

A large, detailed wireframe model of the FAIR particle accelerator facility is shown in the background. It features a large, oval-shaped main ring and several smaller, more complex structures at the top, representing different experimental areas and support buildings.

FAIR - Project Status

Realization of the world's unique particle accelerator facility in Darmstadt

Jörg Blaurock

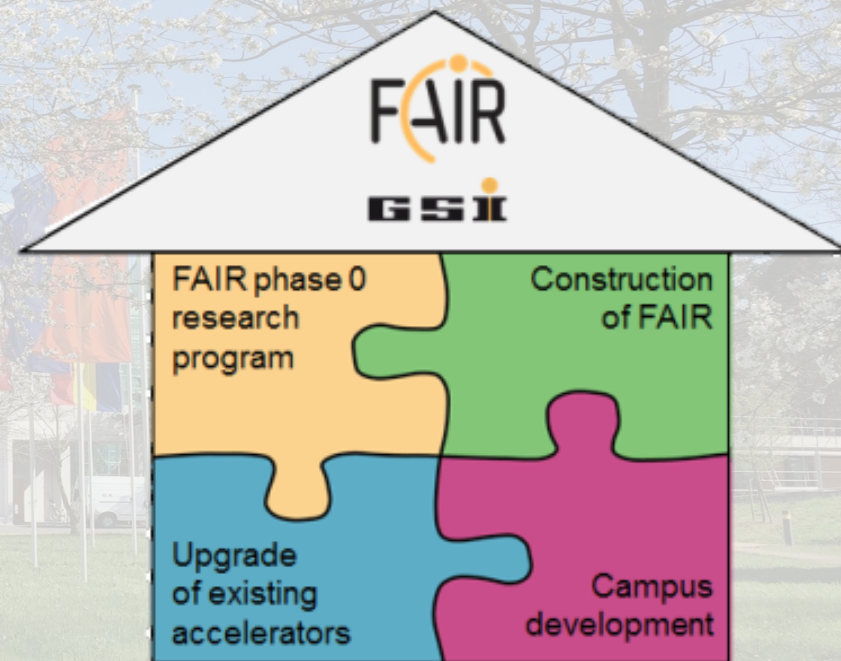
Technical Managing Director FAIR GmbH & GSI GmbH

22nd September 2020

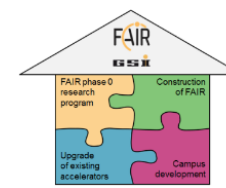
STRATEGIC OBJECTIVES OF GSI / FAIR



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



Development on Campus



- Developing the buildings and facilities in view of the future operation of FAIR is one of the strategic goals of both FAIR and GSI.
- Two Measures taken to develop the Campus as a host lab and to provide a state of the art workplace and accompanying infrastructure are:

FAIR Control Centre

- Hosting the Main Control Room and some 200 work places
- Operation planned during year 2024



Neubau FAIR Control Centre | Darmstadt

Sketch of the building: view of the visitors gallery and main control room in the front.

Parking Garage

- Providing parking space for approx. 800 cars
- Completion planned in Q1 2021

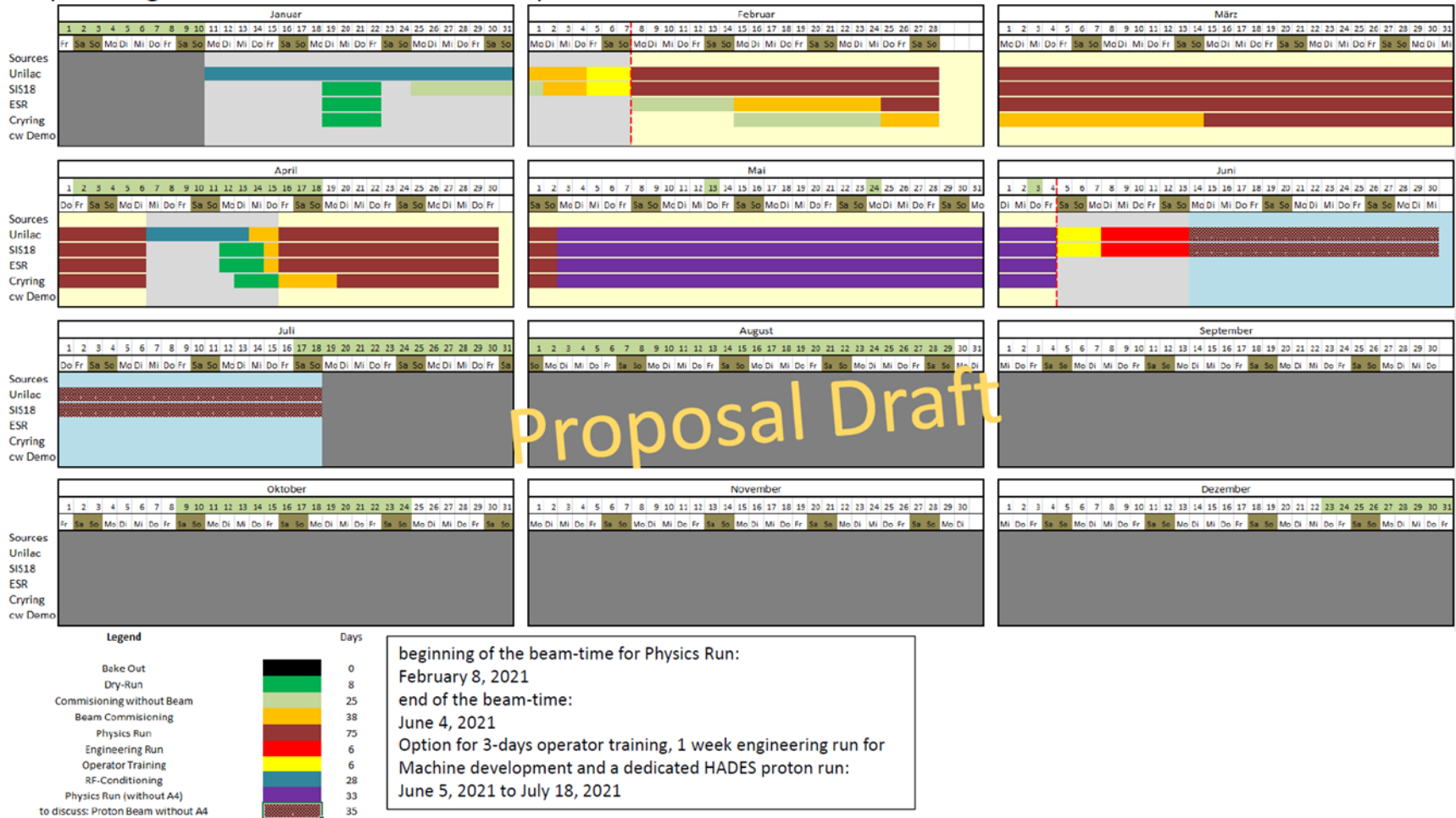


Picture showing the status of civil works of the parking garage mid-July 2020.

Accelerator and Experimental Facilities Physics Run Proposal 2021



planning of the General Accelerator Operations 2021

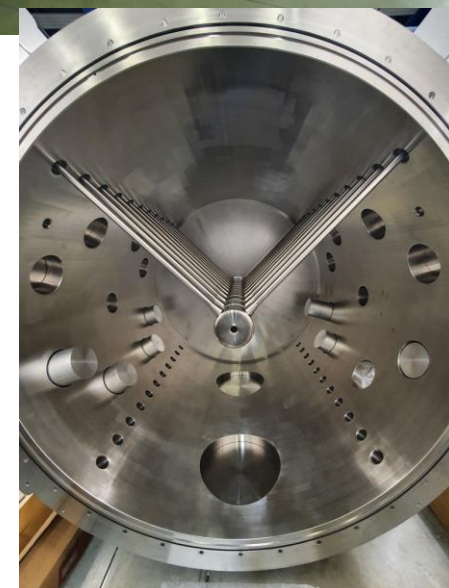
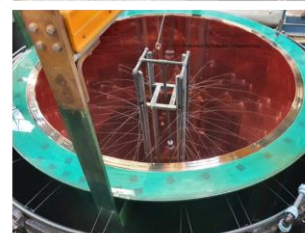
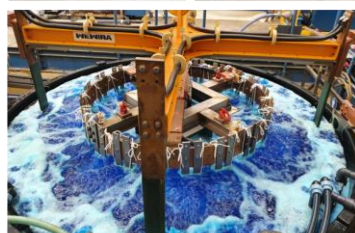
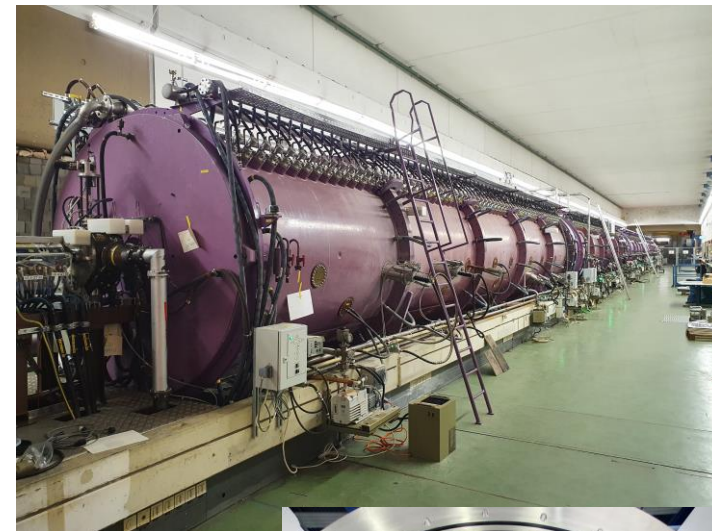


Accelerator and Experimental Facilities

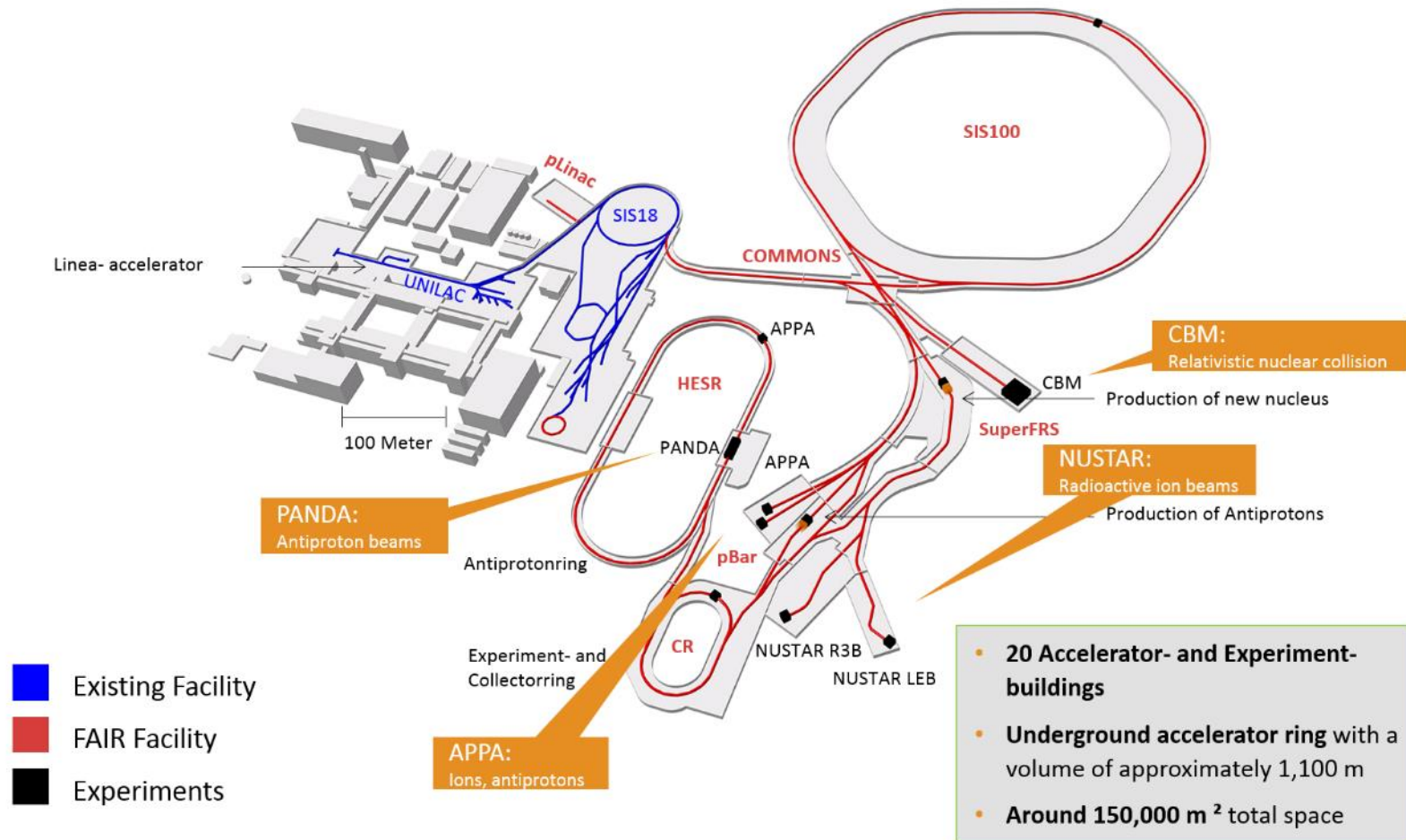
Replacement UNILAC post-stripper DTL section



- It comprises five rf-cavities, each with
 - 11 m of length
 - 2 m of diameter
 - 10 t of weight
- First of series (FoS) started and progressing as anticipated
- series production in 2023 – 2026



FAIR – The facility



May 2020

5 HEBT- dipole magnets were delivered for SAT testing from NII-EFA (Russia) to GSI, in total we have 43 out of 51 magnets on campus



June 2020

Delivery of 2 SIS100 injection septum magnets to GSI from Danfysik for site acceptance test



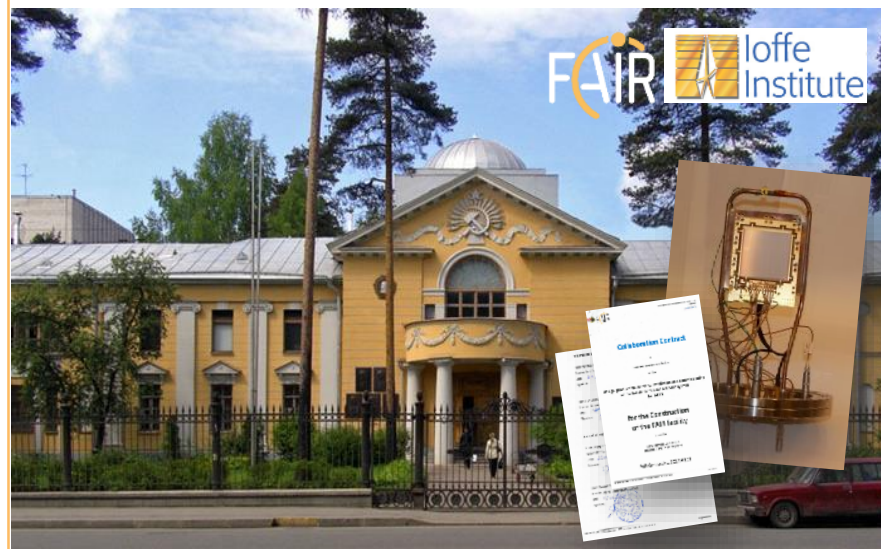
April 2020

36 Power Converters for HEBT steerer magnets were delivered to Weiterstadt by ECIL, India.



July 2020

SuperFRS Time of Flight (TOF)-Detectors contract has been signed by IOFFE Institute (Russia) and FAIR.



May 2020

4th BINP – FAIR Workshop took place
on 25th – 29th of May 2020 via Video
conference



November 2019

The first integrated SIS100
Quadrupole Doublet Module arrived
at GSI for testing



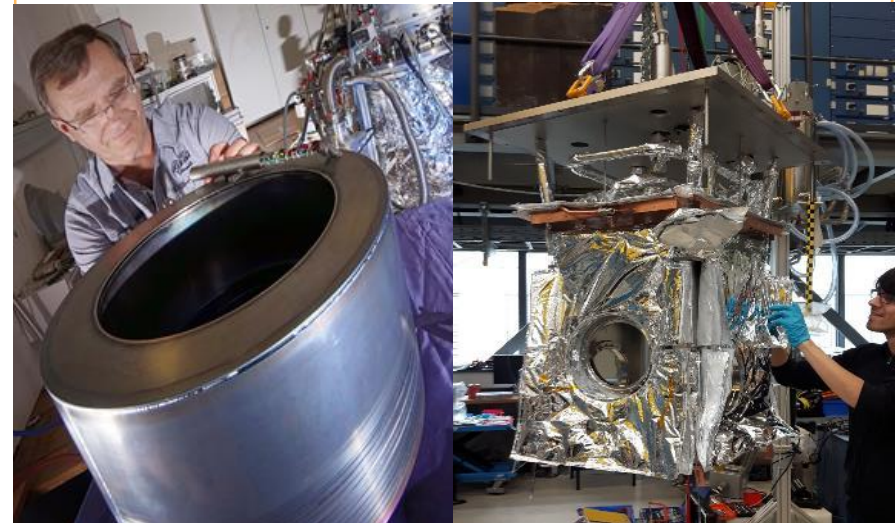
July 2020

CR- Stochastic cooling Palmer Pick-Up assembled and prepared for integration and testing with beam at COSY (FZJ)



February 2020

After 10 years of R&D, first Cryogenic Current Comparator detector in collaboration with HI Jena, Uni. of Jena and the SPARC Collaboration is ready for testing in CRYRING



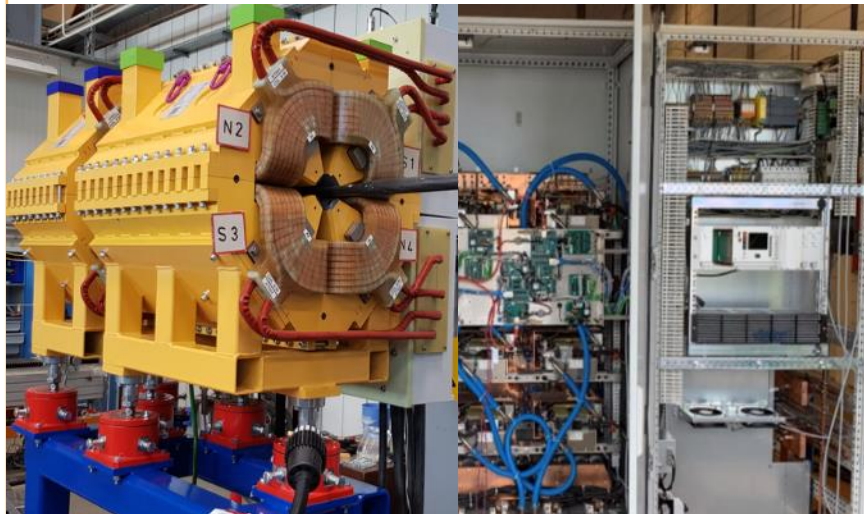
FAIR Highlights (Part 5)

Storage Warehouse Weiterstadt ... filling in progress!



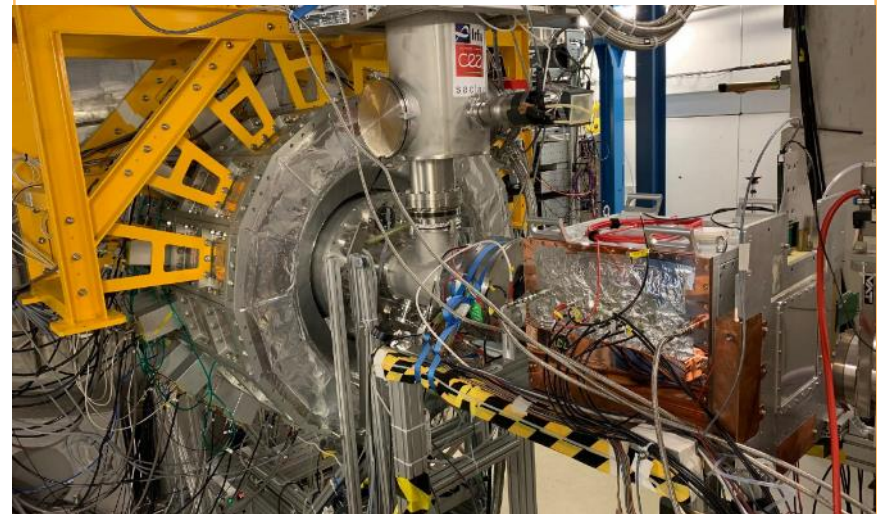
July 2020

Quadrupoles (SigmaPhi, France) and power supplies for the APPA HED@FAIR Experiment PRIOR at GSI are in construction at company Ampulz (NL)



August 2020

First NUSTAR- CALIFA with fission set-up successfully installed and commissioned in Cave C at GSI



June 2020

13 modules have been constructed for CBM Projectile Spectator Detector (PSD) and are now used at NA61/SHINE experiment at CERN during FAIR-phase-0.



April 2020

For the PANDA Barrel DIRC 5 evaluation samples of radiator bars from Nikon were delivered to GSI



FAIR Civil Construction Dimension



2 Mio. m³
Ground

will be moved

Correspond to 5,000 single-family houses



600.000 m³
Concrete

will be installed

Correspond 8-times the football stadium of Frankfurt



65.000 t
Steel

will be deployed

Correspond to 9 Eiffel Towers

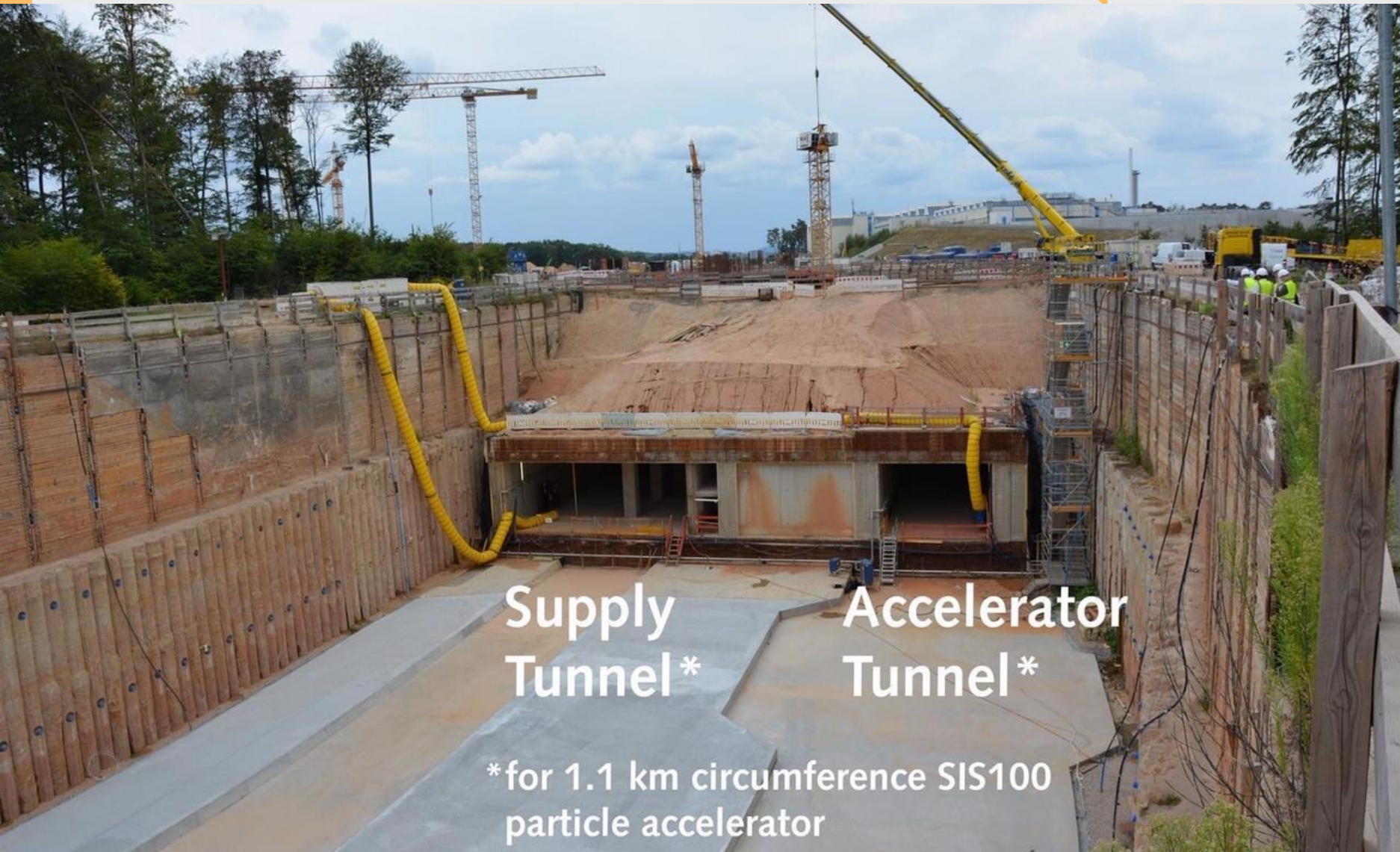




Awarding of building shell south in May 2020 to Züblin & Strabag (GER) and firefighting system to Multimon (GER)



CBM Building



FAIR Recent Civil Construction Highlights (Part 4)



Transfer Building

FAIR Recent Civil Construction Highlights (Part 5)



Construction Site North

- Award of Technical Building Installation packages until Q1/ 2021
- Continue construction works in the construction area north
- Ramp-up of construction works in the construction area south
- Secure a timely delivery of ACC components



Thank you for your attention !

CSI FAIR

