



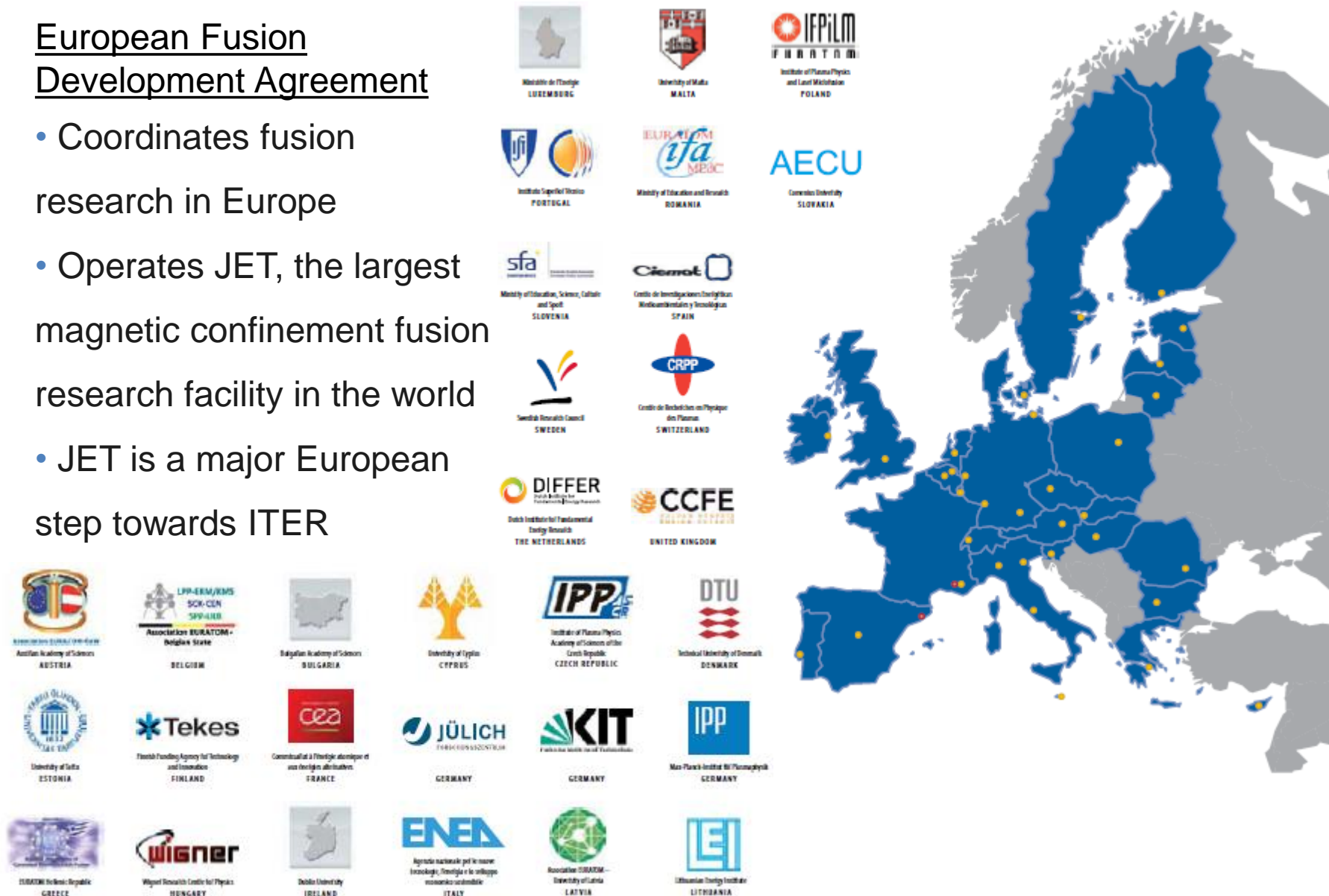
Lifecycle of diagnostic enhancement projects at JET-EFDA

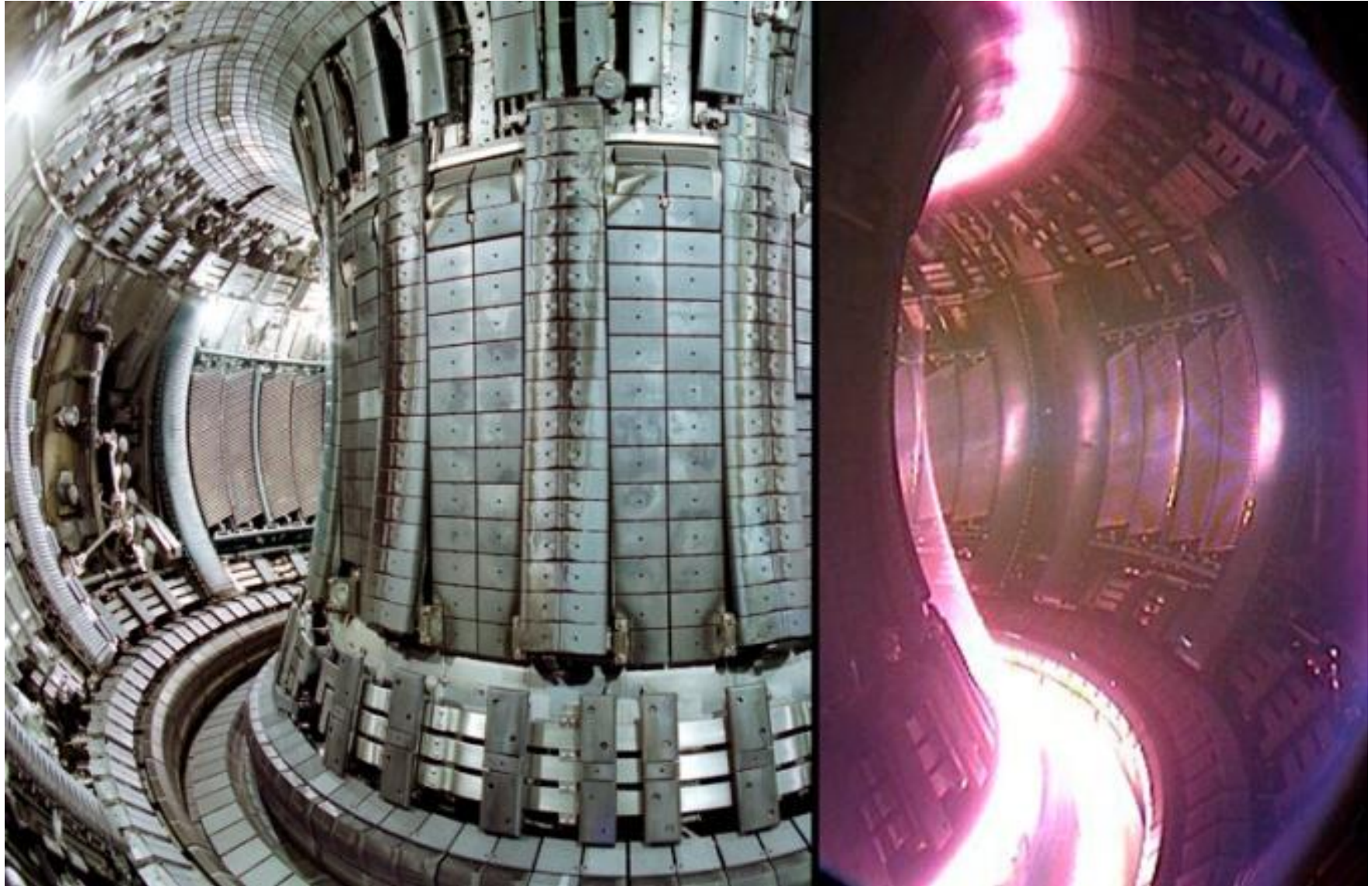
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European Fusion Development Agreement

- Coordinates fusion research in Europe
- Operates JET, the largest magnetic confinement fusion research facility in the world
- JET is a major European step towards ITER





JET is the machine closest to ITER in terms of size, its tritium capability and its use of ITER first wall materials makes it the focus of the European programme on tokamak physics

- Feasibility Studies
- Implementation Projects
- Installation of new system or refurbishments/upgrades of existing ones.
- Scope: To maximize scientific exploitation of JET in accordance with programmatic strategy
- Projects do be pursued defined in annual work plans
- Research Units – European pool of national research effort and know-how
- Operator
- Constraints: Budget, time, manpower

- Research Units make proposals in response to a call for participation
- Two possible categories for replies: proposed project leaders or proposed resources for tasks within the project
- Decision on project leadership and coordination of effort offered by Research Units.
- Assessment and analysis of technical and cost implications, and the boundaries of responsibilities between Operator and the interested Research Units
- The Project Leader and participating Research units , in agreement with the Operator, produce a Project Management Plan (PMP). This document defines the scope of the project, the responsibilities of the Operator and the resources required. These are agreed in a Task Agreement with the Research Units involved
- Any formal changes to the PMP need to be approved by the Project Board and may result in a new Task Agreement depending on the scope of change.

1. Revision History
2. Introduction
3. Scientific Background, Project Goals, Technical Objectives
4. Technical Description of the Project (Details)
5. Project Scope
6. Organisation and Management Scheme (roles & responsibilities)
7. List of Milestones and Deliverables (incl. description)
8. Resources and Breakdown of Tasks
 - (a) Breakdown of Cost (overview; summary)
 - (b) Work Breakdown Structure
 - (c) Procurement policy: Breakdown by Funding and Details
9. Time plan
10. Boundaries and Interfaces of the Project
11. Risk Management

- Prototyping
- Design
- Calculations/Simulations
- Procurement/Development
- Characterization
- Installation
- Integration
- Software development
- Analysis tools
- Commissioning
- Conceptual, schematic and detailed design reviews
- Project Progress Meetings
- Enhancement Management Meetings
- Project Boards

- Data Validation Committee Meeting – Approves changes to data structure
- Deliverables – Received and Accepted
- Final Project Board
- Drawings
- Quality Documentation Complete
- Chief Engineer
- Category of Support after Handover
 - Routine operation: Operator ensures data flow and archiving
 - Full operation: Operator provides calibrated data with basic validation and on request standard analysis.
 - Full exploitation: Operator assumes full responsibility for data and its interpretation
- Memorandum of Understanding: Defines closure tasks, warranty and maintenance

- Choice of Project Leader and Private Companies where contracts are placed
- Clear responsibilities between stakeholders
- Early involvement of Operator (eg. Control and Data Acquisition)
- Technical vs. Scientific Development
- Build community for scientific exploitation (simulation, analysis tools)
- Long term support/strategy (DT Operations)

- The European Commission proposal for the EURATOM programme in Horizon 2020 states the need for “an ambitious yet realistic roadmap to fusion electricity by 2050”
- In Horizon 2020 EURATOM will manage its fusion research activities awarding a grant to a consortium of national laboratories
- Resources are being distributed in accordance with participation to the mission-oriented Work Packages outlined in the Consortium Work Plan 2014-2018 for the implementation of the Fusion Roadmap.
- Project Management practices successfully used by the Diagnostics Group are now being implemented across the European Fusion Programme

Thank you for your attention

Questions?