

FAIR - Project Status

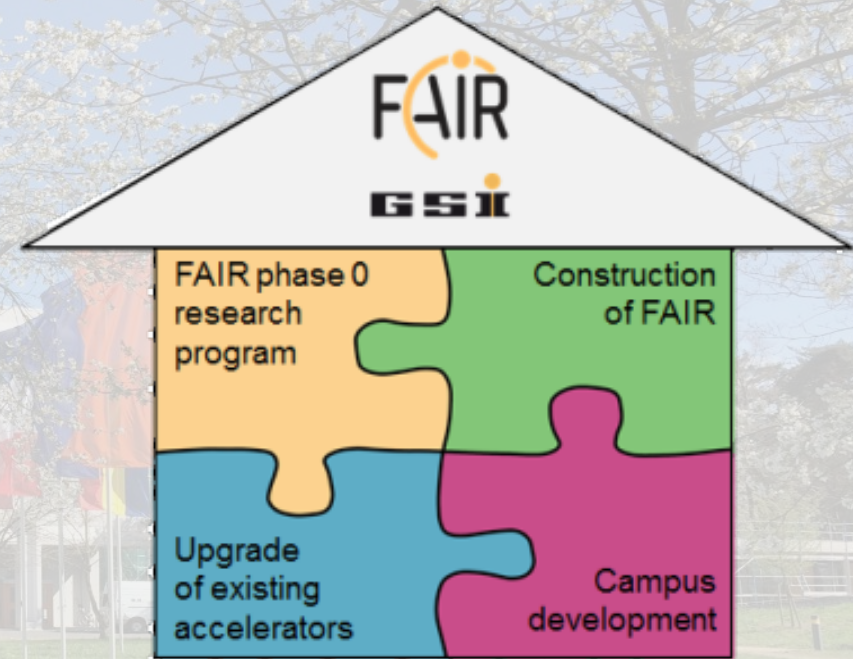
*Realization of the world's unique particle
Accelerator Facility in Darmstadt*

Jörg Blaurock

Technical Managing Director FAIR & GSI

15th March 2021

- **Construction of FAIR**
- **Upgrade of existing accelerators**
- **FAIR phase 0 research program**
- **Development on Campus**



Development on Campus



- Developing and upgrading the buildings and facilities in view of the future operation of FAIR is one of the strategic goals of both FAIR and GSI.
- Two landmark developments are nearing completion or are entering the execution phase, respectively.

FAIR Control Centre

- State of the Art Main Control Room and some 200 work places
- Operation start planned for 2024.

Parking Garage

- Providing parking space for approx. 800 cars
- Opening in March 2021



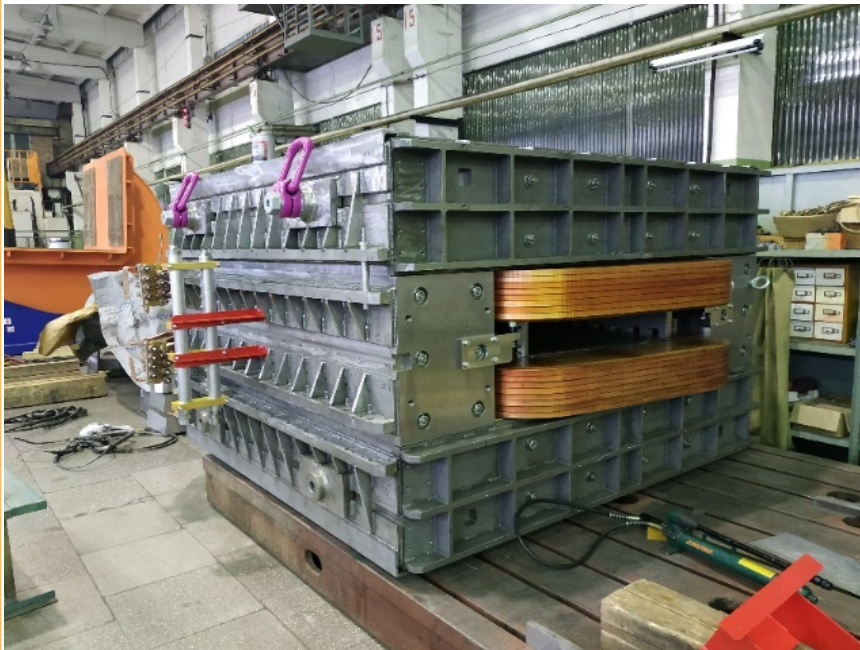
FCC Building with visitors' Gallery.
Site Preparation started.



New Park House for GSI.

December 2020

The FoS CR dipole magnet assembled
at BINP



March 2021

Completion of assembly shop and
storage facility for CR dipole magnets
at GSI



February 2021

SIS100 cryogenic transfer line:
12 m long spools waiting for
shipment to GSI/FAIR



February 2021

SIS100 cryogenic transfer line: Triple
arc section and 12 m straight section
during FAT at production site



January 2021

The FoS Long Multiplett, produced at ASG in Italy, a major component for the Super FRS, is now installed at the CERN test facility.

The FoS test for the Short Multiplett was completed in 2020



December 2020

Components storage for
SIS100, HEFT, HESR
in FAIR storage facility



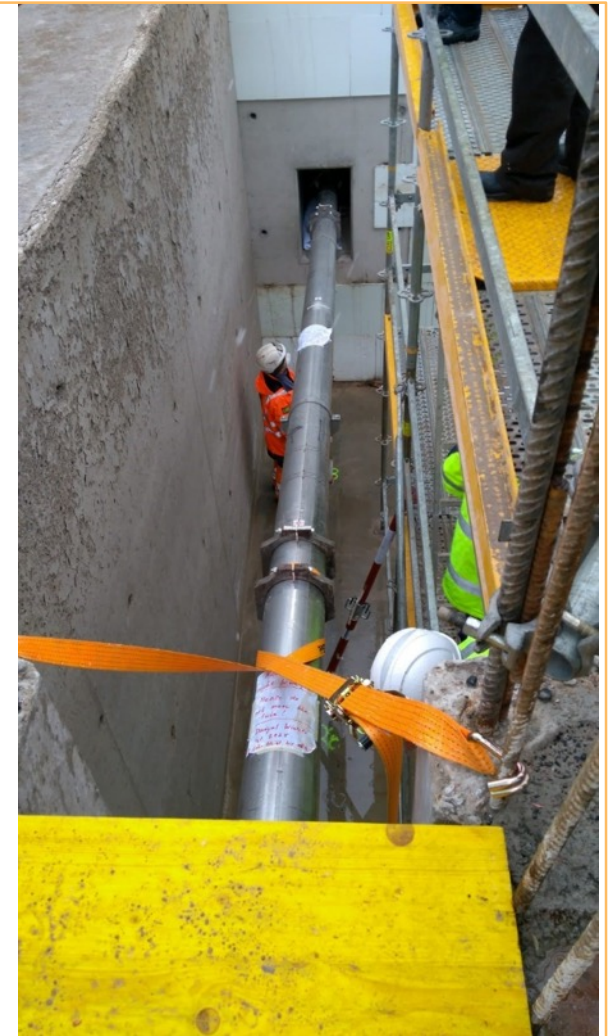
November 2020

The last delivery of the
HESR Corrector Magnets
from Romania to Jülich took place



February 2021

First section of laser
beamline for laser cooling
@ SIS100 & APPA SPARC
installed on FAIR site



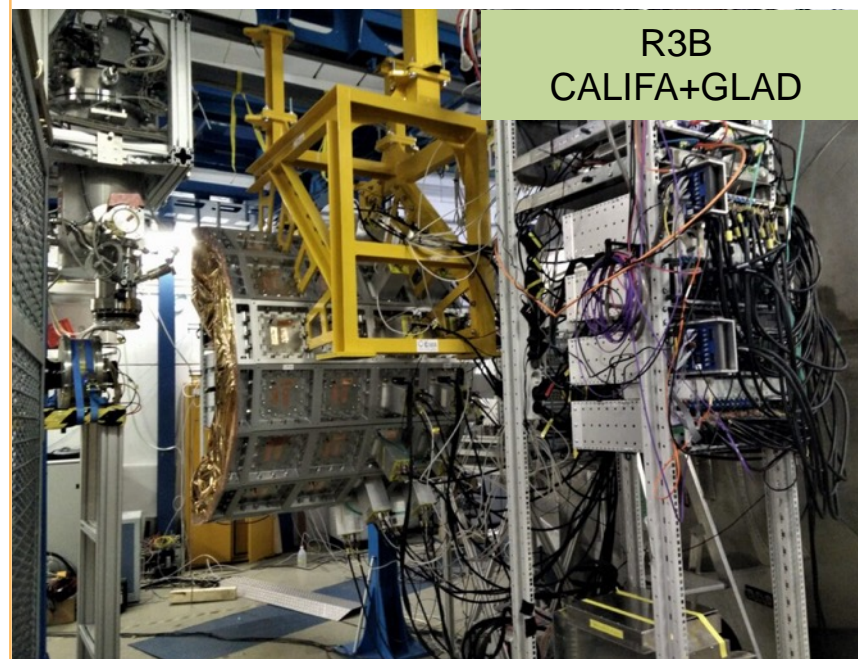
September 2020

As part of the CBM detector the PSD
Support arrived on campus.
SAT has been performed
successfully.



November 2020

Basic set-ups for FAIR Phase-1 have
already been constructed and
commissioned
Ready for Physics Experiments in
Phase-0 at GSI.



December 2020

Installation of PRIOR-II setup and power supplies at HHT for commissioning with FAIR Phase-0 experiments is completed



January 2020

PANDA Solenoid:
Yoke 2nd assembly
in Novosibirsk



FAIR Recent Civil Construction Highlights (Part 1)



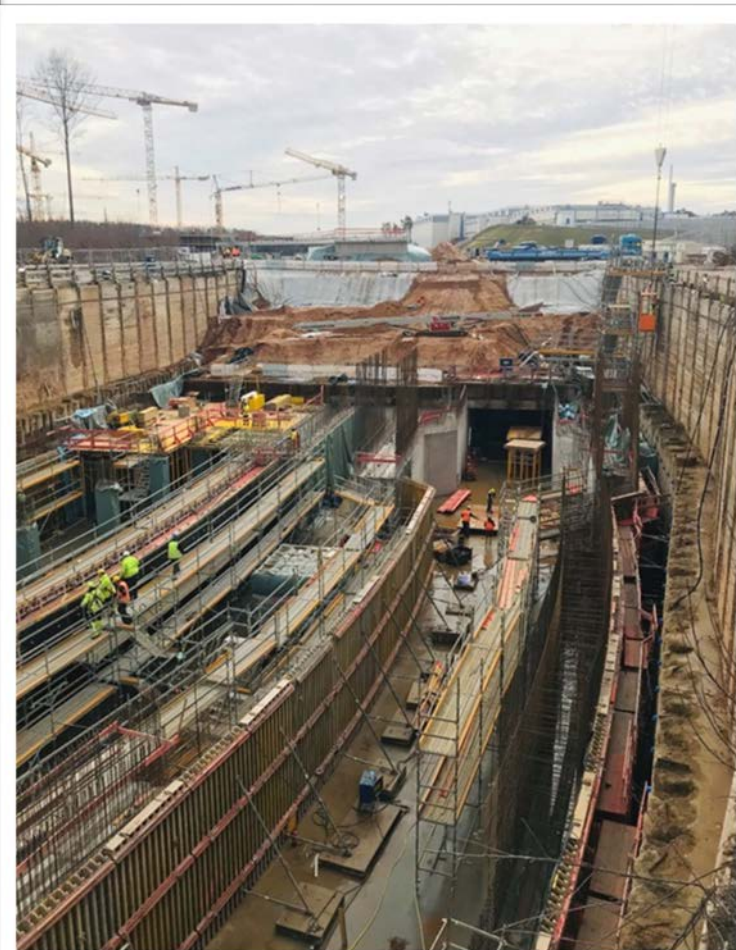
*February 2021
SIS100 ring tunnel*

FAIR Recent Civil Construction Highlights (Part 2)



*December 2020
SIS100 ring tunnel -
ground slab completed*

*February 2021
SIS100 ring tunnel -
walls are rising*



*February 2021
concrete works transformer
building completed*



*March 2021
Preparations for reinforcing and
concreting the final 6m concrete
ceiling in the transfer building (G004)
started.*

FAIR Recent Civil Construction Highlights (Part 4)



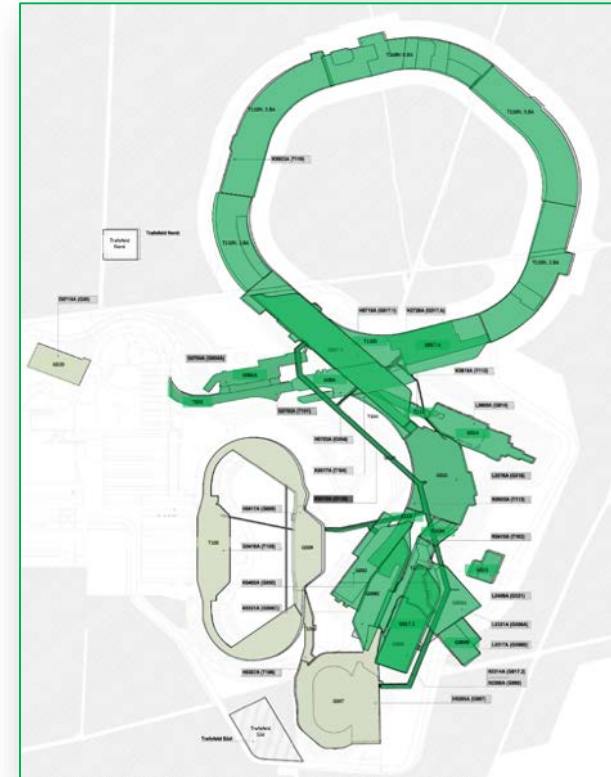
Civil Construction for transfer route T112 completed

FAIR Recent Civil Construction Highlights (Part 5)



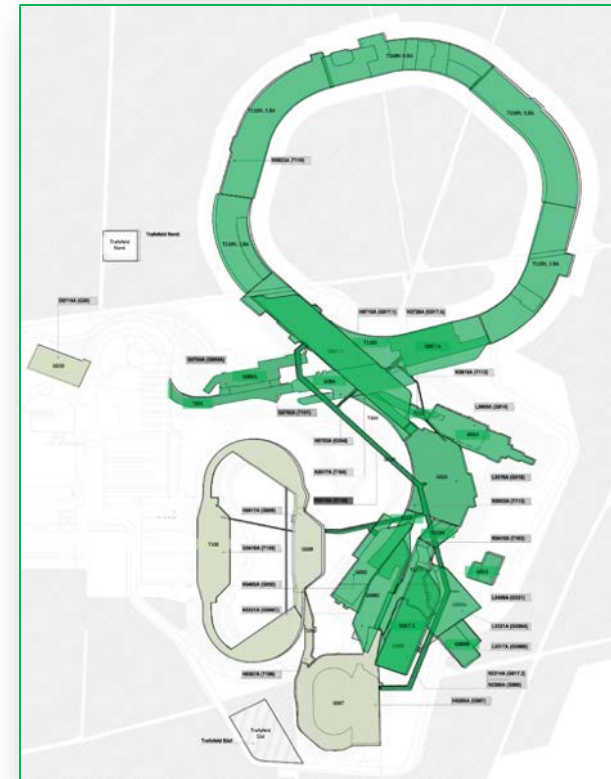
*February 2021
Construction area South*

- Thanks to the effort of all contributors locally and worldwide:
 - Substantial progress has been achieved in the realisation of the FAIR project over the last years.
 - All areas - civil construction, accelerator procurement and experiments preparation - are aligned in meeting the common goal.
- In April 2019 the international project review team issued their report:
 - Validating that further funding is required in order to achieve the FAIR MSV.
 - Enabling the fast track decision by Germany as a FAIR shareholder to provide most of the German share of the additional funding needs.
 - Starting the decision process for further funding contributions amongst the other FAIR shareholders in their countries' organisations.



Intermediate Objective (IO)

- The funding decision by Germany paved the way for the continuation of the FAIR project realisation without any interruption for a defined scope of work:
- The „Intermediate Objective“
 - comprising the entire accelerator for the FAIR MSV and the full scope of the experiments for the FAIR MSV.
 - shifting the realisation of the buildings for CR, HESR and pLinac until further funding is secured where the shareholders aim at a solution in 2021
- The Council made the decision in February 2020 to build the FAIR Intermediate Objective as a major step in continuing project execution towards the realisation of the FAIR MSV.



FAIR Project is progressing well towards the key objectives.

Next steps of FAIR project are:

- Continue to successfully manage the impact of COVID-19.
- Complete the award of Technical Building Installation packages in Q1/ 2021.
- Continue construction works in the construction area North aiming at substantial completion end 2021.
- Ramp-up of construction works in the construction area South, focus on experiment buildings.
- Secure a timely delivery of ACC components for full MSV.
- Develop a robust installation programme to achieve the FAIR „Intermediate Objective“.



Thank you for your attention!



Connection from SIS18 to FAIR