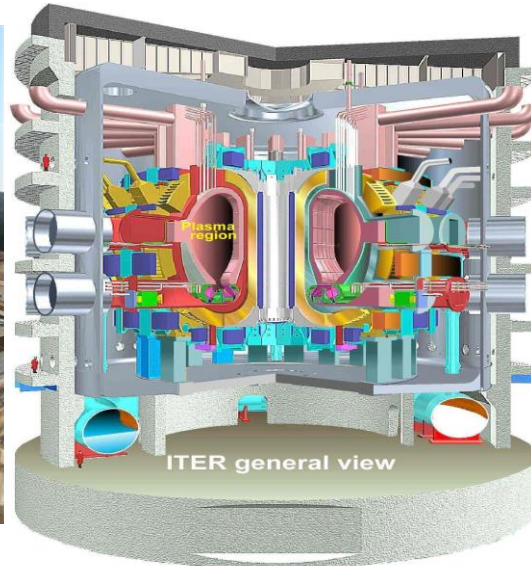




Mission of ITER and Challenges for the Young



2008 ITER International Summer School
Kyushu University, 22 July 2008

Kaname Ikeda
Director-General of the ITER Organization

ITER Technical Objectives and Implementation

- Engineering Design of ITER:

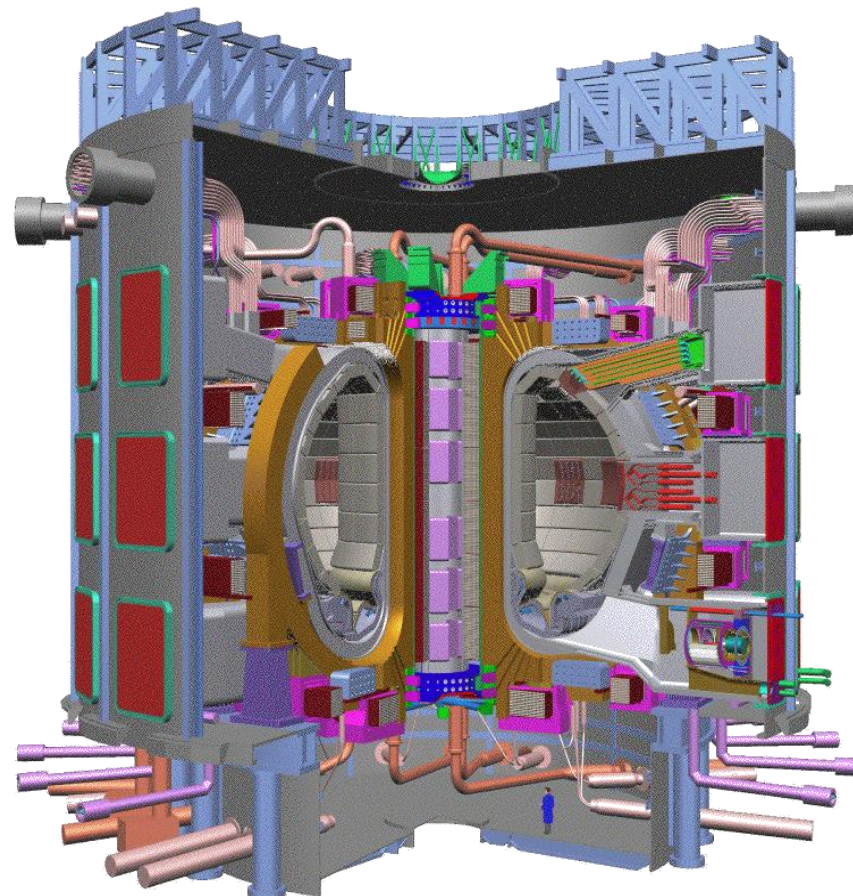
Main Parameters of ITER

Total fusion power	500 MW
Additional heating power	50 MW
Q - fusion power/ additional heating power	≥ 10
Average 14MeV neutron wall loading	$\geq 0.5 \text{ MW/m}^2$
Plasma inductive burn time	300-500 s *
Plasma major radius (R)	6.2 m
Plasma minor radius (a)	2.0 m
Plasma current (I_p)	15 MA
Toroidal field at 6.2 m radius (B_T)	5.3 T

* under nominal operating conditions

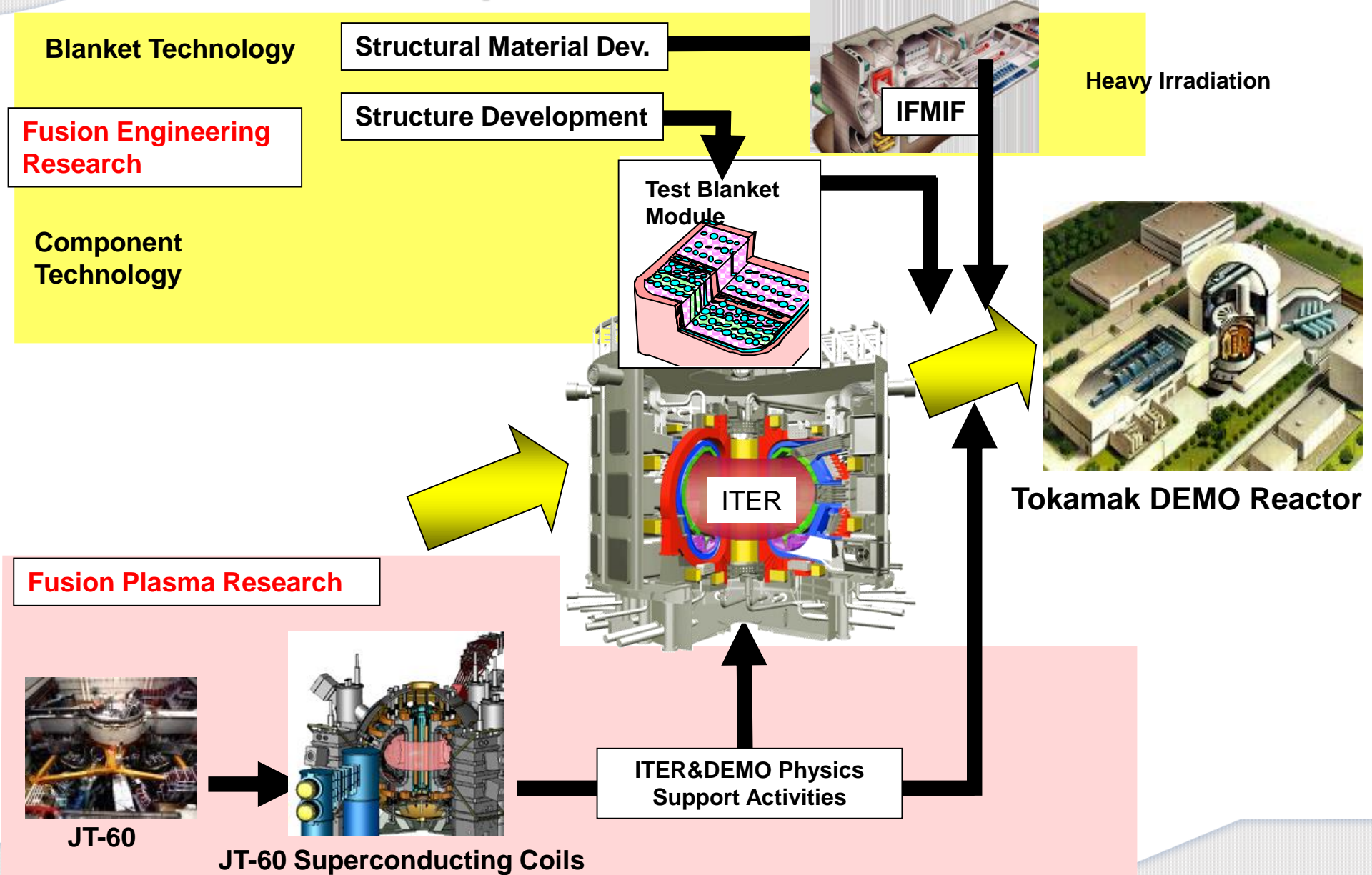
The Costs: 5 billion € for ten years of construction and 5 billion € for 20 years of operation and decommissioning

The execution: ~90% of the contributions are in kind





The Present and the Future Road Map to Fusion: The DEMO Reactor





The Way to Fusion Power – The ITER History

“For the benefit of mankind”

The idea for ITER originated from the Geneva Superpower Summit in 1985 where Presidents Gorbachev and Reagan proposed international effort to develop fusion energy...

...“as an inexhaustible source of energy for the benefit of mankind”.



November 21, 2006
in Paris :

China, Europe,
India, Japan, Korea,
Russian Federation
and the United
States of America
sign the ITER
Agreement.



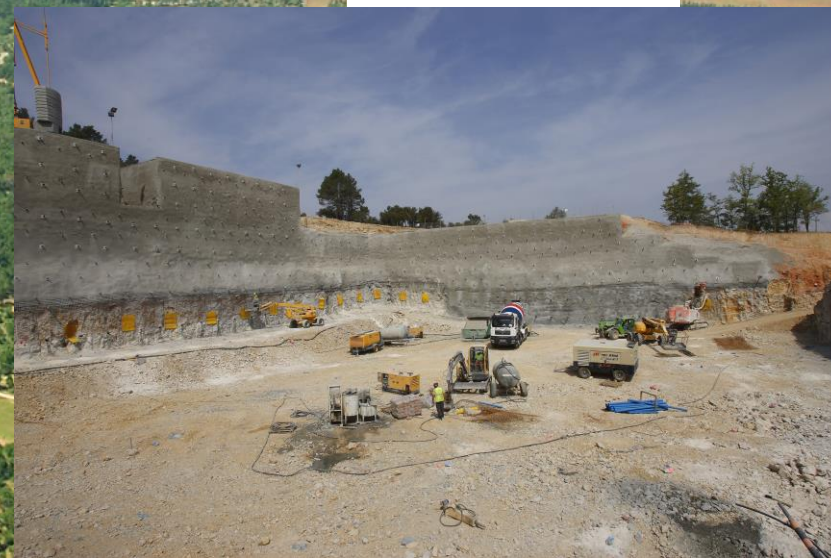
ITER Site in Cadarache, Southern France



Future ITER Site



Current ITER Site

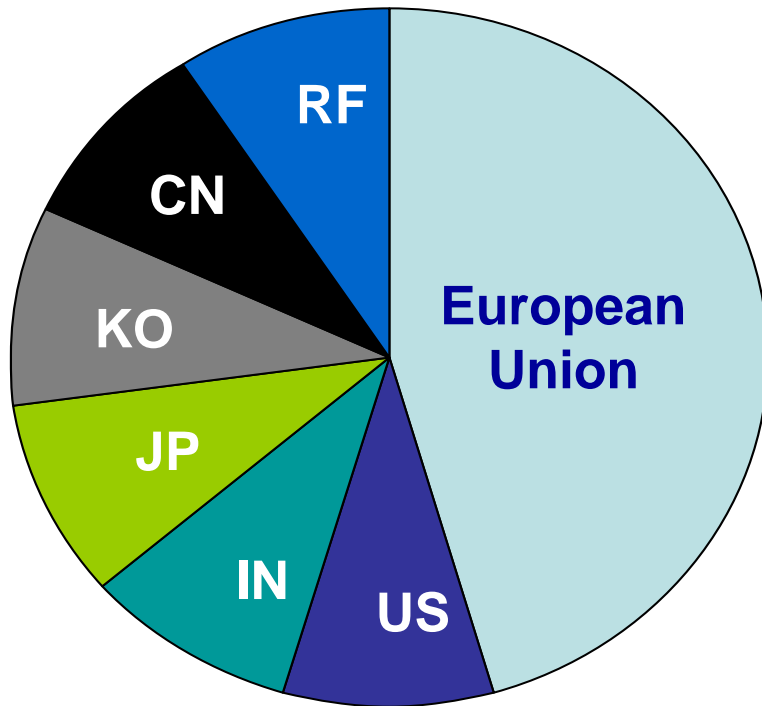




10-year Construction Sharing

Overall sharing:

EU 5/11, other six parties 1/11 each. Overall contingency of 10% of total. Total amount: 3578 kIUA (ITER Units of Account)



Total procurement value : 3021

Staff: 477

R&D: 80

Total kIUA: 3,578

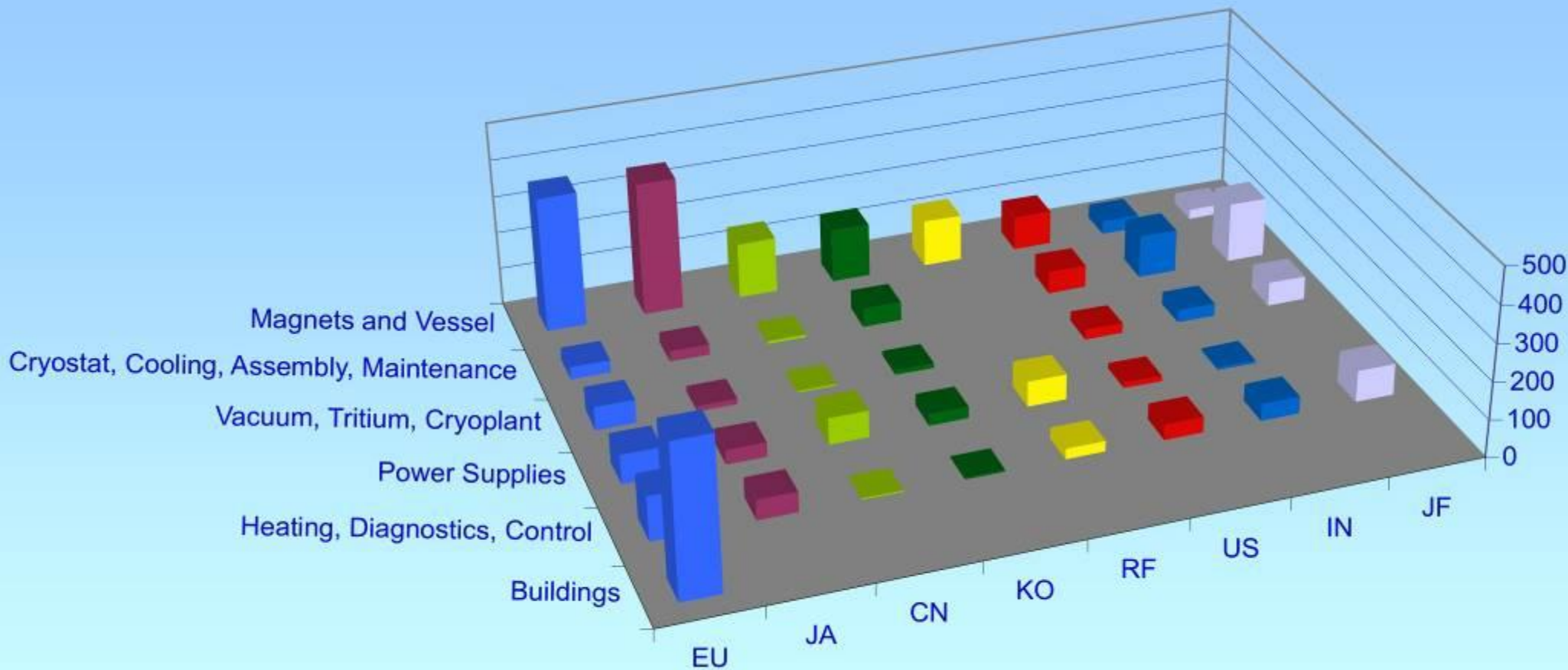
(more than 5,000 million Euro in 2008)

Contribution of local communities in PACA Region : € 467 M



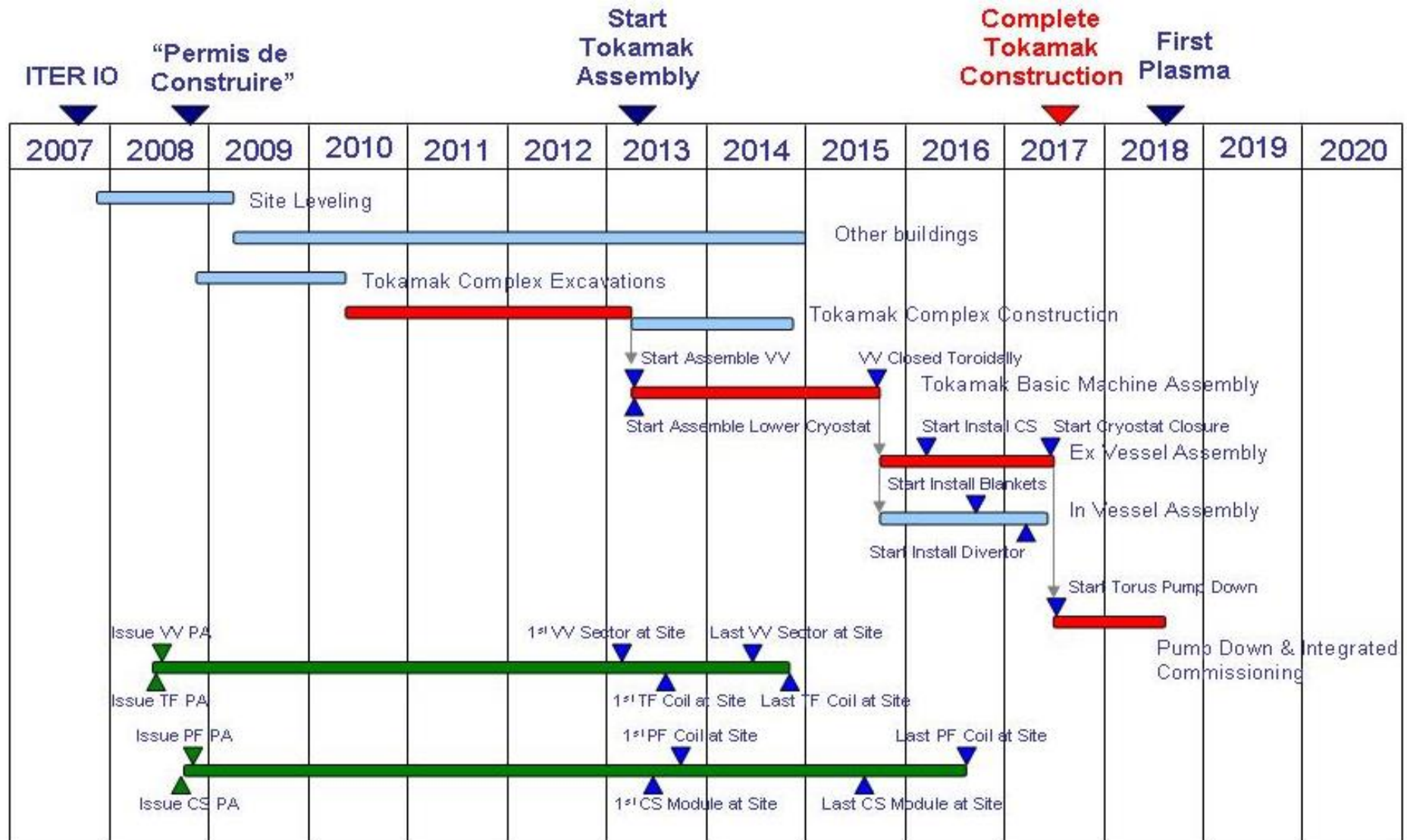
Procurement Sharing

A unique feature of ITER is that almost all of the machine will be constructed through *in kind* procurement from the Parties





Resulting Reference IPS





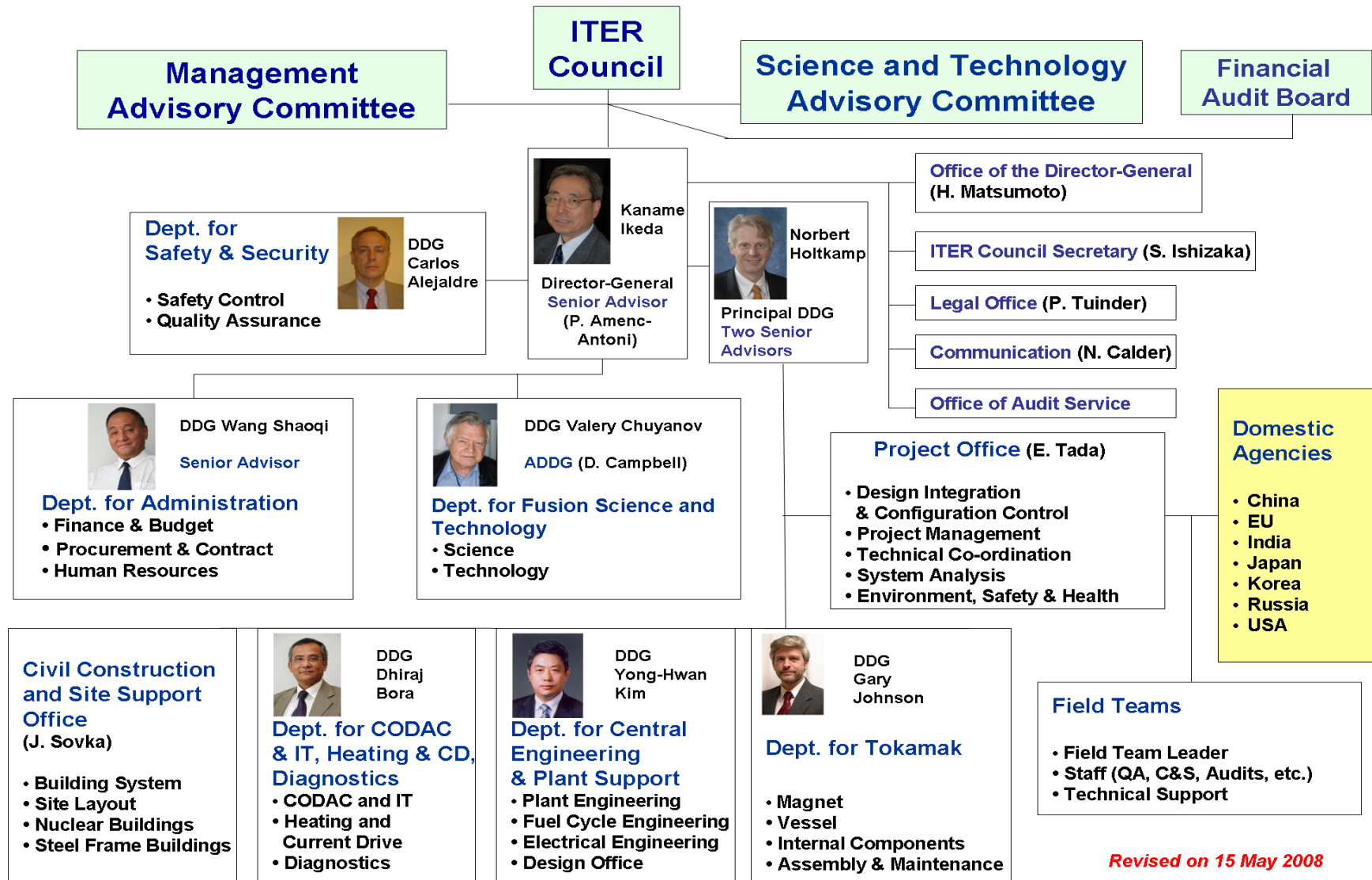
Itinerary of ITER Components

 = Itinerary of ITER Components





ITER Organization



Revised on 15 May 2008



Milestones in 2007



On 24 October 2007, upon entry into force of the ITER Agreement, the ITER Organization was formally established



On 27 November 2007 the first ITER Council convened in Cadarache



The Headquarters Agreement between France and the ITER Organization was signed on 7 November 2007 and ratified on 13 February 2008



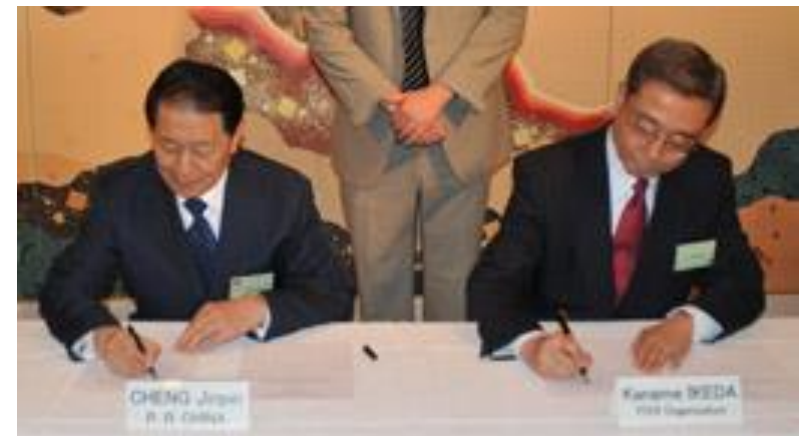
Recent Highlights

The second meeting of ITER Council was held on June 17-18, in Aomori, Japan



DG Ikeda at the welcome reception of IC-2

The IO and China signed the TF Conductor Procurement Arrangement on June 16 in Aomori





The ITER Team in Cadarache



**Cutting the ribbon on
15 December 2005...**

**... and the ITER team
in February 2006**



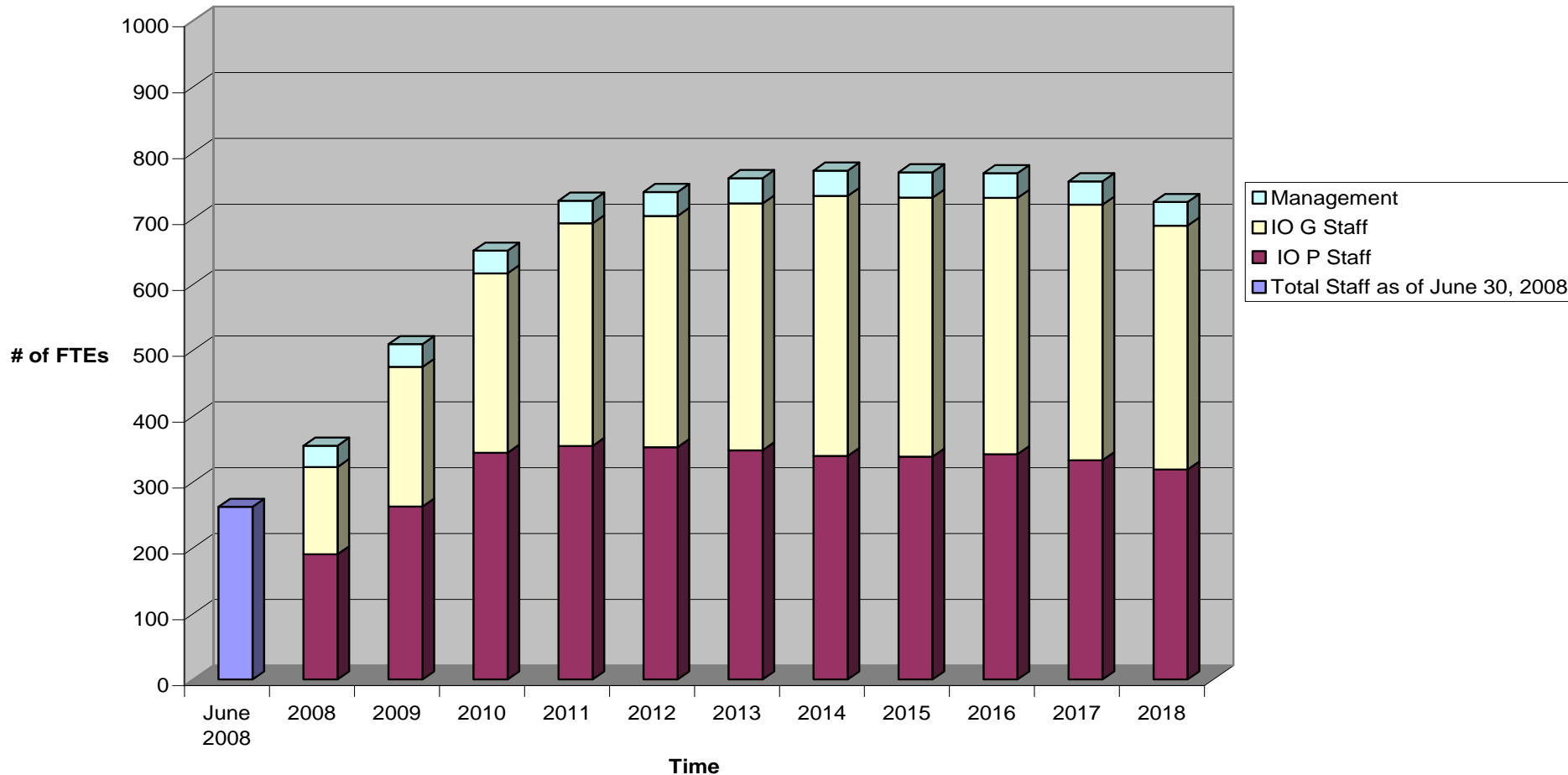
The ITER Team 8 February 2008





Long-Term Manpower Resource Estimates (currently under review)

ITER IO Staffing Profile - Grade

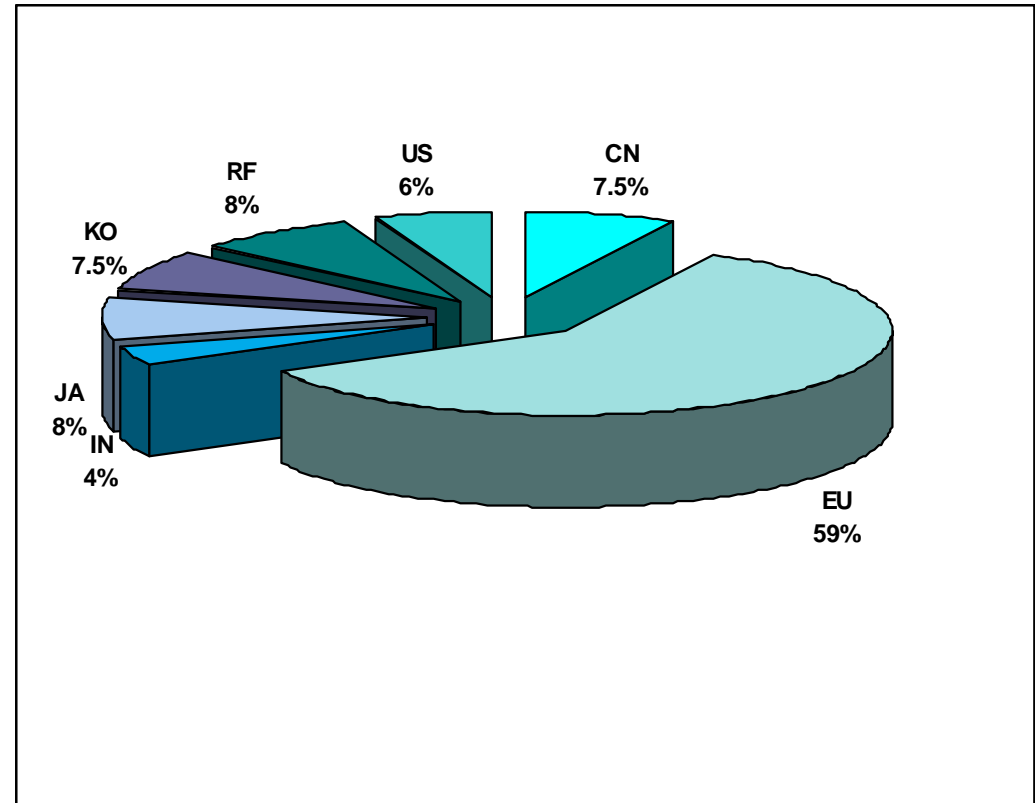




ITER Team Status

(As of June 30, 2008)

- As of 30 June 2008, the IO has a total of 261 staff, including 202 professionals & 59 support staff
- Professional staff by Members as of 30th June 2008:
Total = 202; EU 120; IN 8; JA 16; CN 15; KO 15; RF 16; US 12
- Total of 24 nationalities





Infrastructure & Office Buildings



JWS-1: Building 519



Extension-1



Extension-2



JWS-2



Future Annex Office Building

Site Preparation & Construction Permit

- The main platform-levelling work already commenced on the ITER site.
- Preparations for the construction of the PF coil winding building are under way.
- The 2007 critical path design activities for civil, mechanical and electrical engineering were finished.
- The building construction permit was granted in April.



(Pictures by courtesy of AIF)



External Relations

- On 16 January 2008, Partnership Arrangement between IO and Principality of Monaco was signed by DG and Mr. Jean-Paul Proust, Minister of State, in the presence of Prince Albert II. The donation of 5.5 million Euro for a ten-year period will be used to establish a program of 5 Post-doctoral fellowships and annual International ITER-related Conferences. The interviews for the fellowship posts started in July 2008.
- The Cooperation Agreement between IO and CERN was signed on March 6, 2008 in CERN. The Agreement will last for a five-year period and cover the fields of superconductors, magnets, cryogenics, control and data acquisition, complex civil engineering and administrative domains such as finance, purchasing and human resources, including software programmes.
- In May 2007, Kazakhstan officially expressed its intention to participate in ITER as a full Member. An exploratory visit to Kazakhstan headed by DG was organized last October. On 17-18 April, a delegation from Kazakhstan visited IO for informal discussions. The IC-2 approved the start of formal interactions with Kazakhstan.





The International School



- The International School was opened in September 2007 in Lycée des Iscles in Manosque.
- As of the end of April 2008, 121 children (55% ITER children) were attending the school. They are being taught in six languages by 32 teachers.
- Currently 6 language sections are open: Japanese, German, English, Chinese, Italian and Spanish: 50 % of the teaching is in French.

•The first phase of the new school building is planned to be finished in September 2009; the second phase is planned to be finished by September 2010.

•The second meeting of the International Advisory Council for the International School was held on April 22.





Colorful Life in the ITER Organization-1



The ITER Band



The ITER Bicycles



Picnic of The ITER Spouses



ITER gathering in the Center Court



Colorful Life in the ITER Organization-2



The First ITER Soccer Match



ITER Kayak-Raft Team



ITER Staff in local Marathon



Open day of International School

Provence Sceneries



Lavande



Manosque



Luberon



Cannes



Nice



Message for the Youngsters

- Although the present focus of the project is construction activities, ITER is also a major scientific and technological research programme, for which the best of world intellectual resources is needed.
- Challenges for the young, necessary for fulfilment of the objective of the ITER will be identified.
- It is important that young students and researchers in the world recognize the rapid development of the project, and the fundamental issue that must be overcome in ITER.



Thank you!

For more information about ITER, please visit:

www.iter.org