

A wireframe model of the FAIR accelerator complex is superimposed on a vibrant, multi-colored nebula background. The model shows a large circular ring structure in the foreground and a more complex, multi-lobed structure in the background. The background is filled with numerous stars of various colors (blue, red, yellow) and colorful gas clouds in shades of blue, purple, and orange.

FAIR Status

Super-FRS Collab-Mtg 2024

Möhrelden/Walldorf

18 Jan 2024



Movie and more pics via www.gsi.de

2023

FAIR SIS100 accelerator tunnel



FAIR SIS 100 supply tunnel

April 2023



FAIR Area South



Recent News (Dec-Jan)



Lifting of the ceiling beams for the roof of the SFRS building "G L0516A".



First 2 air coolers were installed on the building H0719A.



FAIR CBM Cave

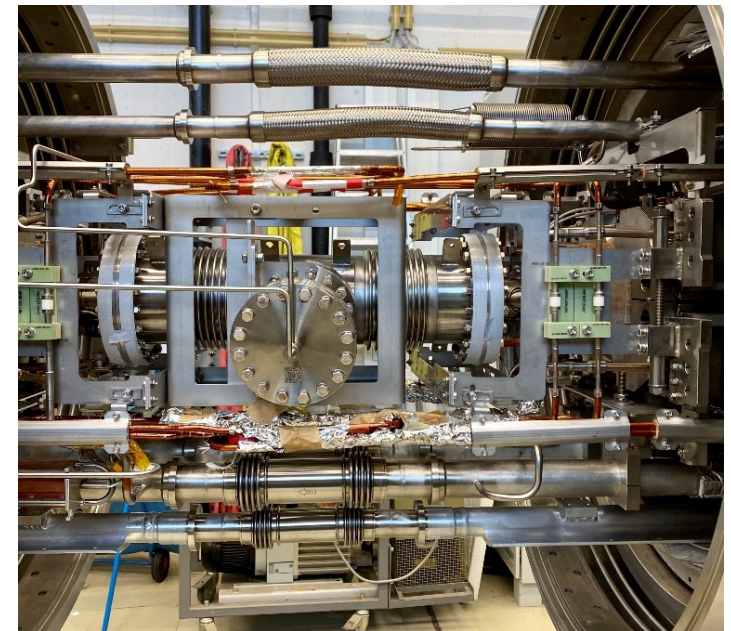
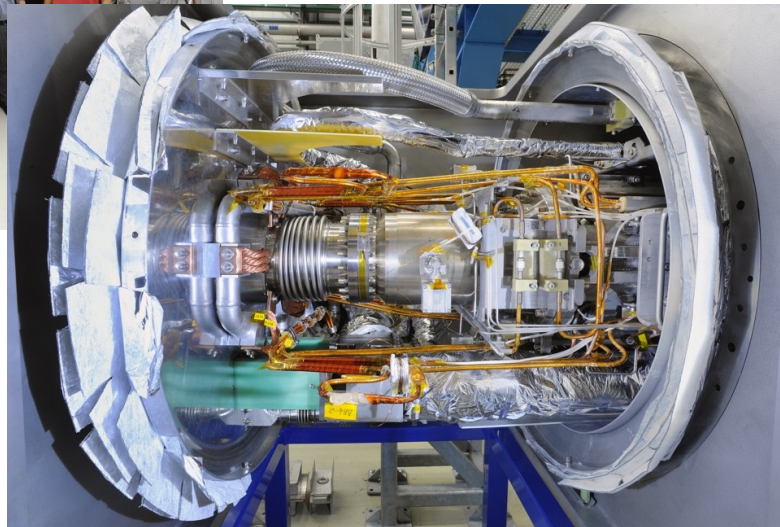


Q2-Q3/2023

String Test SIS100 - installation preparation

Successful completion of welding operations on interconnections

and pressure test.



FAIR Highlights- Storage and Logistics

Completed and delivered high-tech components for accelerator and experiments



SIS100 Dipoles complete



He-By-pass lines from Poland



Racks from India

Storage area Weiterstadt: approx. 9.900 m²
4.195 objects (Components, assemblies, boxes)

50% of SIS100 components stored
90% of HESR components stored

Final Acceptance of In-Kind

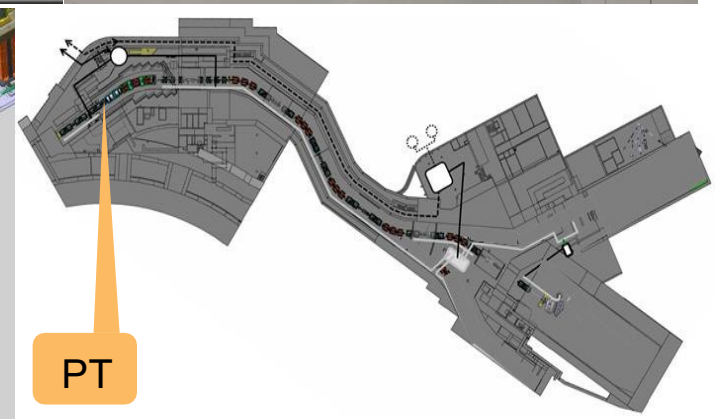
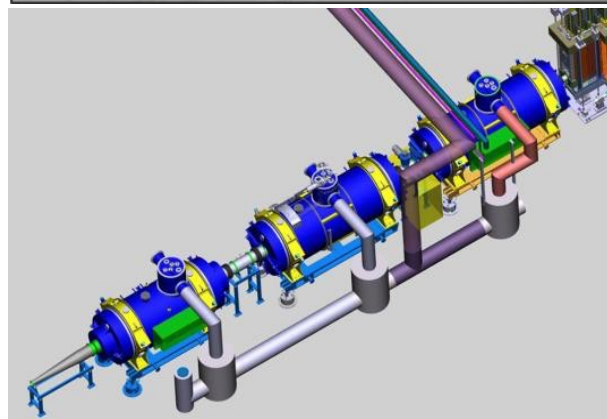
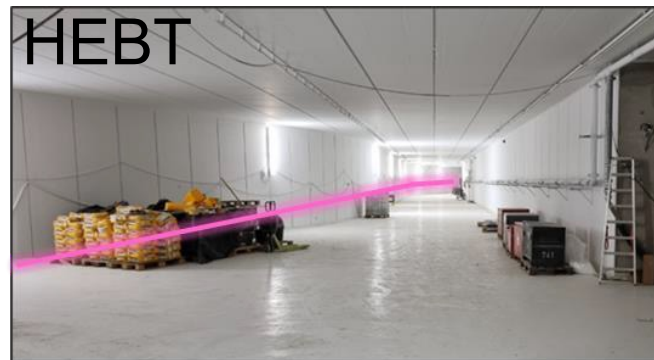
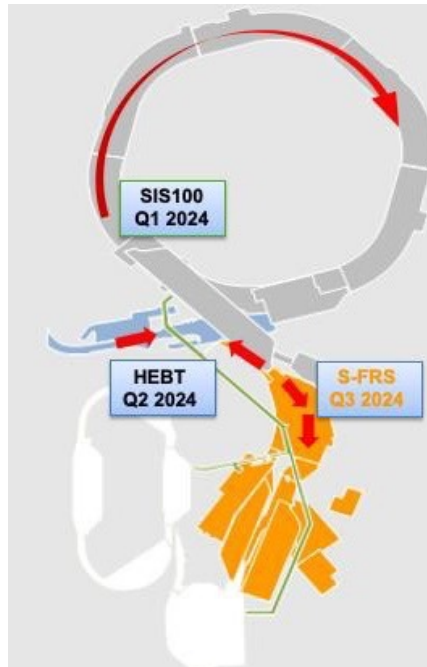


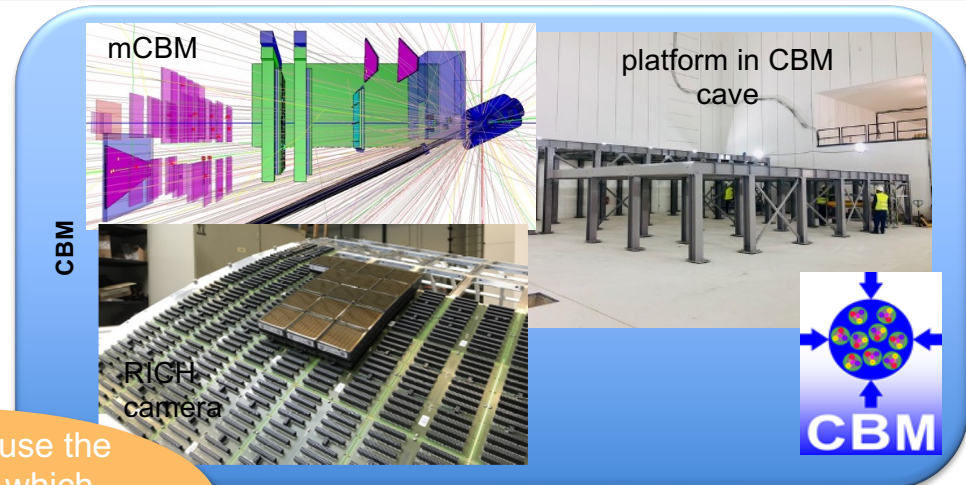
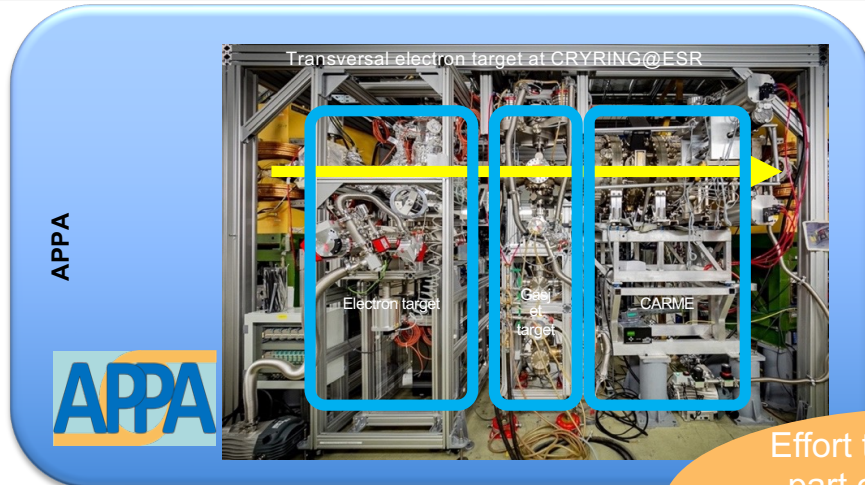
Handing over of the Certificate of Final Acceptance to the Indian Shareholder during the last FAIR Council celebrating the completion of the In-kind contributions "HEBT Vacuum Chambers" for the Commons subproject (Provider Vacuum Techniques Pvt. Ltd. - Bangalore, India)

©: Bayer

Start of Installation!

Start of installation at four locations in 2024

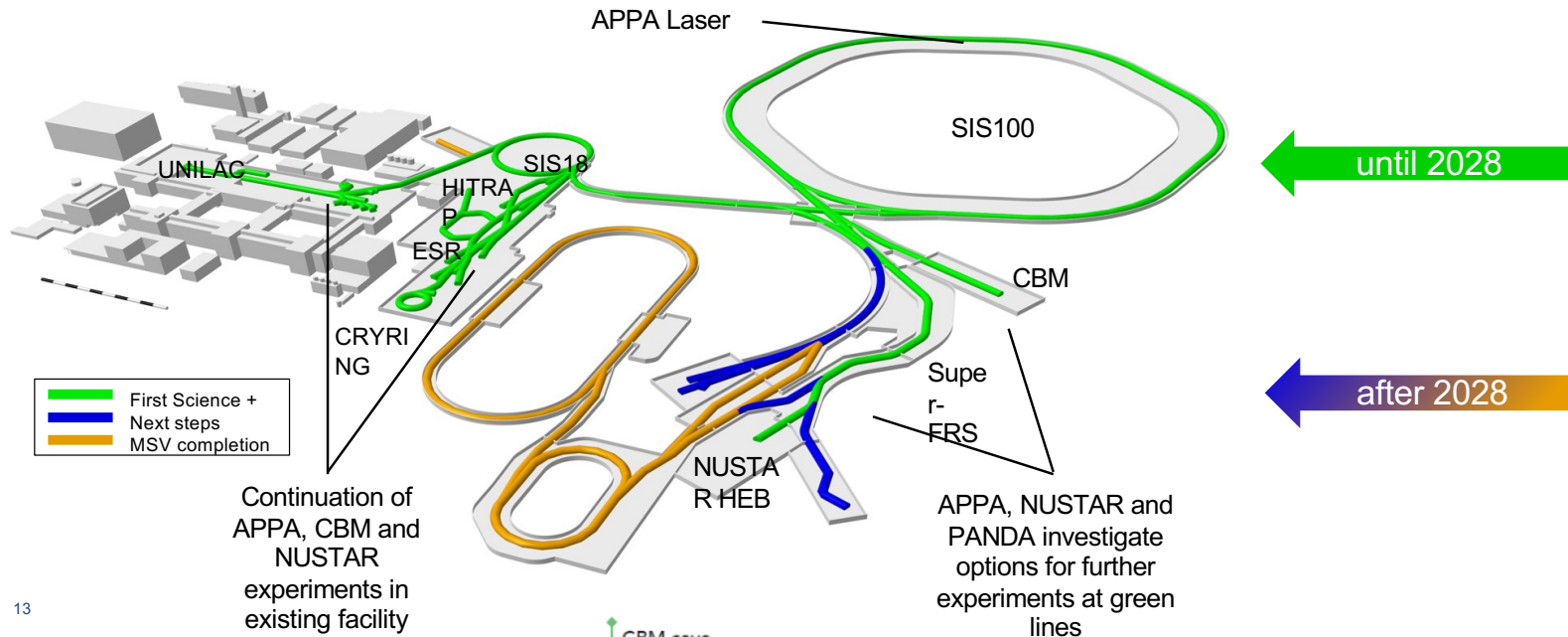




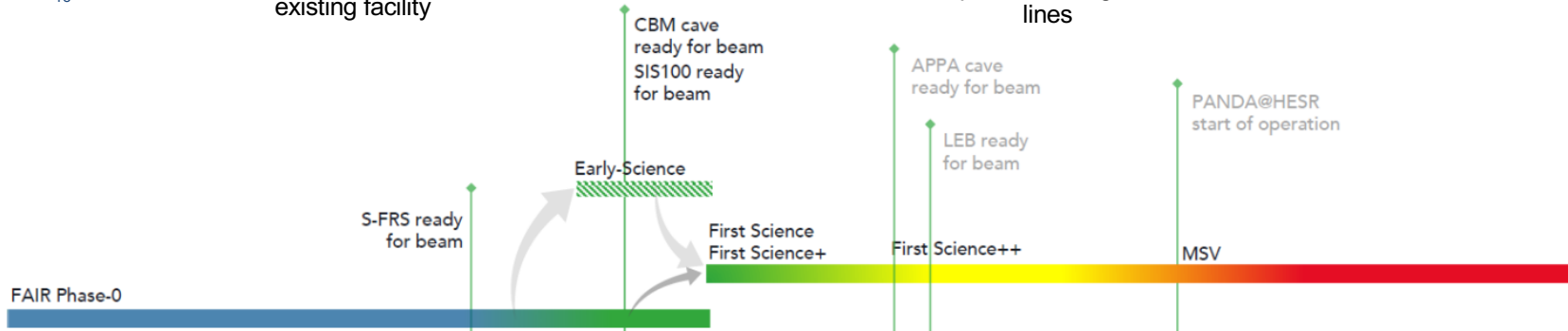
Effort to best use the part of FAIR which will be available by 2028



Current prospects and timeline



13



Our vision for the future: FAIR 2028



- FAIR in 2028 will feature the most valuable science program which can be hosted in the FS+ infrastructure.
- The „**FAIR 2028**“ science program will include:
 - **APPA** experiments *at the low-energy rings, at SIS100*, at the *caves at SIS18 and UNILAC* with and at *PHELIX* and a limited set of experiments which could be hosted at all the *caves served by SIS100*
 - **NUSTAR** at the *Super FRS with SIS100 beams*, plus *SHE and MATS experiments at UNILAC* and *ILIMA at the low-energy rings*
 - **CBM** at the *new cave with SIS100 beams*, and *HADES at SIS18*
 - **PANDA** is developing a hadron physics program to be carried as bridge towards the program with antiprotons, when possible *using the caves and beams available at GSI/FAIR* and synergies with other experiments.
- Given the limits of financial and human resources, other activities will be downscaled, delayed or even discontinued.

Evolution towards FAIR 2028

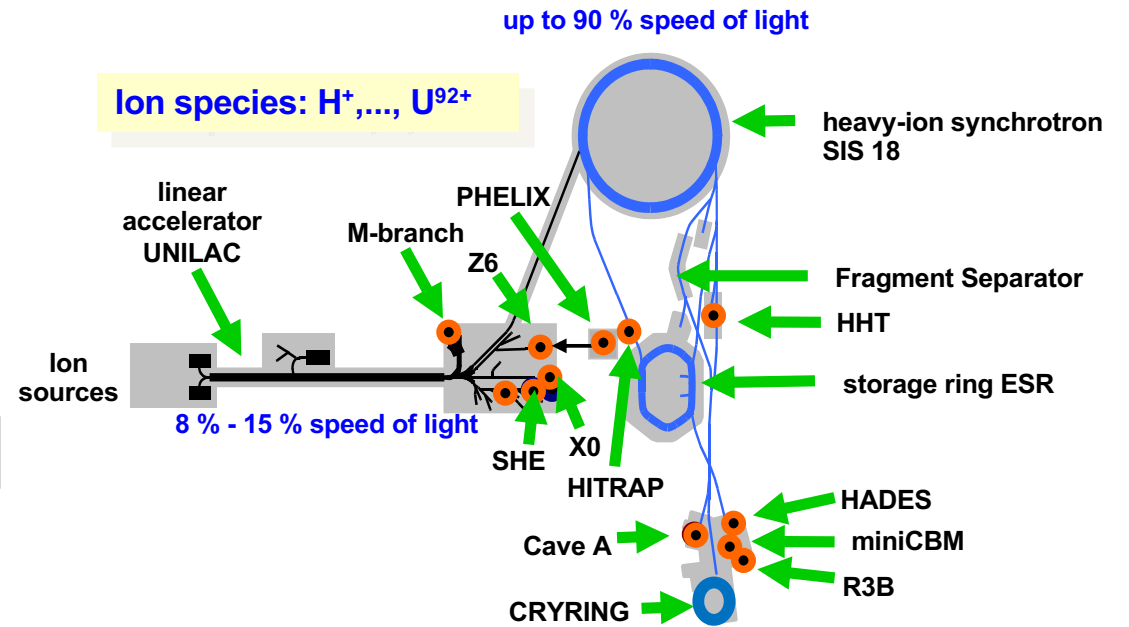
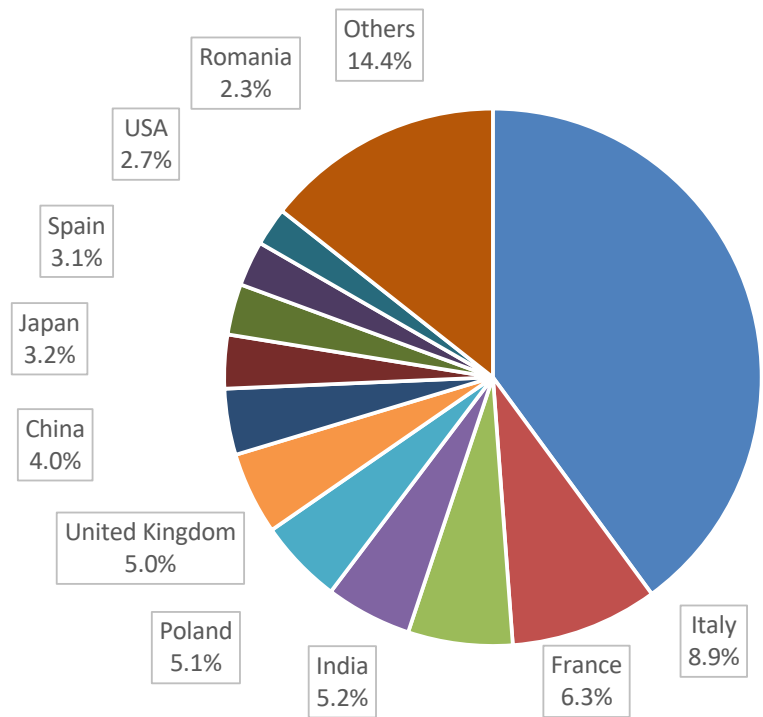


- Up to 2025 we continue with FAIR the annual block of continuous beamtime for Phase-0, from 2026 onwards we enter the mixed-mode of Phase-0 with the commissioning of the new beamlines.
- Annual beamtime for science will increase progressively, to reach full year operation from 2028 onwards.
- Some experiments at the Super-FRS will start already in 2027 using SIS18 beams („Early Science“)
- We will try to keep a broad research programme on campus, which will also serve the long-term goals of FAIR.

Ongoing early science program: FAIR Phase-0



- Started in 2019, annual runs of ~110 days until FAIR operation in 2027



124 proposals with more than 1700 participants from 45 countries received in 2022

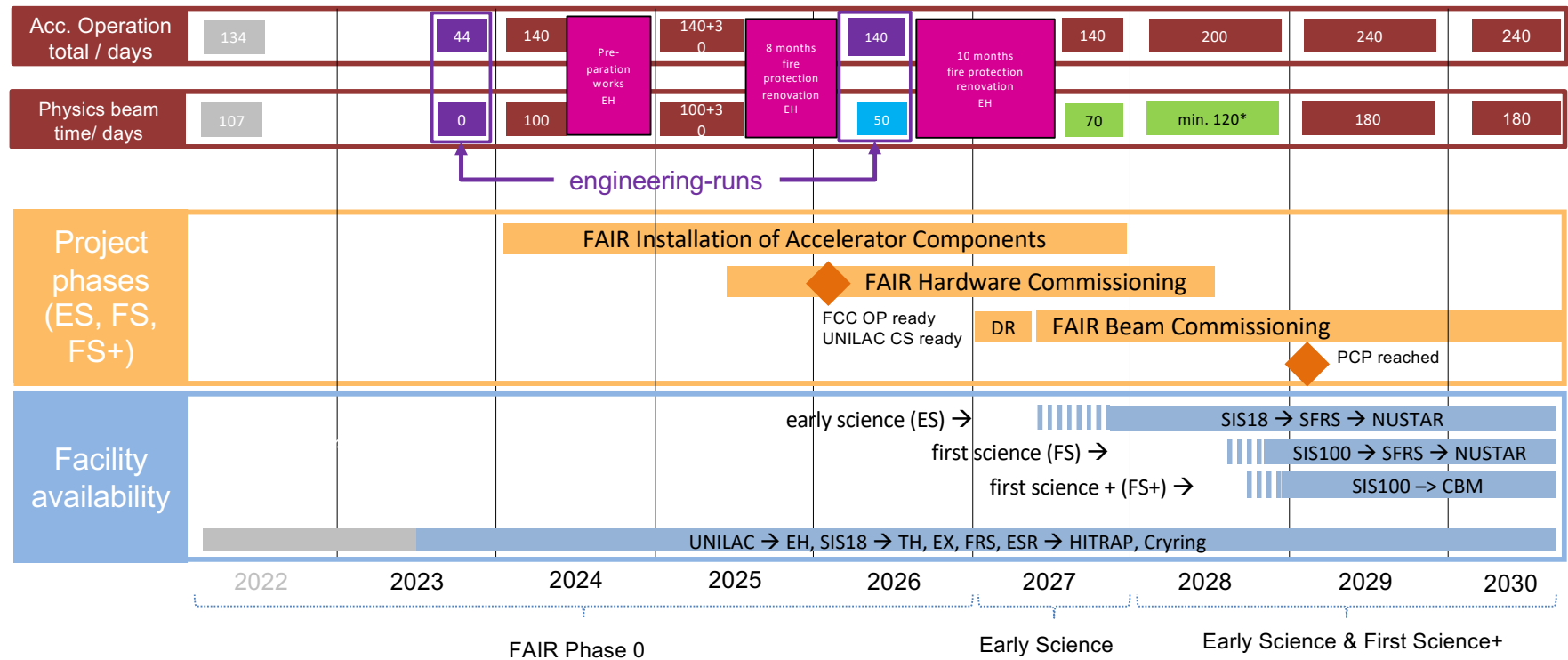


Engineering run ongoing, very successful!!

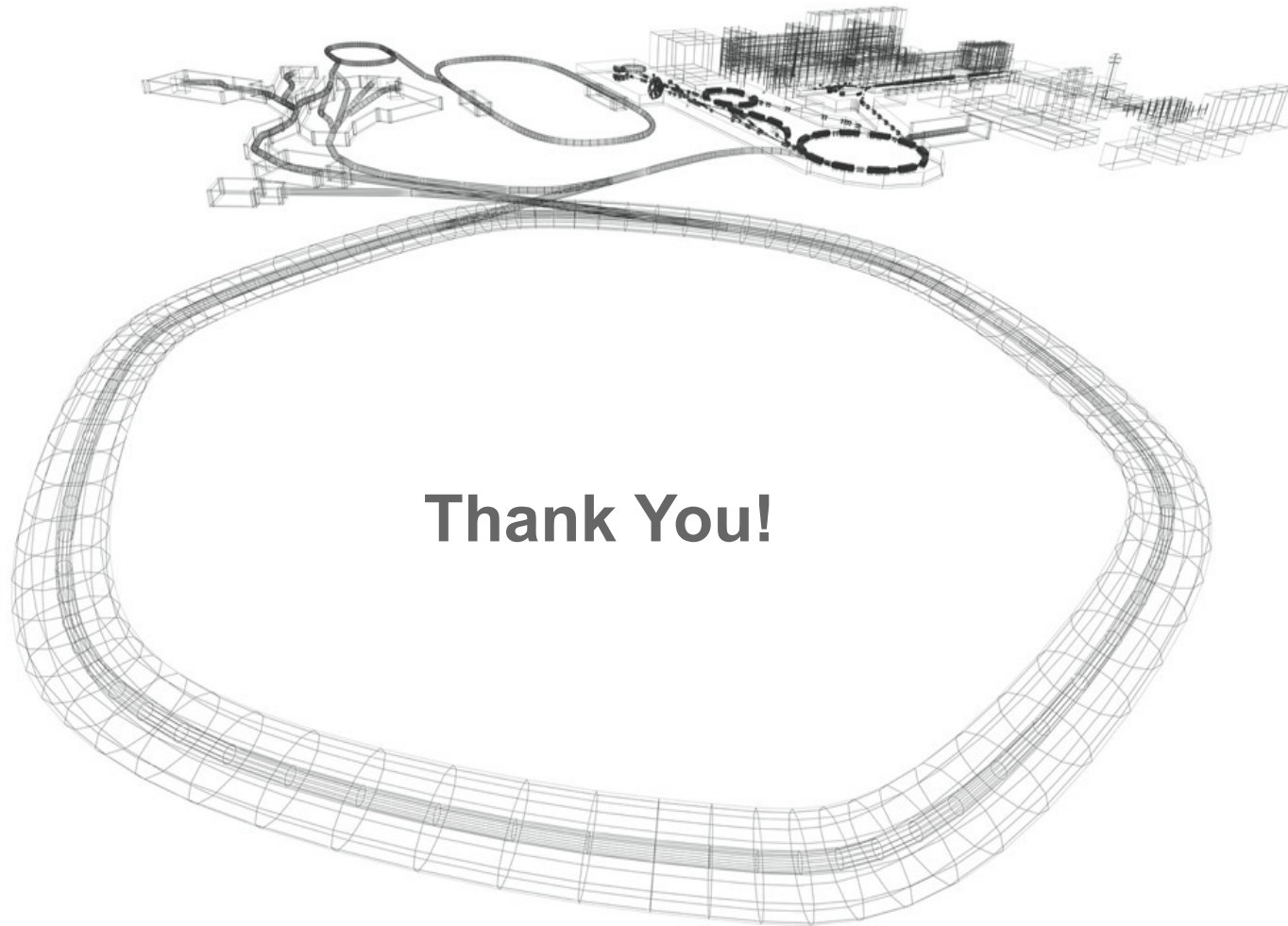
FAIR/GSI strategic operation scenario towards FS+



DRAFT



- Negotiations with the candidate for Admin. Man. Dir. on-going
- The search for a new Sc. Man. Dir. is starting
- Council chair is Catarina Sahlberg and vice-chair is Volkmar Dietz
- Efforts to secure contributions from all FAIR Partners on-going
- The FAIR Commissioning Phase has started
- Dec 2024 Council will take place in India
- Difficult task for the management: integrate beamtime operation, installation and commissioning of the new facilities and essential interventions on the buildings (radiation shielding, fire protection...)
- A concept of beam allocation to commissioning, best effort user beamtime and full user beamtime has been developed and keeps getting refined.
- As a consequence, it is now time to establish the procedures for experiment approval and beamtime allocation for FAIR. A first concept has been sent to the JSC and BFC for consideration and comments. The Management will finalise it in consultation with all relevant bodies.



Thank You!