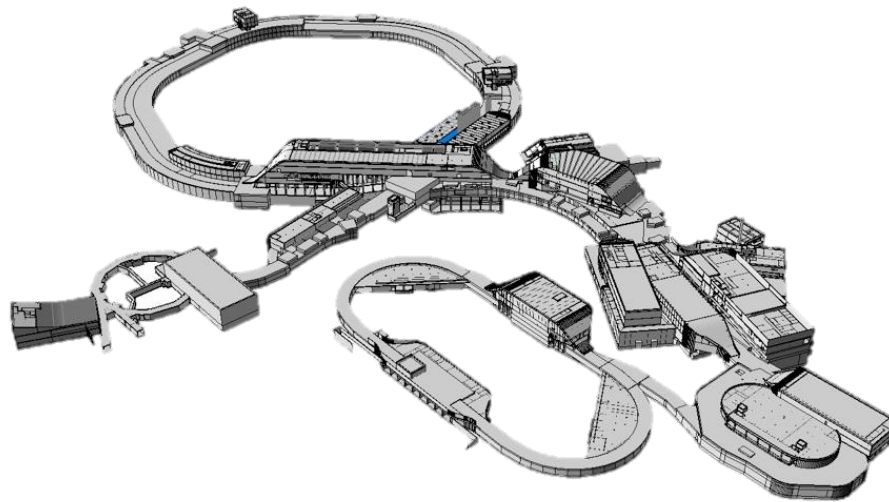


## FAIR Building Construction – Status and Outlook



Harald Hagelskamp – Site Manager

February 28th, 2018

## Site Management at FAIR

Integration of Civil Construction and Machine Installation.

Scope Definition.

Interface Coordination.

Time Scheduling.

Resource Planning.



Groundbreaking ceremony on 4. July 2017



# FAIR Project Status – Civil Construction



10m down

Progress January 2018





Excavation 1st section of SIS 100

January 2018



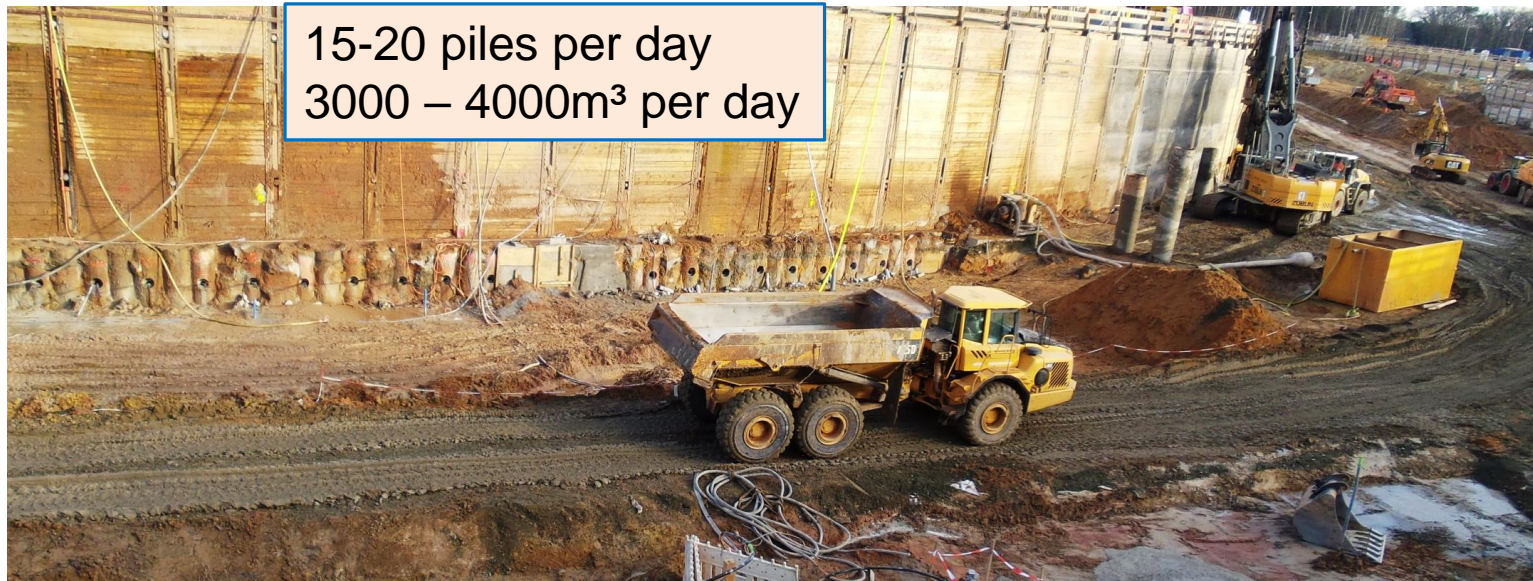


Excavation Transferbuilding

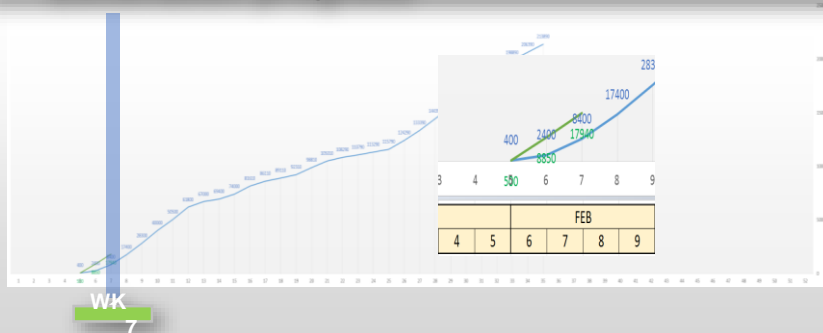
January 2018



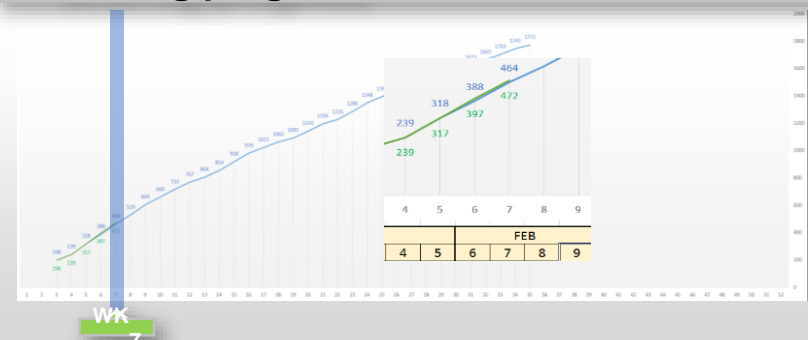
# FAIR Project Status – Civil Construction

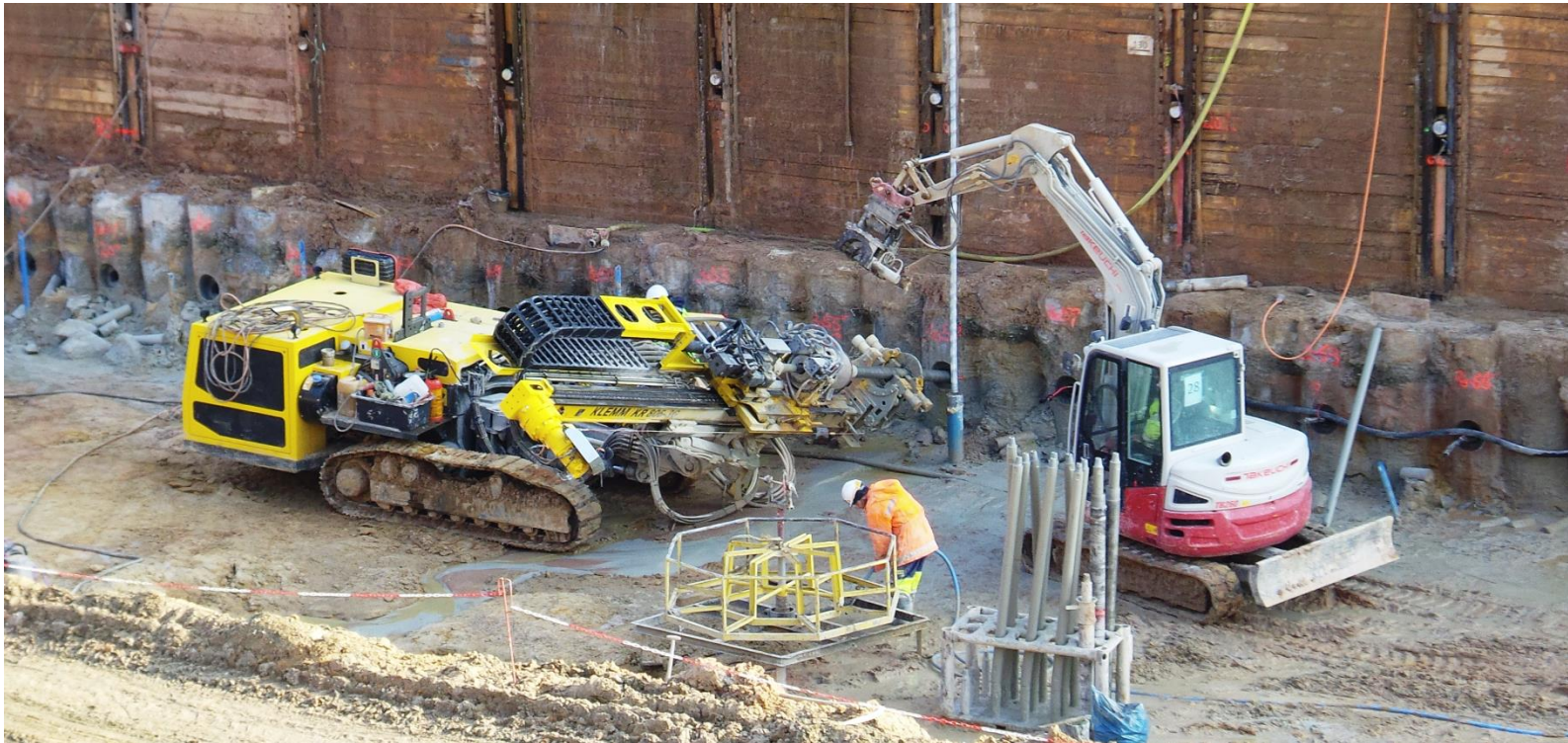


## Excavation progress



## Shoring progress





Excavation 1st section of SIS 100

January 2018



# FAIR Project Progress - Civil Construction



Transformers North connected on  
23.02.2018

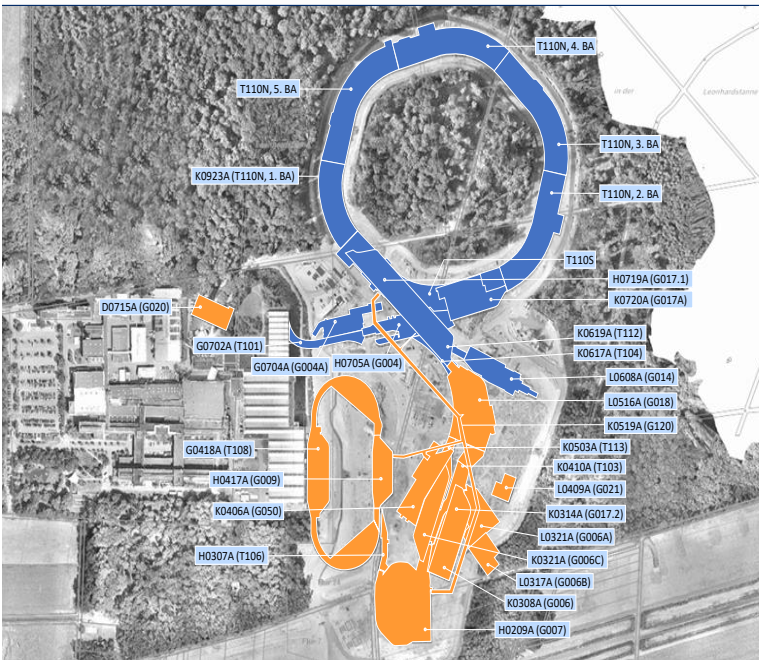


Transformers South delivered and installed  
- connection in May 2018.

# FAIR Project Status – Civil Construction



## Civil Construction - Outlook



Civil Construction Field North  
Contract Award 01-2018  
Start of Work 07-2018

Civil Construction Field South  
Contract Award 03-2019  
Start of Work 07-2019

Building Technology  
Contract Awards 06-2019  
Start of Work 08-2019



# FAIR Project Status – Civil Construction



SIS 18 in direction of pLinac : Preparation of western transfer channel (WTK)



GAF project (GSI connection to FAIR)

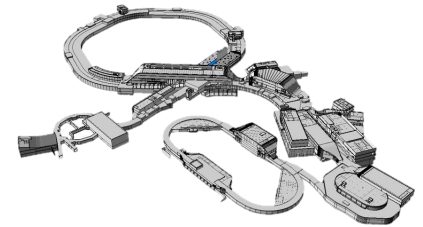
# FAIR Project Status – Civil Construction



Northern Edge of SIS 18: Preparation of retention wall to support soil shield



**SIS 18 completion 04-2018**  
**Start of beam time 05-2018**

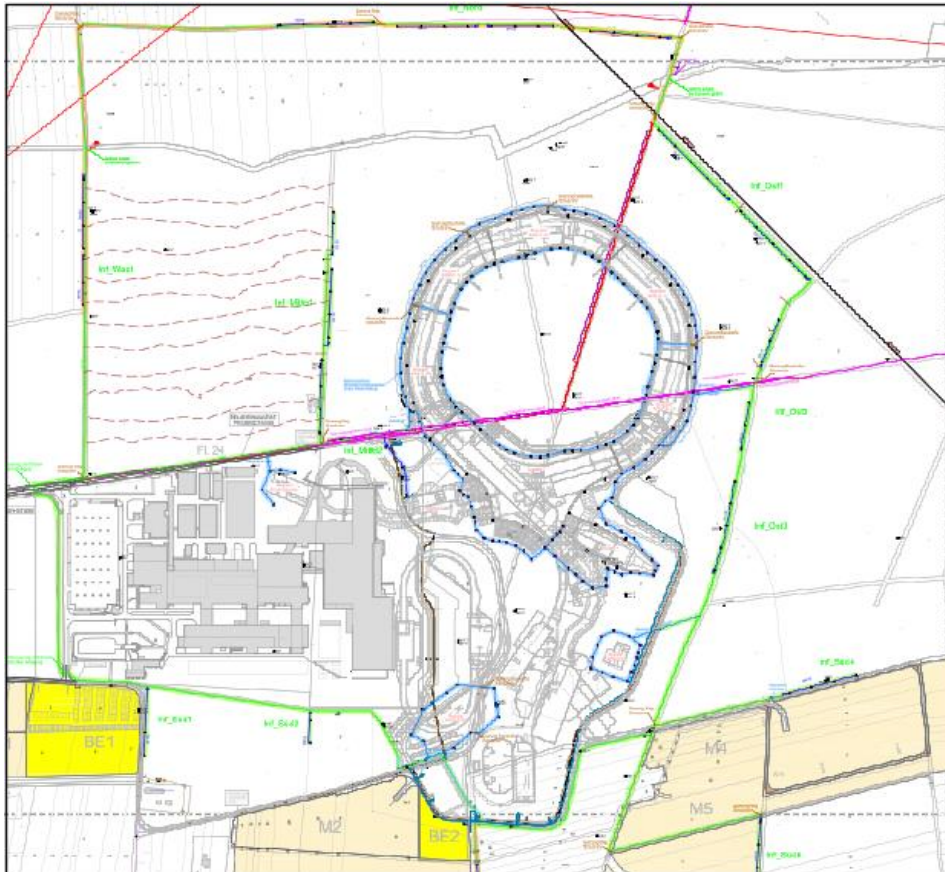


Electrical building on top of SIS 18



GAF project (GSI connection to FAIR)





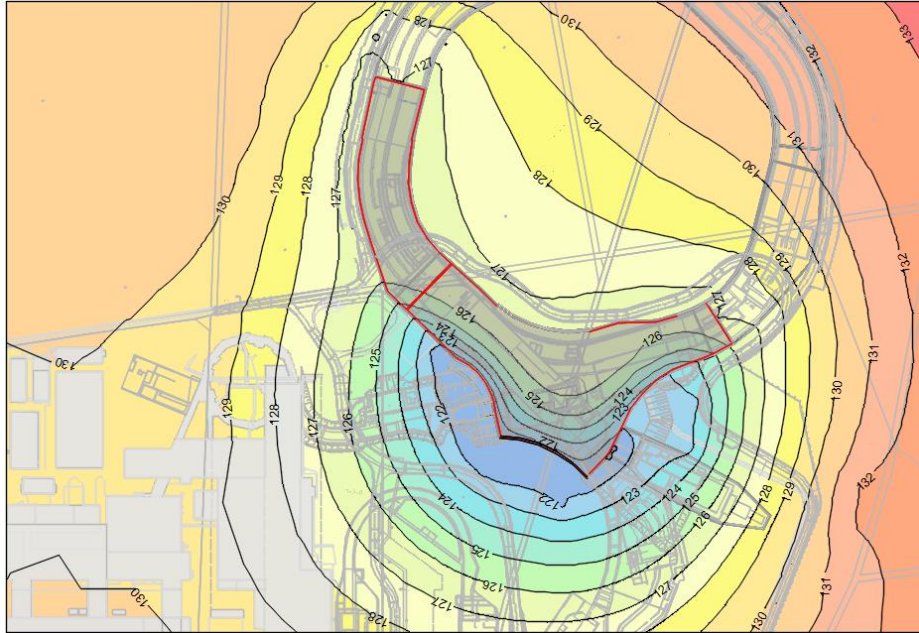
## 168 Pump Wells

- Diameter = 400 mm
- Depth up to 20 m
- Extraction Rate = 1 to 5 m<sup>3</sup>/h

## 74 Recirculation Wells

- Diameter = 800 mm
- Depth up to 25 m
- Infiltration = 8 to 11 m<sup>3</sup>/h
- 35.000 m<sup>3</sup>/a

Ground Water Management



The Ground Water Table will be lowered by approx. 10m

Ground Water Management

Settlement tanks: water purification before return to riverine.





- Training and awareness for office staff, workers and visitors – everybody entering site.
- Rules of safe behavior on site.
- Creating awareness for risk potentials on site.
- Wearing of PSE (personal safety equipment) is mandatory.



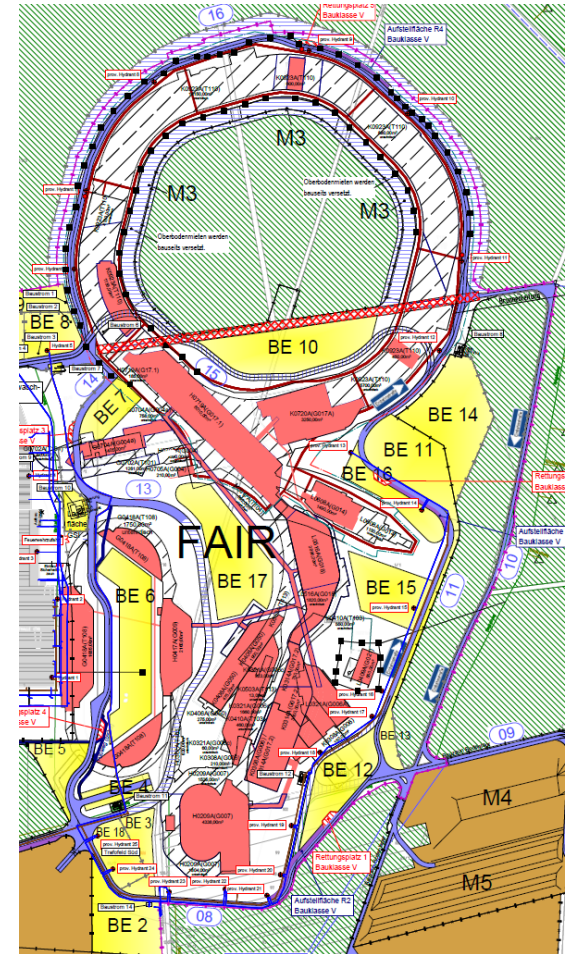
## Site Policy - Zero Incidents

- Several “rescue island” are positioned on site and provide first aid equipment, fire extinguishers and stretchers for transportation and rescue of injured persons. (Managed by the Service Provider for Site Logistics)



## EHS Management

- Security and access control – 1200 people per day.
- coordination of traffic to site – 300 heavy trucks per day.
- Coordination of traffic on site – 600 heavy truck moves.
- Control of deliveries to site – material flow.
- allocation and coordination of storage areas for contractors.



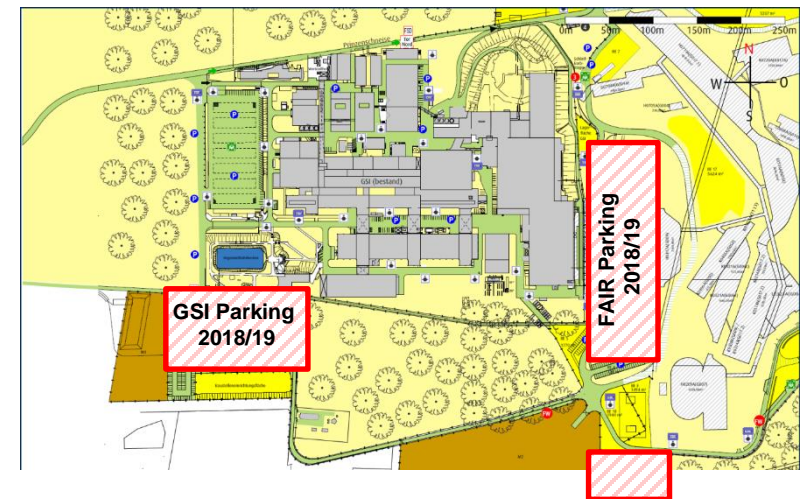
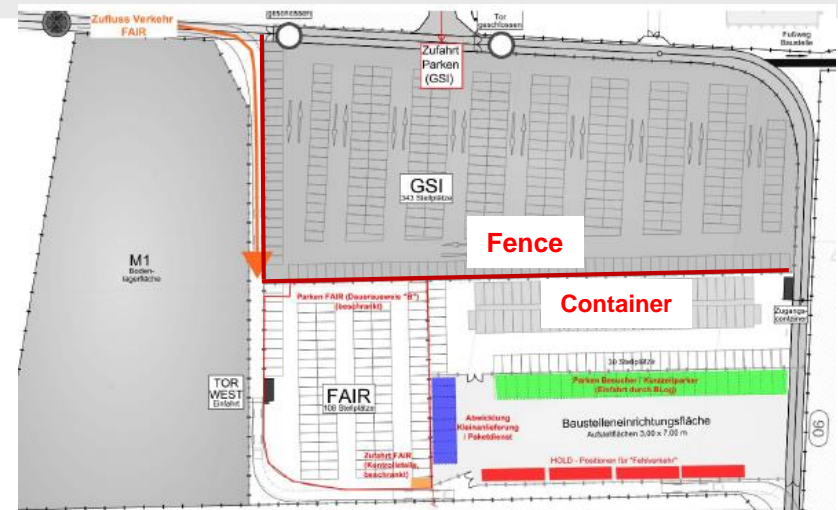
## Site Logistics Management



# FAIR Project Status – Civil Construction



- Scope 2:
  - FAIR site office; including construction supervisors from planning offices.
  - Parking for FAIR on site.
  - Parking for GSI in 2018/19.
- Infrastructure at main entrance.
- Office and social containers for contractors.
- Office containers for installation teams and in-kind providers.
- water management
- cleaning services
- facility management



FAIR Site Office  
2018/25

## Site Logistics

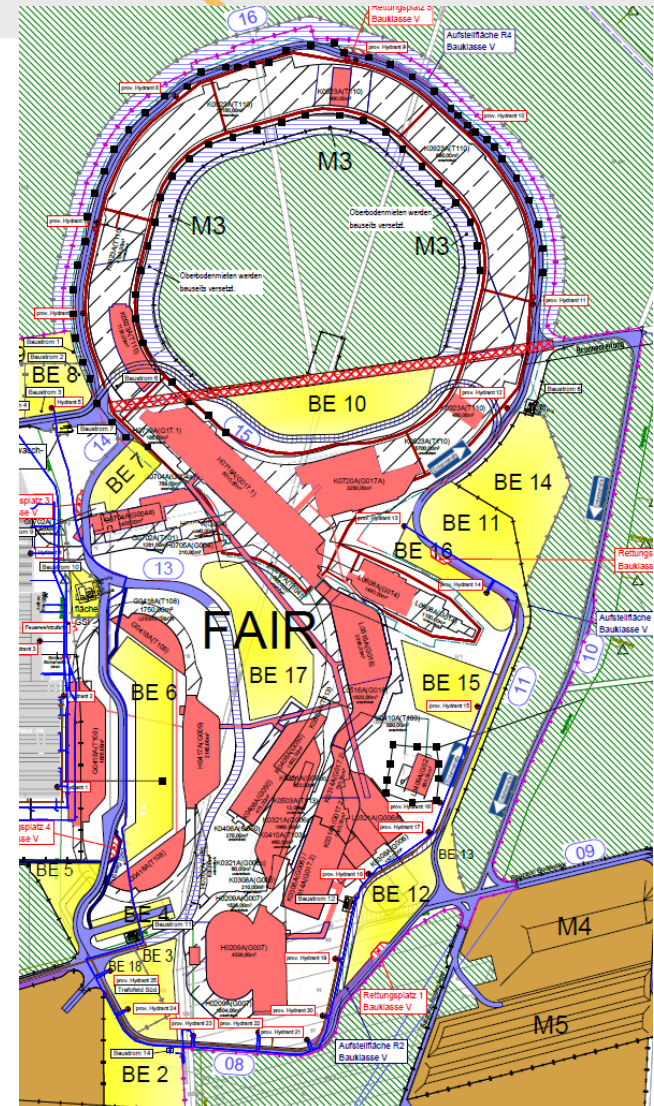
# FAIR Project Status – Civil Construction



## ■ Scope:

- Four main sub stations.
- Main Power Feed from Transformer Field SOUTH.
- Maintenance of Power Supply System.
- Control and Coordination of all connections performed and provided for Contractors.

## Site Power Supply





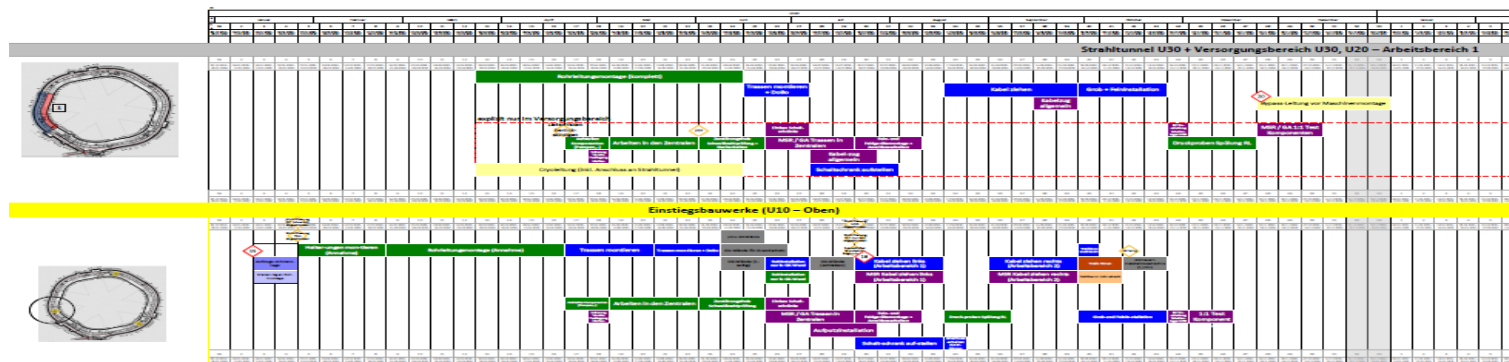
- Site Management and GSI Procurement have started to develop a logistic concept for the intermediate storage of machine components.
- For some machine systems the components are being delivered already (ie HESR and SIS100) and are placed in storage in GSI Facilities (Betriebshof) and external facilities.
- GSI have rented approx. 4500m<sup>2</sup> storage in Weiterstadt.
- Handover to a logistics service provider to manage the intermediate storage facilities for the machine components on behalf of GSI:
  - material receiving,
  - storage,
  - Loading and delivery for testing purposes.
  - loading and delivery to site.
- The service is planned to start by June 2018.



## Logistics Concept for Machine Component Deliveries

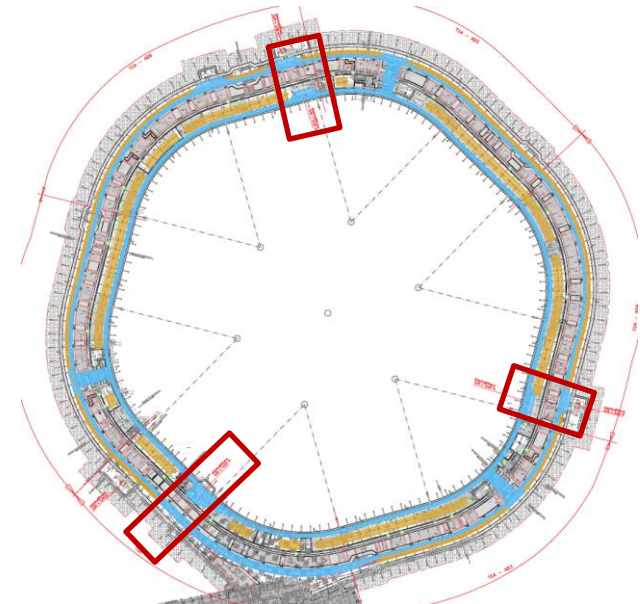
## Workshops for Process Planning for Technical Building Installations:

- Started in October 2017 –bi-weekly meetings.
- Site Management, Civil and Technical Contractors and Machine representatives (electrical; HVAC; cooling water etc.).
- Install Technical Packages before and parallel to the Machine Installation.
- To plan and agree the best sequence of installation for all systems.
- To optimize the durations required for each technical system.
- Parallel installation of 6 accelerator and 4 experiment systems in 24 different buildings.



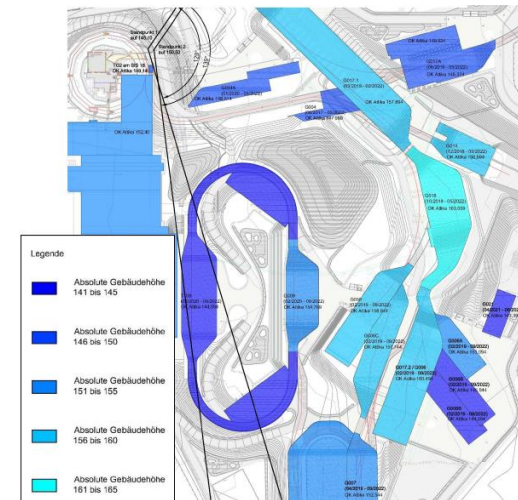
## Prozess Analysis and Process Planning





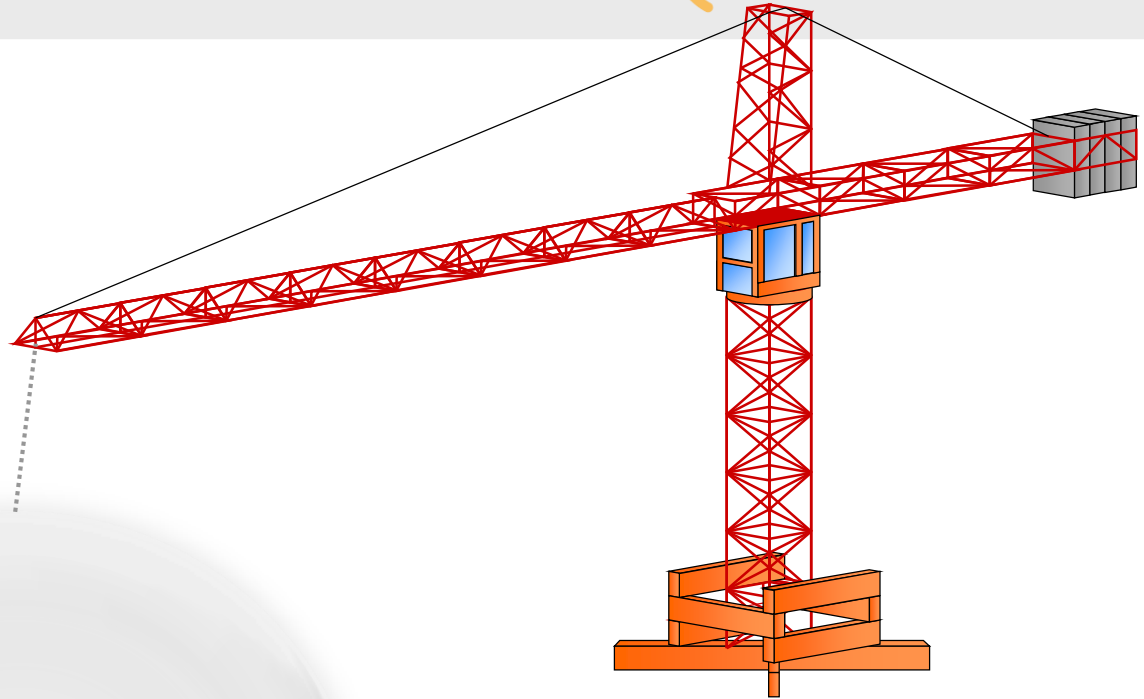
# FAIR Project Status – Site Management

## Take the Beam Walk to FAIR View



Visitor's Platform will be installed in May/June 2018





THANK  
YOU

FAIR  
Site Management