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What is Fusion?

Technology

Merits

Fusion in Culture

**ITER**

Our contribution

The ITER device

Broader Approach

DEMO

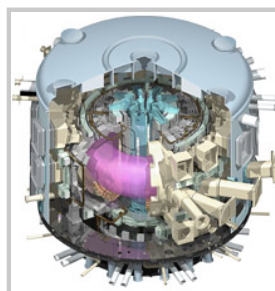
Glossary of Terms

**ITER**



ITER artistic impression (Courtesy: ITER Organization)

ITER, meaning "the way" in Latin, is a major international experiment with the aim of demonstrating the scientific and technical feasibility of fusion as an energy source. It will be 30 times more powerful than the Joint European Torus (JET) which is currently the largest comparable experiment operating in the world. **ITER aims to produce a significant amount of fusion power (500MW) for about 7 minutes or 300MW for 50 minutes.** ITER will allow scientists and engineers to develop the knowledge and technologies needed to proceed to a next phase of electricity production through fusion power stations.



A cut-away view of the ITER tokamak, revealing the doughnut-shaped plasma inside of the vacuum vessel.



The signing of the ITER Agreement on 21 November 2006 at the Élysée Palace, in Paris.

The idea of ITER as an international experiment was first proposed in 1985 and started as collaboration between the former Soviet Union, the United States, the European Union and Japan under the auspices of the International Atomic Energy Agency (IAEA). Premier Gorbachev, following discussions with President Mitterand of France, proposed to President Reagan that an international project be set up to develop fusion energy for peaceful purposes. A collaboration between the Soviet Union, the United States, the European Union and Japan

**LINKS**

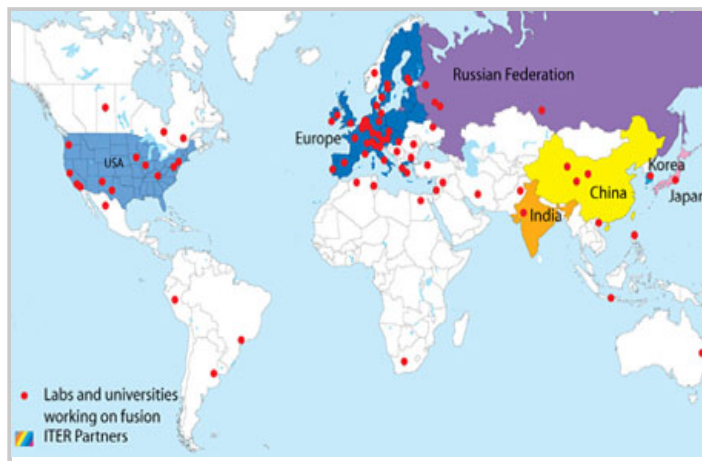
>ITER (IO)



## Fusion For Energy - Understanding Fusion - ITER

was fostered and a detailed design was agreed in 2001. On 24 October 2007, following ratification by all the parties, the ITER Agreement entered into force.

Today, the international consortium consists of the People's Republic of China, the European Union, Japan, India, the Republic of Korea, the Russian Federation and the United States. Together they represent over one half of the world's population and a diverse range of economies. By working together, the seven parties are committing themselves to a global response to a global challenge – assuring sustainable energy resources. By ensuring the best possible knowledge is put into ITER, it will be all the more likely that a viable energy source will emerge at the end of the project.



Countries participating in the ITER project (Courtesy: EFDA)

It is a very important step to bring together the most advanced nations in the world to co-operate in the development of a major potential new technology. The challenges of the ITER project require the best technological and scientific expertise, which can best be harnessed by pooling resources globally. The ITER Agreement is open for accession by or co-operation with other countries that have demonstrated a capacity for specific technologies and knowledge and are ready to contribute to the project.



An aerial view of the ITER construction site in Cadarache, France, June 2010. (Courtesy: Agence ITER France)

ITER is being constructed at Cadarache in the South of France. Europe, as the host party, and France, as the host state, has special responsibilities for the success of the project. In particular, Europe supports 45% of the construction cost and 34% of the cost of operation, deactivation and decommissioning of the facility as well as preparing the site. Europe's contribution to ITER is managed by F4E.

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