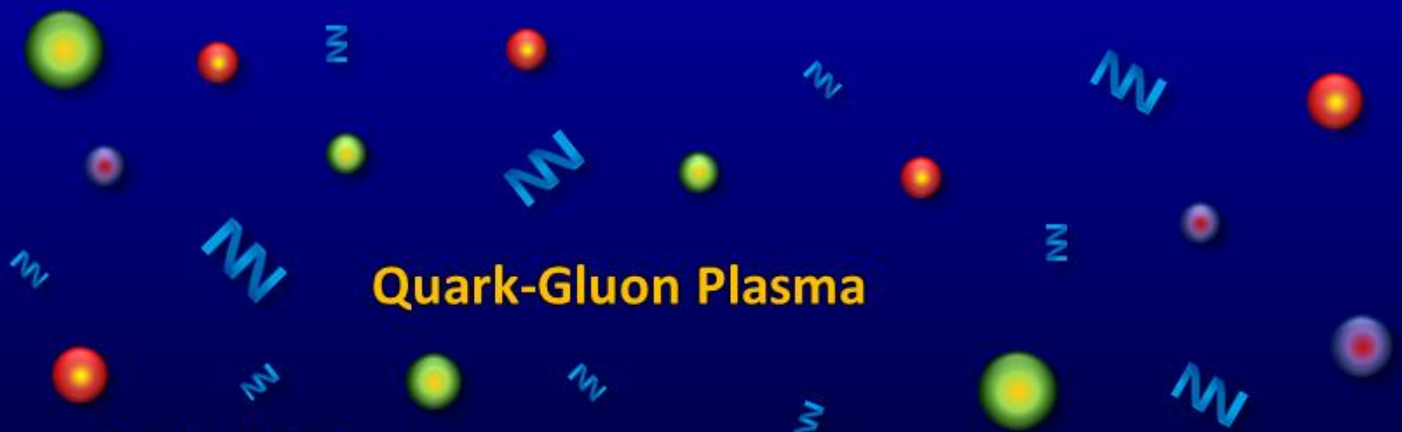


Early Universe



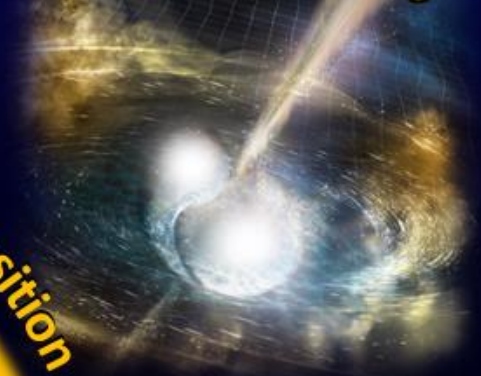
Quark-Gluon Plasma

Critical Point



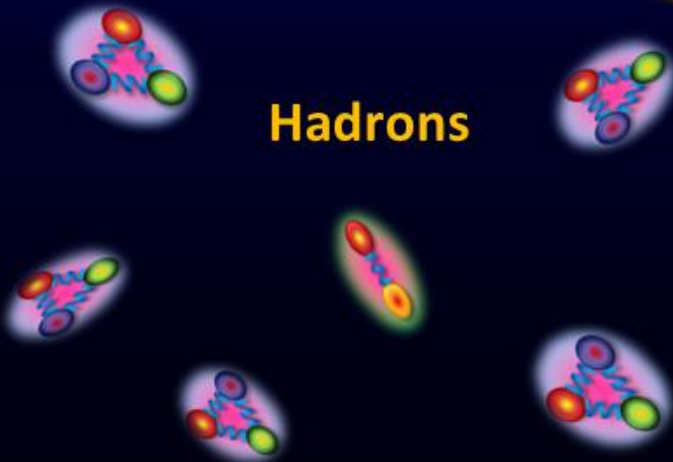
1st Order Phase Transition

Neutron Star Merger



Temperature

Hadrons



Atomic nuclei

Neutron Star

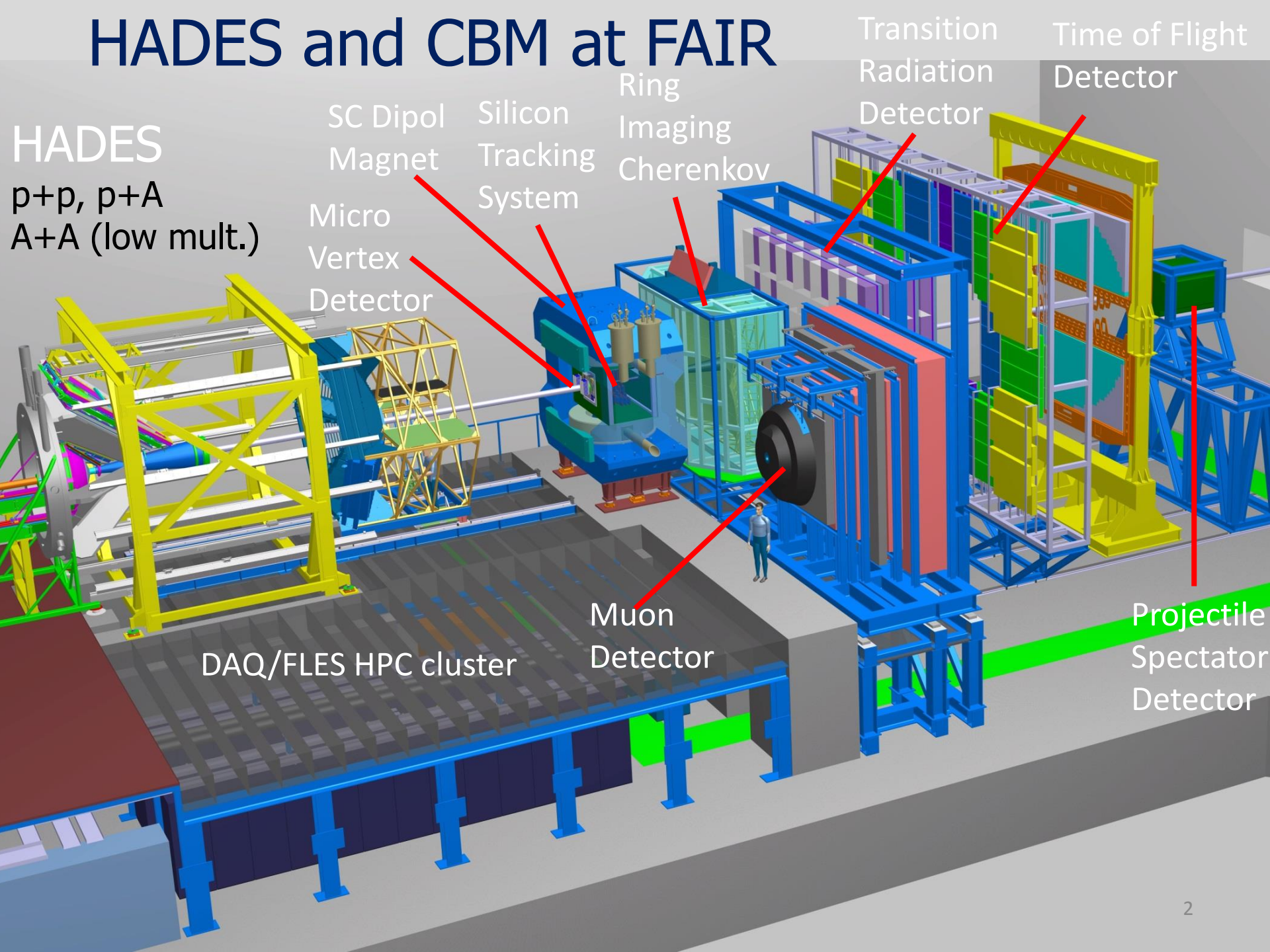


Net-Baryon Density

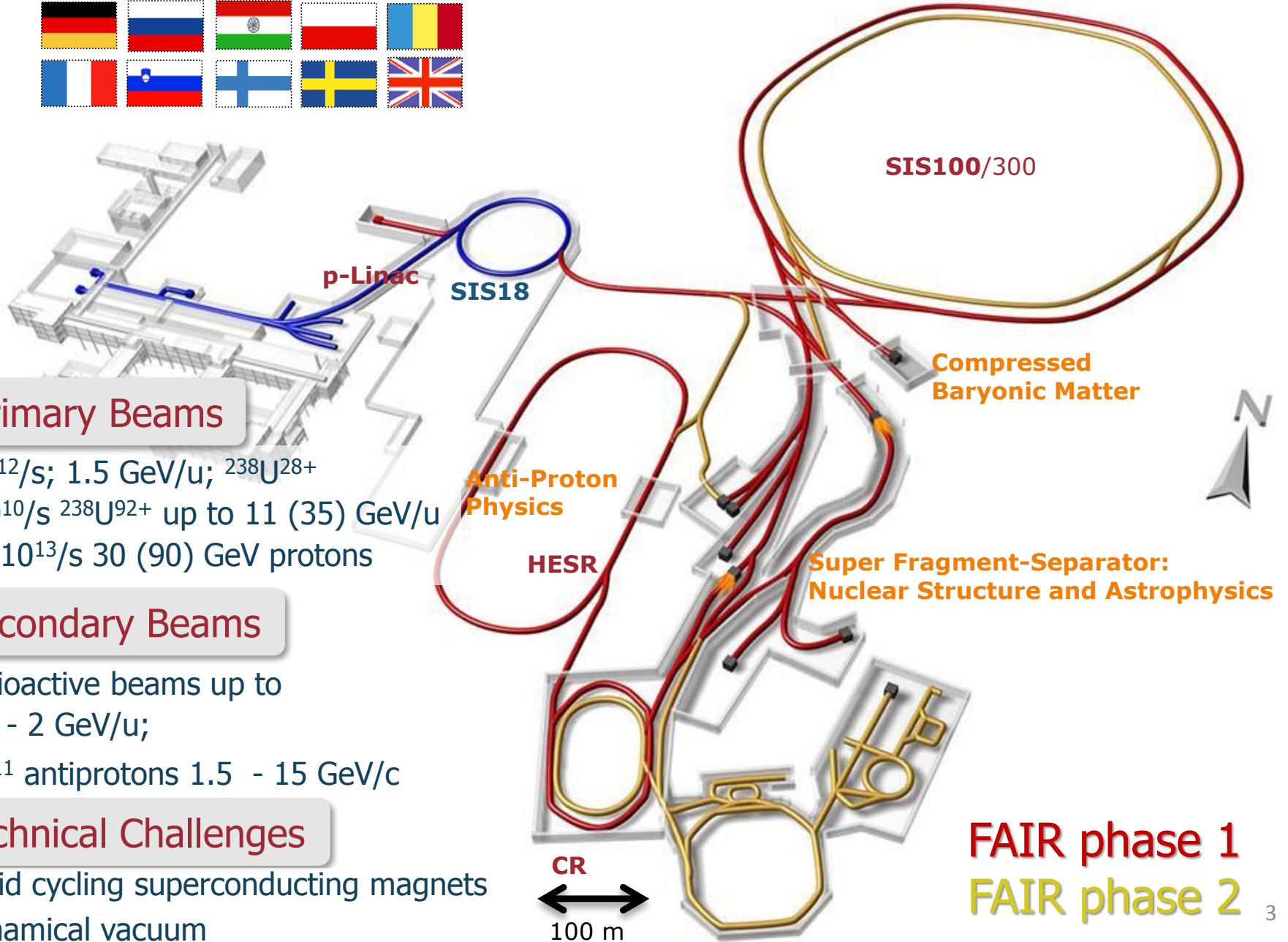
HADES and CBM at FAIR

HADES

p+p, p+A
A+A (low mult.)



Facility for Antiproton & Ion Research



Primary Beams

- $10^{12}/s$; 1.5 GeV/u; $^{238}\text{U}^{28+}$
- $10^{10}/s$ $^{238}\text{U}^{92+}$ up to 11 (35) GeV/u
- $3 \times 10^{13}/s$ 30 (90) GeV protons

Secondary Beams

- radioactive beams up to 1.5 - 2 GeV/u;
- 10^{11} antiprotons 1.5 - 15 GeV/c

Technical Challenges

- rapid cycling superconducting magnets
- dynamical vacuum

FAIR phase 1
FAIR phase 2

FAIR Project Status 2018



- Successful restart in 2015 and 2016
- Start of excavation and trench sheeting in July 2017
- Civil construction Area North, i.e. SIS-100 tunnel plus adjacent buildings including the CBM building, has been awarded on January 29th 2018.
- Shell construction will start mid 2018.
- Completion of all buildings by 2022
- Full integrated planning for construction and commissioning of the entire project: Completion of the full FAIR facility by 2025.



Ground breaking - 4 July 2017



Excavation SIS100 tunnel - Nov 2017

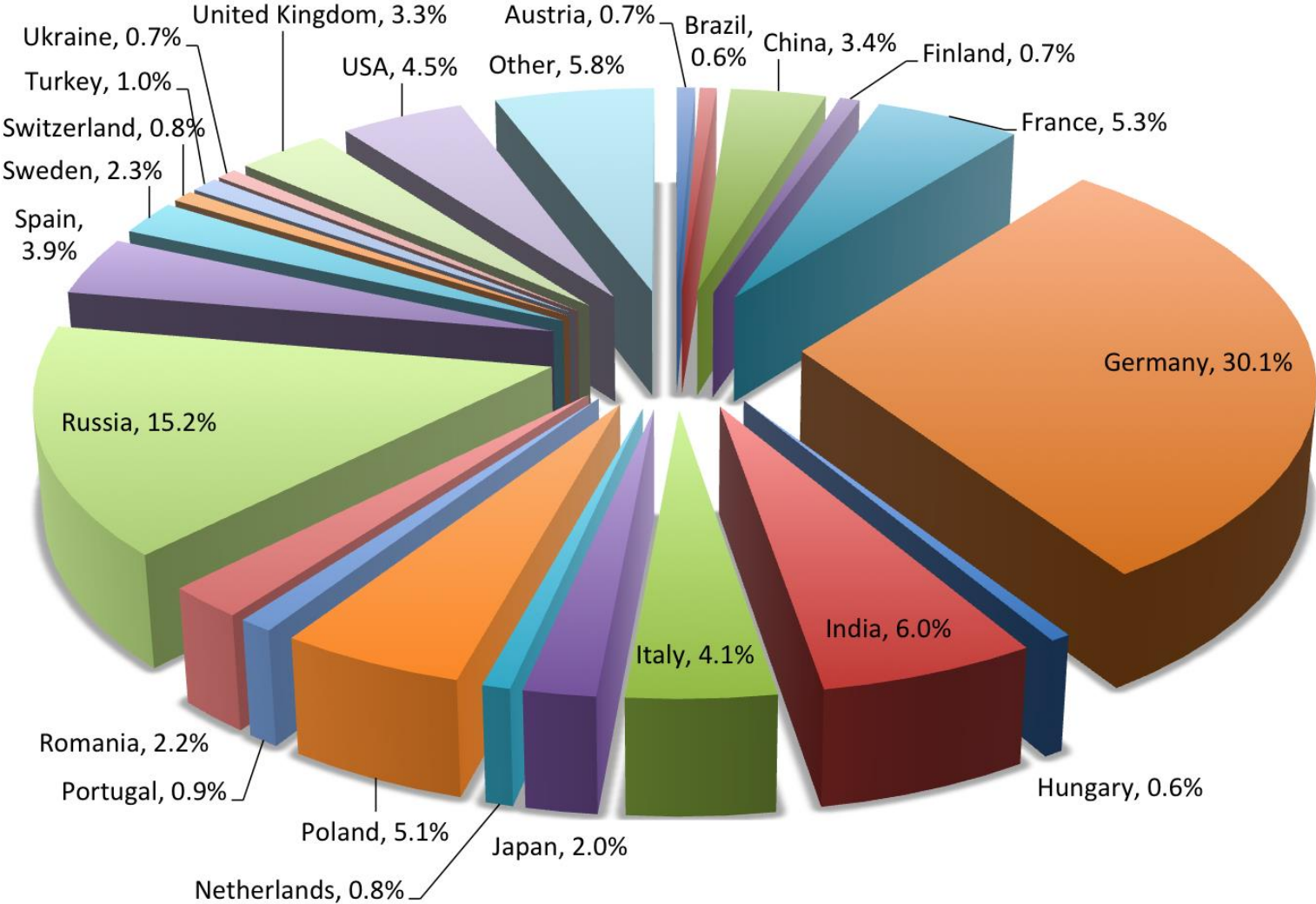
FAIR Project Status 2018



Excavation 1st section of SIS 100

January 2018

Collaboration Members by Country



shareholder:

