THE ITER PROJECT

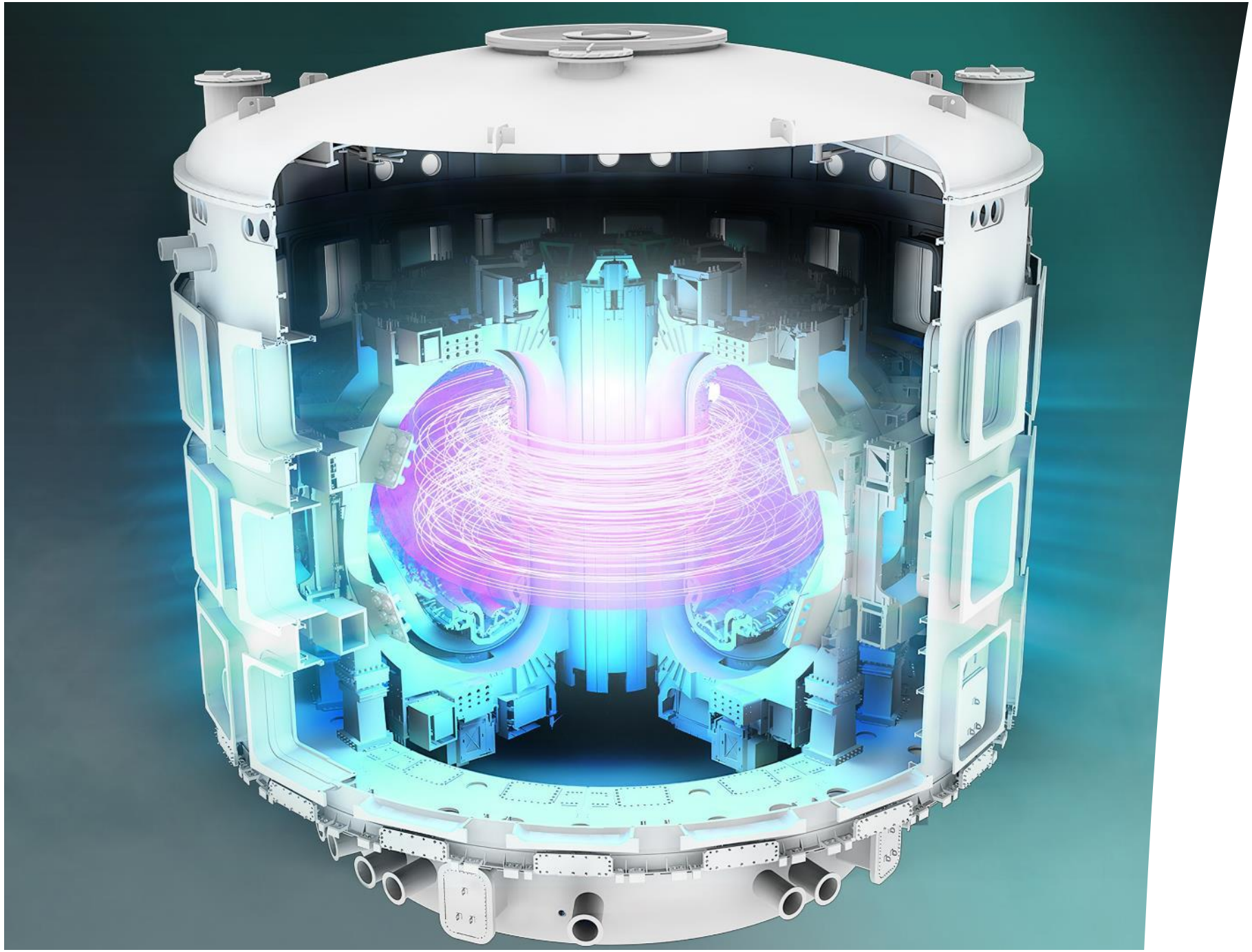
A unique global collaboration

Delong LUO, Deputy Director General, Corporate

15 April 2024

iter

china eu india japan korea russia usa



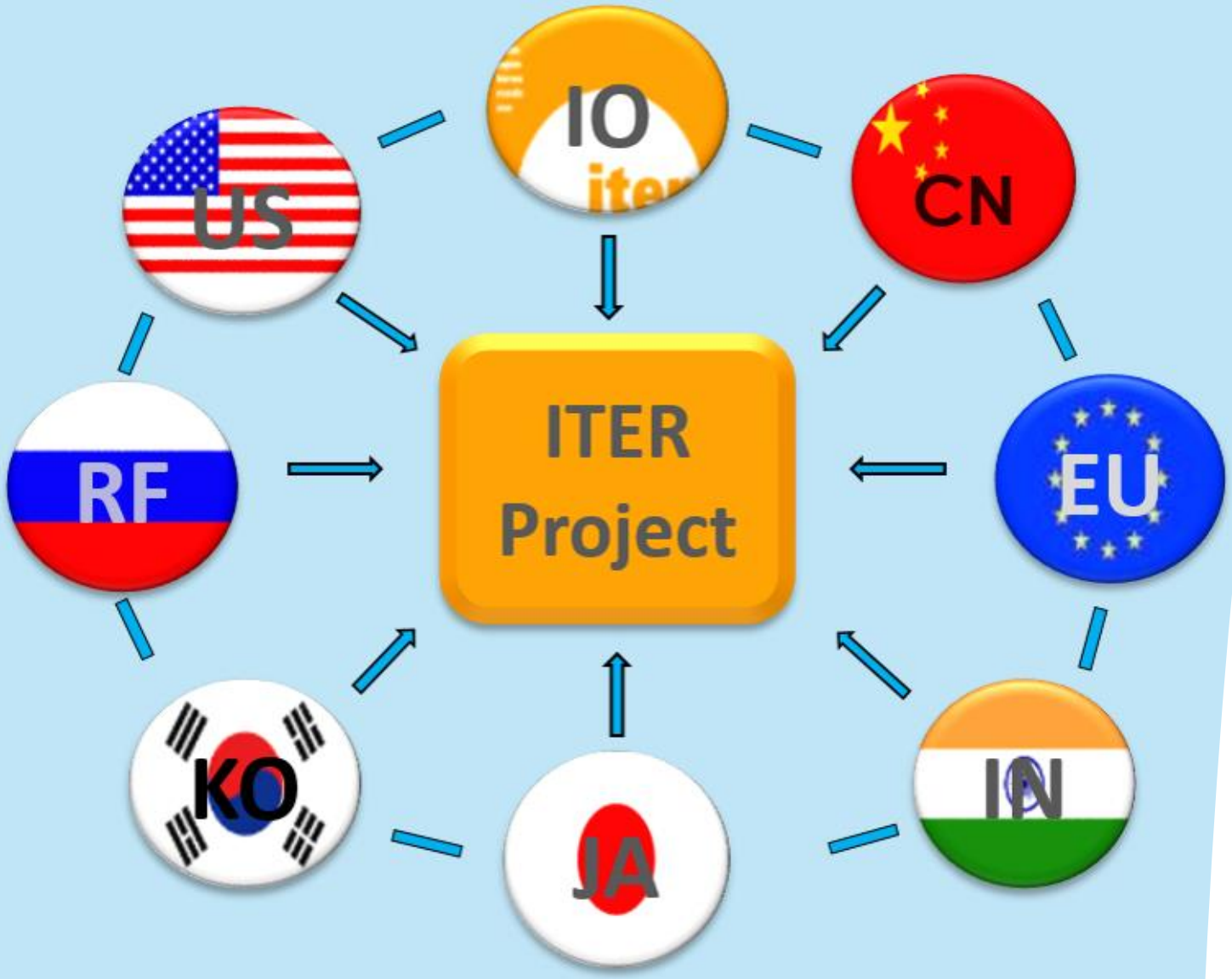
ITER'S MISSION

Demonstrate the scientific and technological feasibility of fusion energy

Burning plasma

$Q \geq 10$

To demonstrate the safety characteristics of a fusion plant



AN INTEGRATED PROJECT

ITER Organization and Domestic Agencies

- Members contribute “in-kind” (80-90%)
- Domestic Agencies procure these in-kind contributions
- Europe, as host, contributes ~45%
- Non-EU members contribute ~9% each

50% of the world’s population

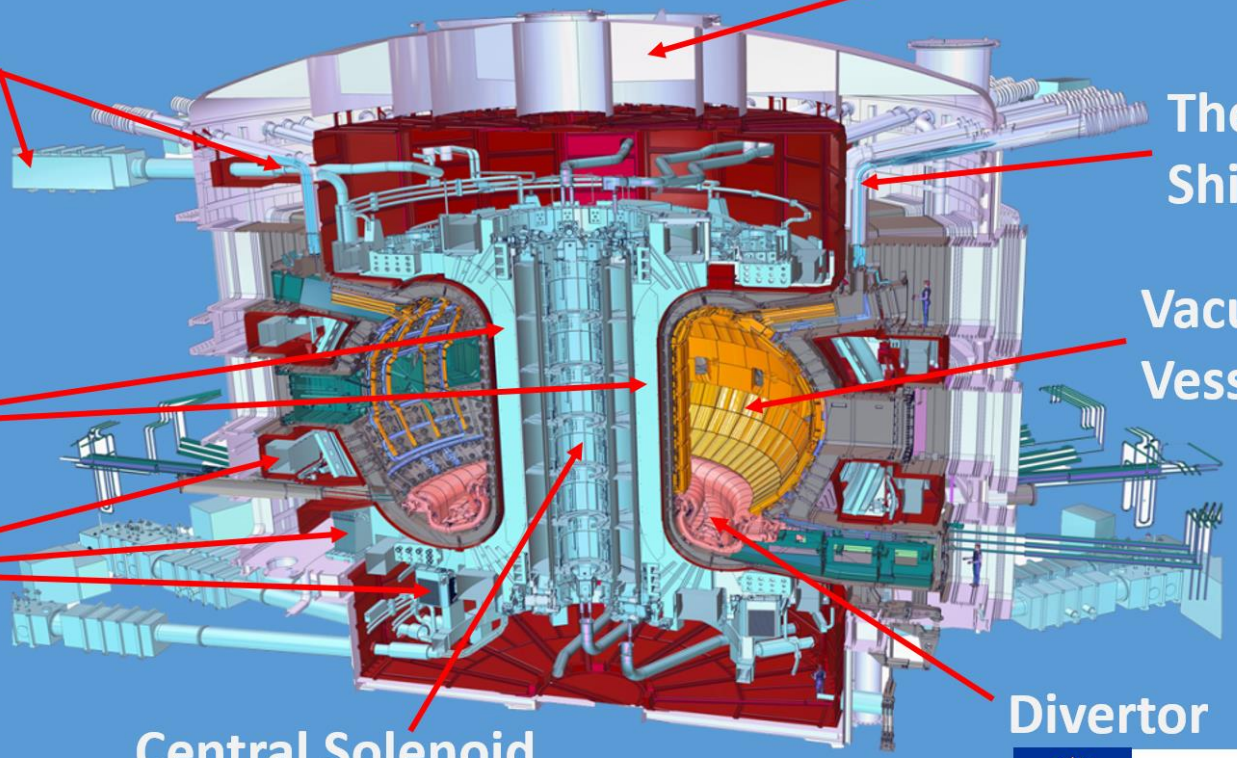
80% of the world’s industrial potential

WORKSITE CONSTRUCTION

Aerial perspective, September 2023

- Most plant support systems are operational or in commissioning.
- Civil works are 80% completed.

SIMPLIFIED OVERVIEW



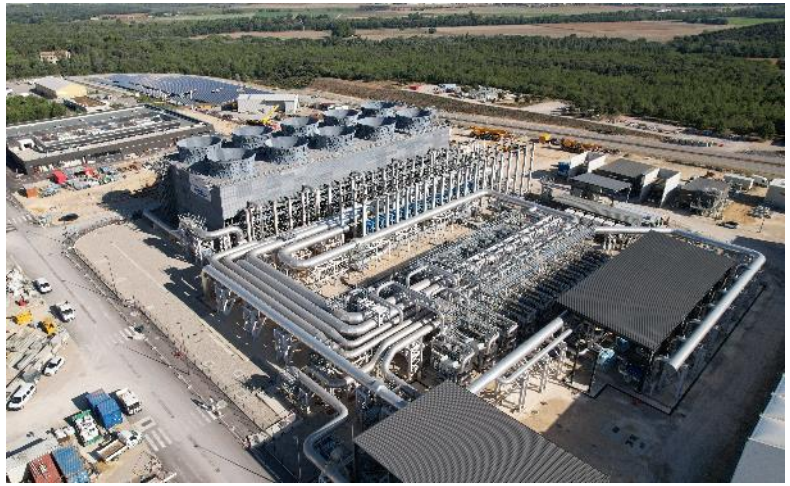
WHO MANUFACTURES WHAT?

The ITER Tokamak is comprised of more than 1 million components. This shows a simplified breakdown of ITER Member contributions.

ITER Members share all intellectual property.

ONSITE PROGRESS IN CONSTRUCTION & INSTALLATION

Reactive power compensation equipment largely installed



Cooling water system fully installed and commissioned

Magnet power conversion equipment largely installed

Cryogenics plant: installation is complete, pre-commissioning underway

TOROIDAL FIELD COILS

- 18 coils
- 41 gigajoules
- 11.8 Tesla

Each coil:

- 360 tonnes
- 9 x 17 metres

Status:

Manufacturing of all 19 coils completed. All coils have been delivered to the ITER site.

MANUFACTURING AND DELIVERIES CONTINUING

Fourth Central Solenoid module delivered from USA

More feeder components delivered from China

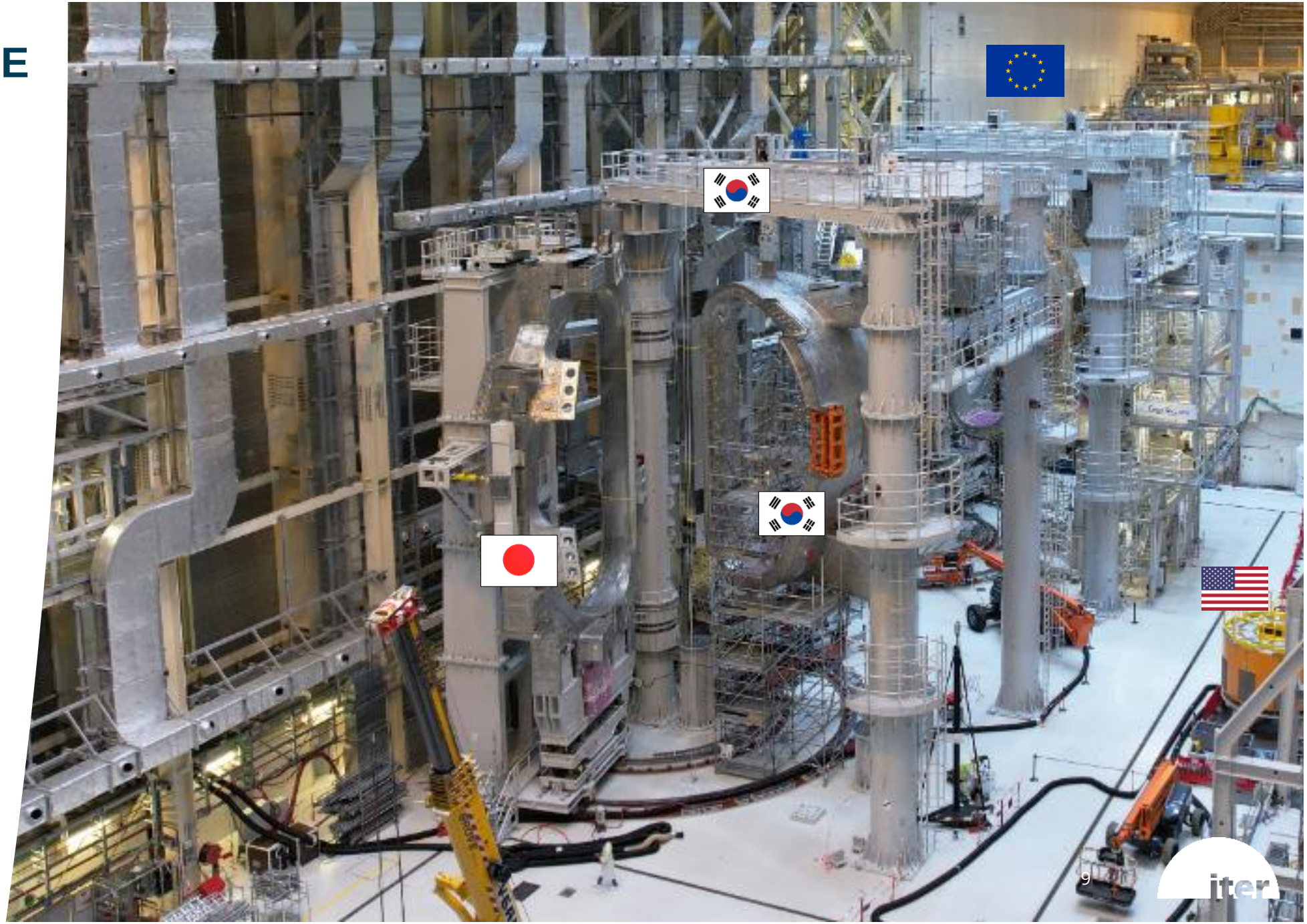
Cryostat lid completed by India and in storage

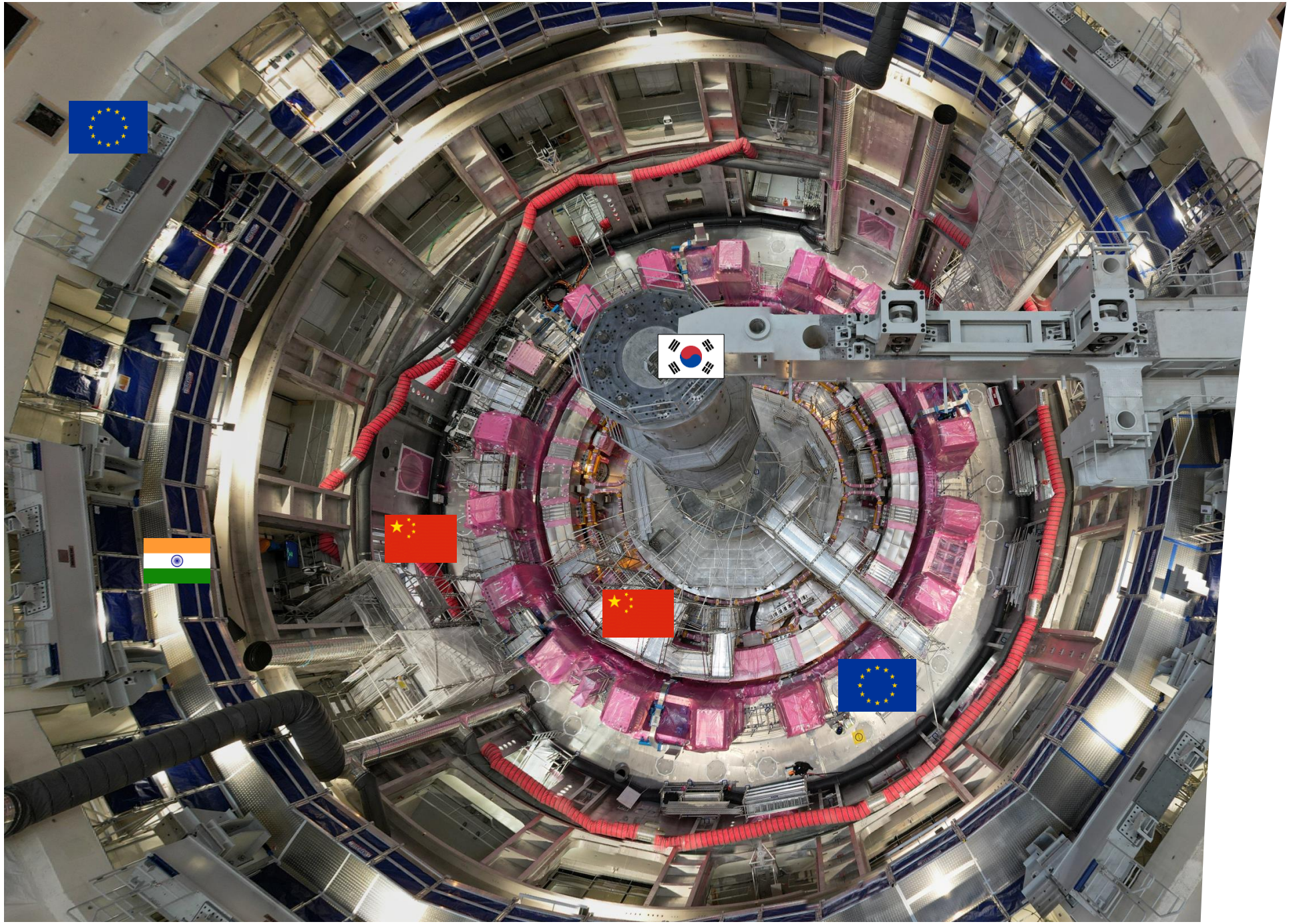
Poloidal Field Coil #1 delivered from Russia

ASSEMBLING THE MACHINE:

ITER Assembly Hall

September 2023





TOKAMAK PIT: *top-down view*

September 2023

DIVERSITY, EQUITY, AND INCLUSION

Three interconnected values to engage and enable different groups of individuals.

- We strongly believe that a diversified, equitable, and inclusive workplace is crucial to ITER's success.
- The most innovative team is diversified & inclusive.

[Pictured: Women in Fusion event, Fusion Energy Conference, October 2023]

Thank you!

ITER Open Doors Day
June 2023

iter
china eu india japan korea russia usa

Thank you!

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PUBLIC-PRIVATE WORKSHOP

27-29 May 2024, @ ITER site

- First two days: formal program

  Private fusion presentations:

  - What innovations and breakthroughs have you achieved?
  - What are the remaining hurdles to bring your fusion approach to reality?
  - How can ITER help?

  Poster session with discussion

  ITER site tours: general and specialized

- Day 3: ITER experts open doors for discussion

ITER Goal: to establish priorities and formulate plans for how to engage with private sector fusion companies going forward