Overview of ITER Project
-organizational structure,
-plans of construction and research -

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The overall programmatic objective:

• To demonstrate the scientific and technological feasibility of fusion power for peaceful purposes.

The driving force of ITER in Fusion Power Development:

• The necessity of developing new source of energies to solve the environmental problems and energy crisis, arising especially in rapidly developing countries, such as China, India.

• Maturity and credibility of fusion research ready to step to energy development programme worldly recognized among the policy makers.
• Worldwide collaboration since 1988
  • Soviet Union, USA, Japan, European Union
• Conceptual design completed in 1991
• Detailed engineering design finalised in 2001
• Negotiations among the Parties just completed
  • China, Korea join in 2003
  • USA rejoins in 2003, having left in 1999.
  • Selection of Cadarache, France, as the construction site in June 2005.
• India joined Dec. 2005
• Agreement initialled May 24 2006.
• Signature ~November 2006
• Ratification to be completed in 2007.
ITER an international project
ITER Construction
Staff of the ITER Organization

• Construction Phase
  – Professionals ~200 (direct employer, secondees)
  – Technical Support Staff ~300
• Operation Phase
  – Professionals ~200 (direct employer, secondees)
  – Technical Support Staff ~400

• Employment Term: 5 years /renewable

• Appointed on the basis of qualifications /nationalities
  – in proportion to the contributions of the Parties.

• Visiting Researchers will constitute substantial part of the ITER Research Team during the Operation Phase
General Principles of ITER Operation
-common understanding-

- ITER’s objective will be pursued through a common international research program developed and executed with participation of the best research personnel from all Parties.

- Each party should be able to have broad scientific and technical participation in the common ITER Program to promote intellectual diversity and innovation.

- Each party should be able to participate in accordance with its relative contributions.
Worldwide Experimentation on ITER

Efficient Use of ITER
Involvement of Worldwide Community
Promotion of Scientific Competition

ITER Site

- ITER
- OP. Permit
- Exp. Center 1

ITER Remote Experimental Site

- Test Module
- Exp. Condition
- Data

- Blanket Lab
- Data Centre
- Material Lab

- University
- Lab
- Home
Possible Participations to ITER during the Construction Phase

1. Direct Participation to ITER construction
   - As a member of IO, as a member of DA
   - Fabrication of the component, improvement of the fabrication technology
   - R&D of Heating System, Diagnostic Systems at university and research institutions
   - Development of ITER Plasma Control System (hardware/software)

2. Preparation/Planning of the ITER Operation, Experiments
   1. Development of Plasma Simulator
   2. Development of advanced diagnostics and heating systems
   3. Development of Operation/Research Plans

3. Basic Research in support of ITER
   - Experimental and Theoretical Plasma Research
   - R&D activities towards the Power Demonstration Reactor
Conclusions

• Negotiations on agreements have finally finished, and the activities towards the construction are starting now under the new management scheme.
• A new construction team must be rapidly build up at Cadarache Site by relocating IT members and recruiting new members.
• In terms of the scale of project and required resources, complexity, ITER is an unprecedented international project with enormous challenges.
• The mission of ITER is of paramount importance.
• Participation of young and ambitious people is sought after.
Further information

The ITER web site:
www.iter.org

This presentation:
www.iter.org/presentations/Ikeda/EPS.ppt