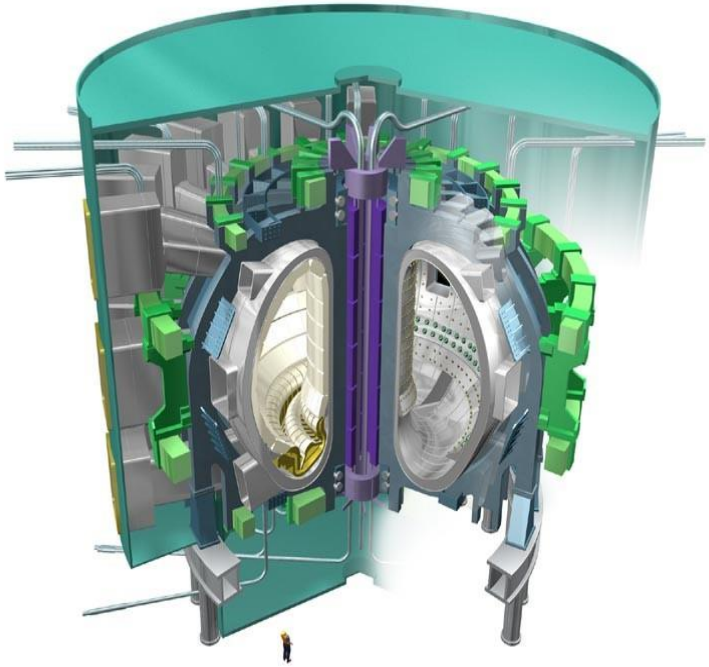
Working for ITER

2008 ITER Summer School

Sachiko Ishizaka
ITER Organization

ITER – the way to fusion power

- ITER (“the way” in Latin) is the essential next step in the development of fusion.
- Its’ objective: to demonstrate the scientific and technological feasibility of fusion power.
- The world’s biggest fusion energy research project, and one of the most challenging and innovative scientific projects in the world today.



The Way to Fusion Power – The ITER History

"*For the benefit of mankind* "

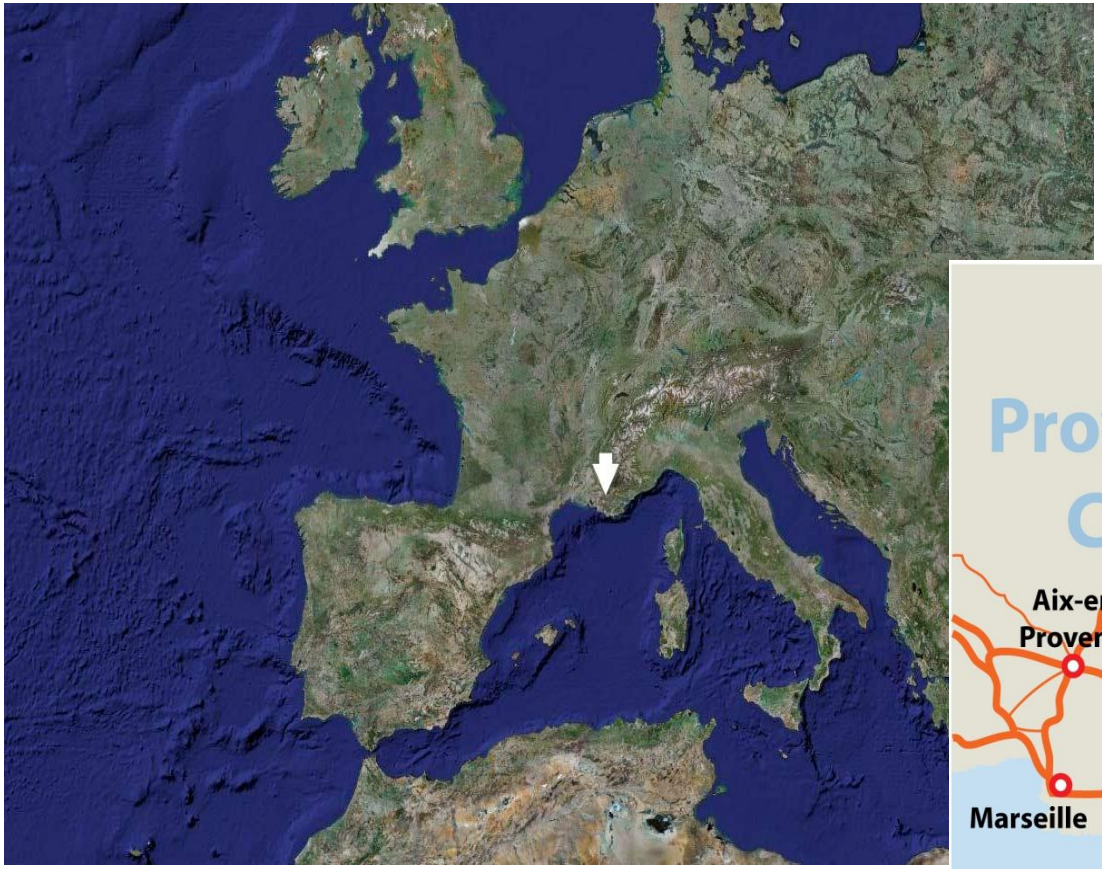
The idea for ITER originated from the Geneva Superpower Summit in 1985 where Gorbachev and Reagan proposed international effort to develop fusion energy…

…"*as an inexhaustible source of energy for the benefit of mankind*".

November 21, 2006:
China, Europe, India, Japan, Korea, Russian Federation and the United States of America sign the ITER Agreement

ITER Construction Site:

Cadarache, Southern France, was chosen in June 2005.



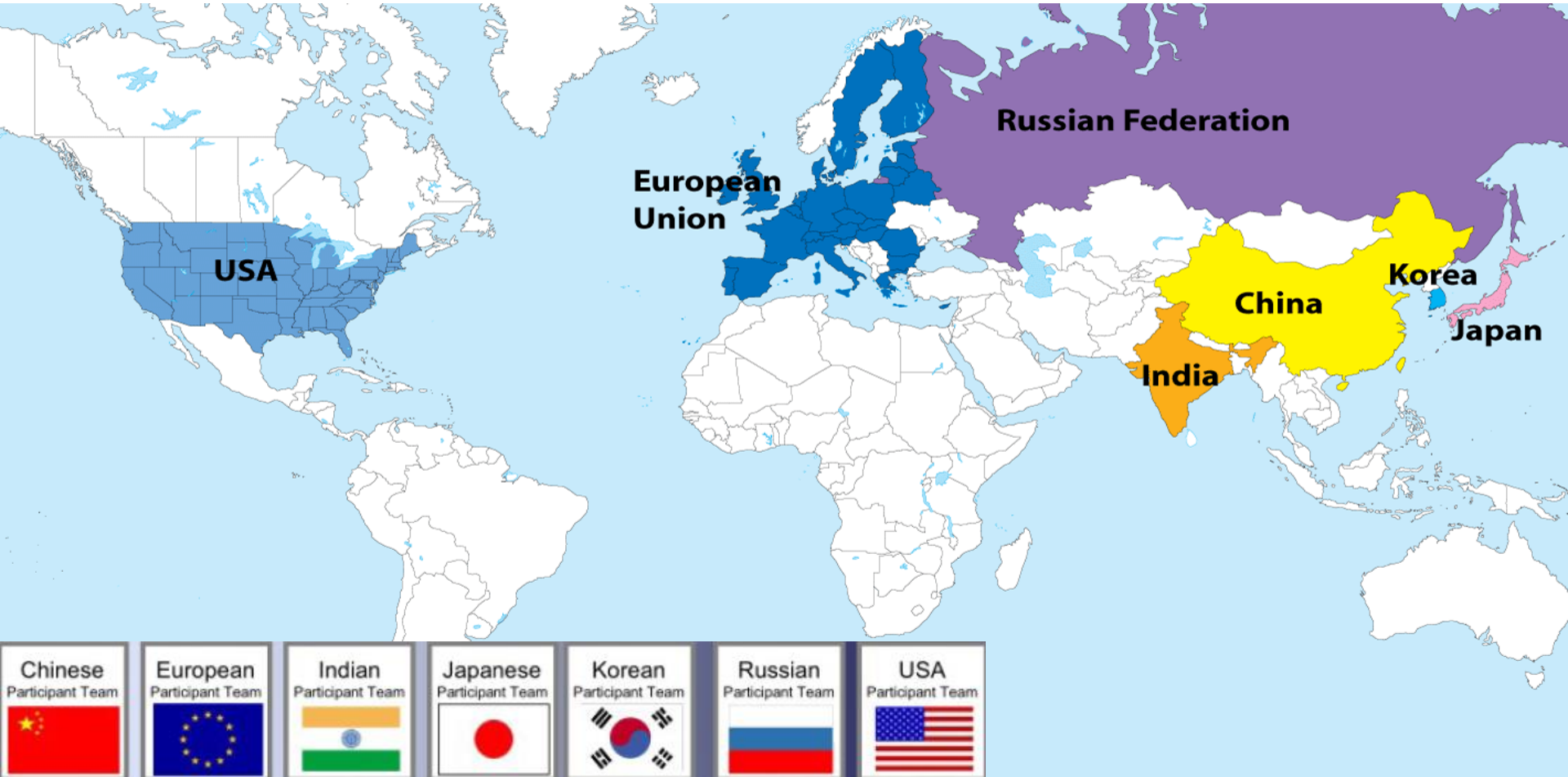
On 24 October 2007, upon entry into force of the ITER Agreement, the ITER Organization was formally established,

ITER Organization HQ

- To promote international cooperation among the Members;
- To be responsible for construction, operation and exploitation, and de-activation of the ITER facilities;
- To encourage the exploitation of the ITER facilities by institutions and individuals participating in fusion R&D programmes of the Members;
- To promote public understanding and acceptance of fusion energy

ITER – a truly international cooperation….

Seven Members, representing more than half the world's population, are involved in the construction.



ITER Council : ITER Governing Body

On 27 November 2007, the First Meeting of the ITER Council was held in Cadarache.

The 2nd Meeting (Aomori, Japan, 17-18 June 2008)

Construction Sharing

How the overall costs are shared:

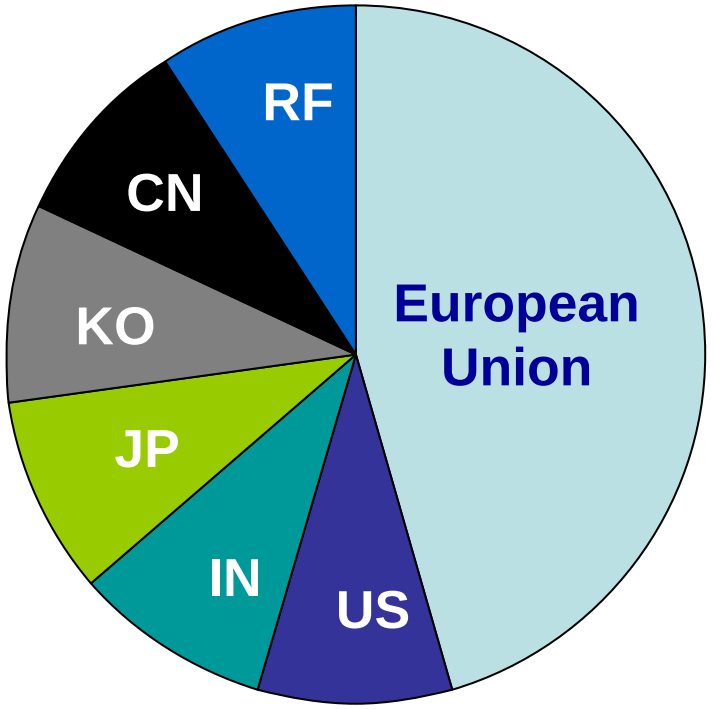
EU 5/11, other six parties 1/11 each. Overall contingency of 10% of total. Total amount: 3577 kIUA (5365 Mil € / 2008)

Total procurement value : 3021

Staff: 477

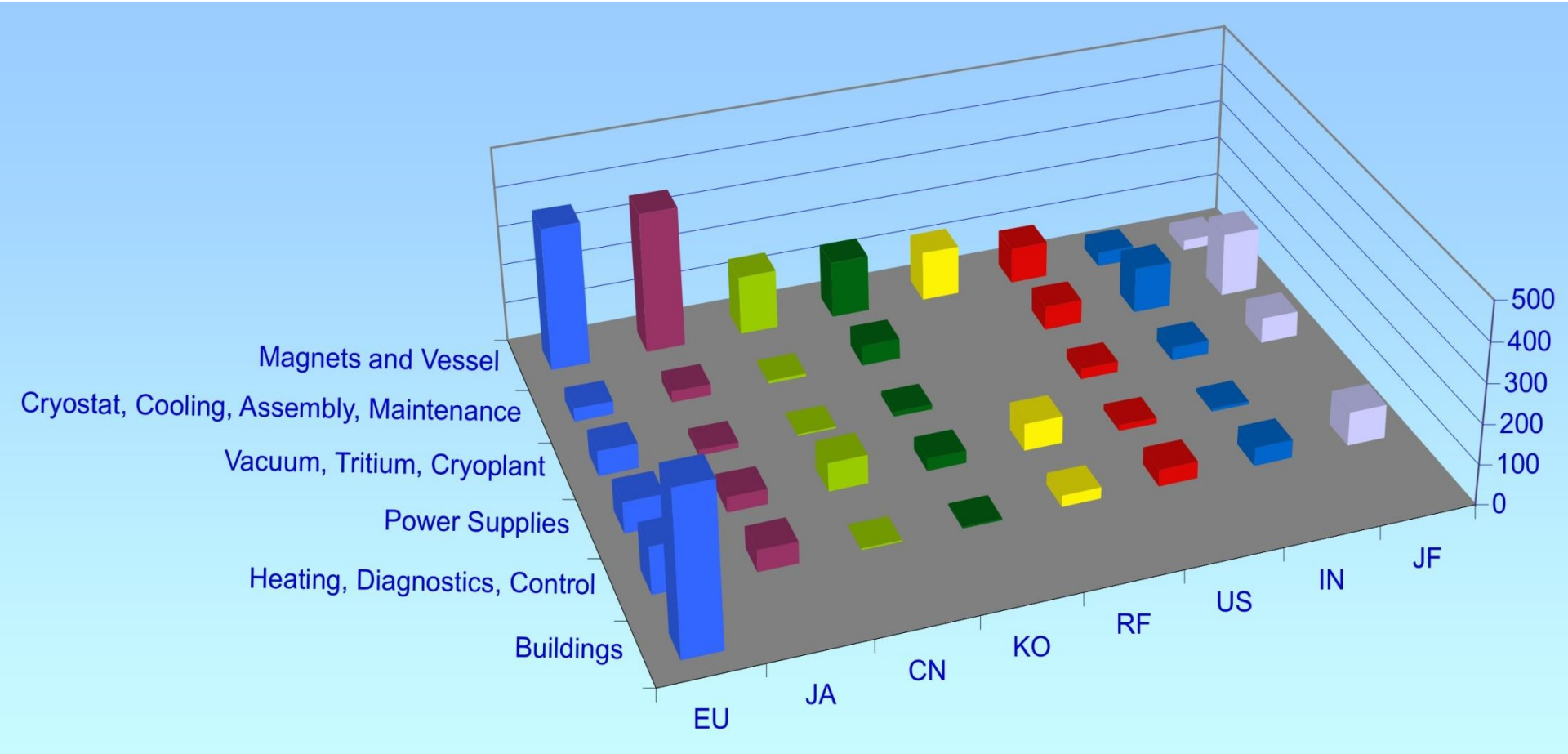
R&D: 80

Total kIUA: 3577



Procurement-sharing/Contributions in kind

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



Working for ITER: General Roles & Responsibilities

ITER Organization and the Fusion Community in Members work together on ITER.

- ITER Organization (IO)
  - Planning/Design
  - Integration / QA / Safety / Licensing / Schedule
  - Installation
  - Testing + Commissioning
  - Operation

- Members – Domestic Agencies (DAs)
  - Detailing / Designing
  - Procuring
  - Delivering
  - Support installation

- Members -Scientific Community

  The IO is to assume responsibilities for coordinating physics research plans for ITER of the Members, e.g. using existing framework of the IPTA (International Tokamak Physics Activities).

ITER Organization

Management Advisory Committee

ITER Council

Science and Technology Advisory Committee

Financial Audit Board

Kaname Ikeda

Director-General

Senior Advisor (P. Amenc-Antoni)

Norbert Holtkamp

Principal DDG

Two Senior Advisors

Office of the Director-General (H. Matsumoto)

ITER Council Secretary (S. Ishizaka)

Legal Office (P. Tuinder)

Communication (N. Calder)

Office of Audit Service

Dept. for Safety & Security

DDG Carlos Alejaldre

- Safety Control
- Quality Assurance

DDG Wang Shaoqi

Senior Advisor

Dept. for Administration

- Finance & Budget
- Procurement & Contract
- Human Resources

DDG Valery Chuyanov

ADDG (D. Campbell)

Dept. for Fusion Science and Technology

- Science
- Technology

Project Office (E. Tada)

- Design Integration & Configuration Control
- Project Management
- Technical Co-ordination
- System Analysis
- Environment, Safety & Health

Domestic Agencies

- China
- EU
- India
- Japan
- Korea
- Russia
- USA

Civil Construction and Site Support Office
(J. Sovka)

- Building System
- Site Layout
- Nuclear Buildings
- Steel Frame Buildings

DDG Dhiraj Bora

Dept. for CODAC & IT, Heating & CD, Diagnostics

- CODAC and IT
- Heating and Current Drive
- Diagnostics

DDG Yong-Hwan Kim

Dept. for Central Engineering & Plant Support

- Plant Engineering
- Fuel Cycle Engineering
- Electrical Engineering
- Design Office

DDG Gary Johnson

Dept. for Tokamak

- Magnet
- Vessel
- Internal Components
- Assembly & Maintenance

Field Teams

- Field Team Leader
- Staff (QA, C&S, Audits, etc.)
- Technical Support

Revised on 15 May 2008

Working at the ITER Organization

- Staff (normally 5 yrs contract)

  Professionals & Supporting Staff

- Visiting Researchers

- Post-doctoral Researchers

Principality of Monaco Post-doctoral Research Fellowship

The principal objective

Development of excellence in research in fusion science and technology within the ITER framework. Brilliance and creativity, together with an understanding of the relevance of individual's research interests to the ITER project are required

Possible Candidate for the Programme 2008

- Nationality of the ITER Members or Principality of Monaco
- Awarded PhD after 1 January 2005

Next Opening December 2009 (tbc)

Topics for Monaco Fellowships 2008

- Burning plasma physics (confinement, stability, plasma-wall interactions, control, energetic particle physics)
- Heating and current drive physics
- Superconducting magnet technology
- Electrical engineering
- Mechanical engineering/ structural analysis
- Electromagnetic Analysis
- Remote handling technology
- Cryogenics

Staff of the ITER Organization

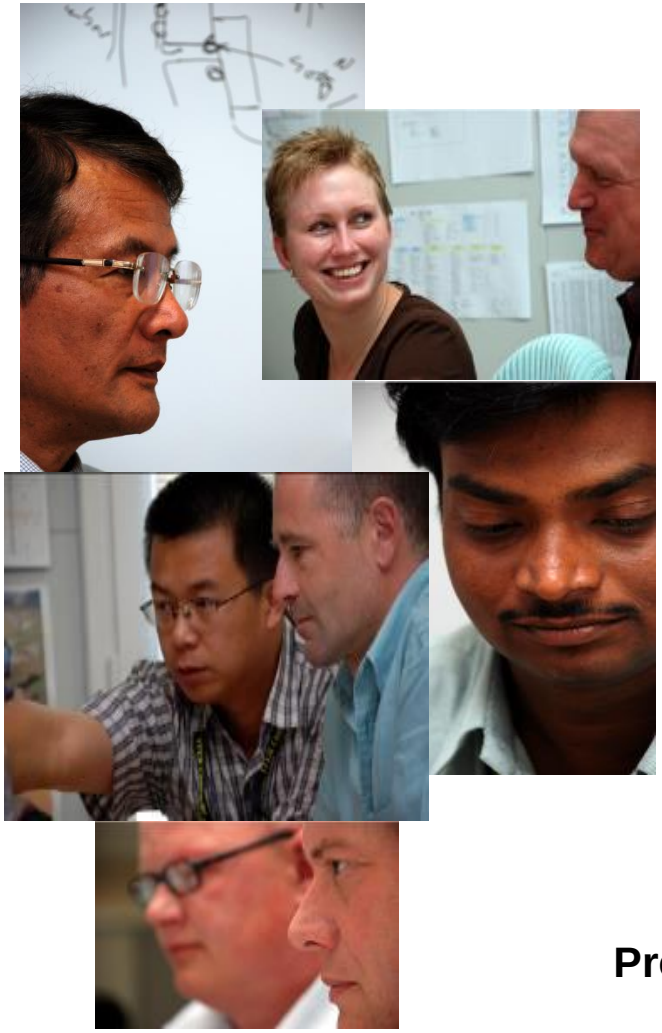
Staff (IO Direct Employee & Seconded Staff)

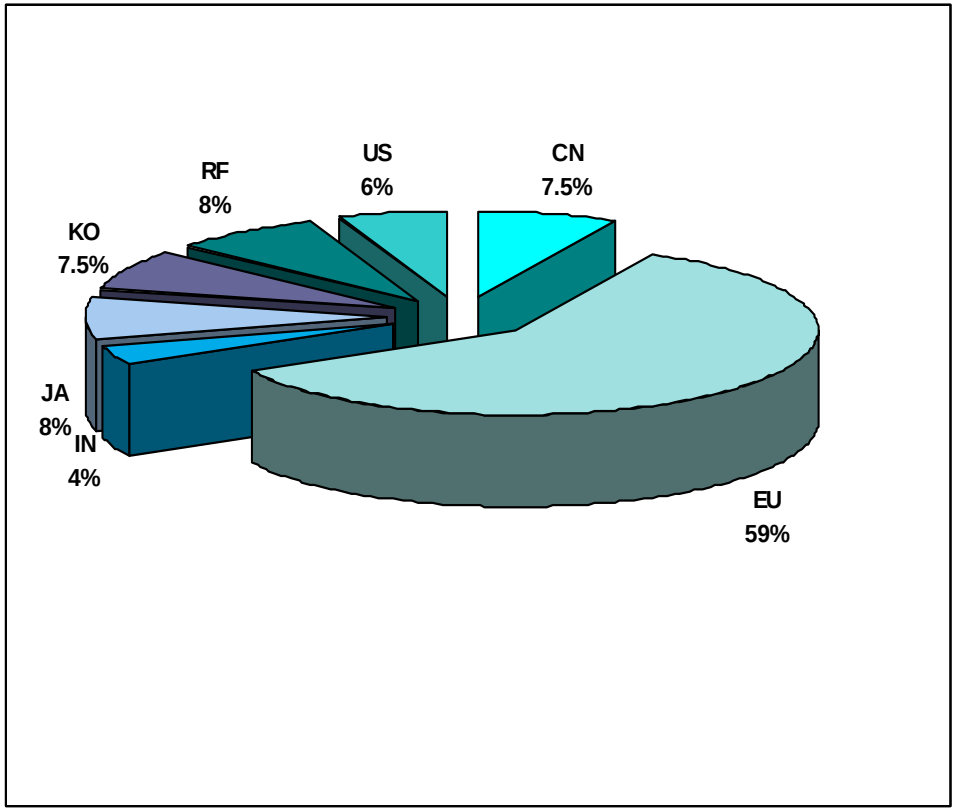
- from the ITER Members (China, EU/Euratom, India, Japan, Korean, Russian Federation, USA)

- appointed on the basis of qualifications, taking into account an adequate distribution of posts among the Members

The ITER Team Today

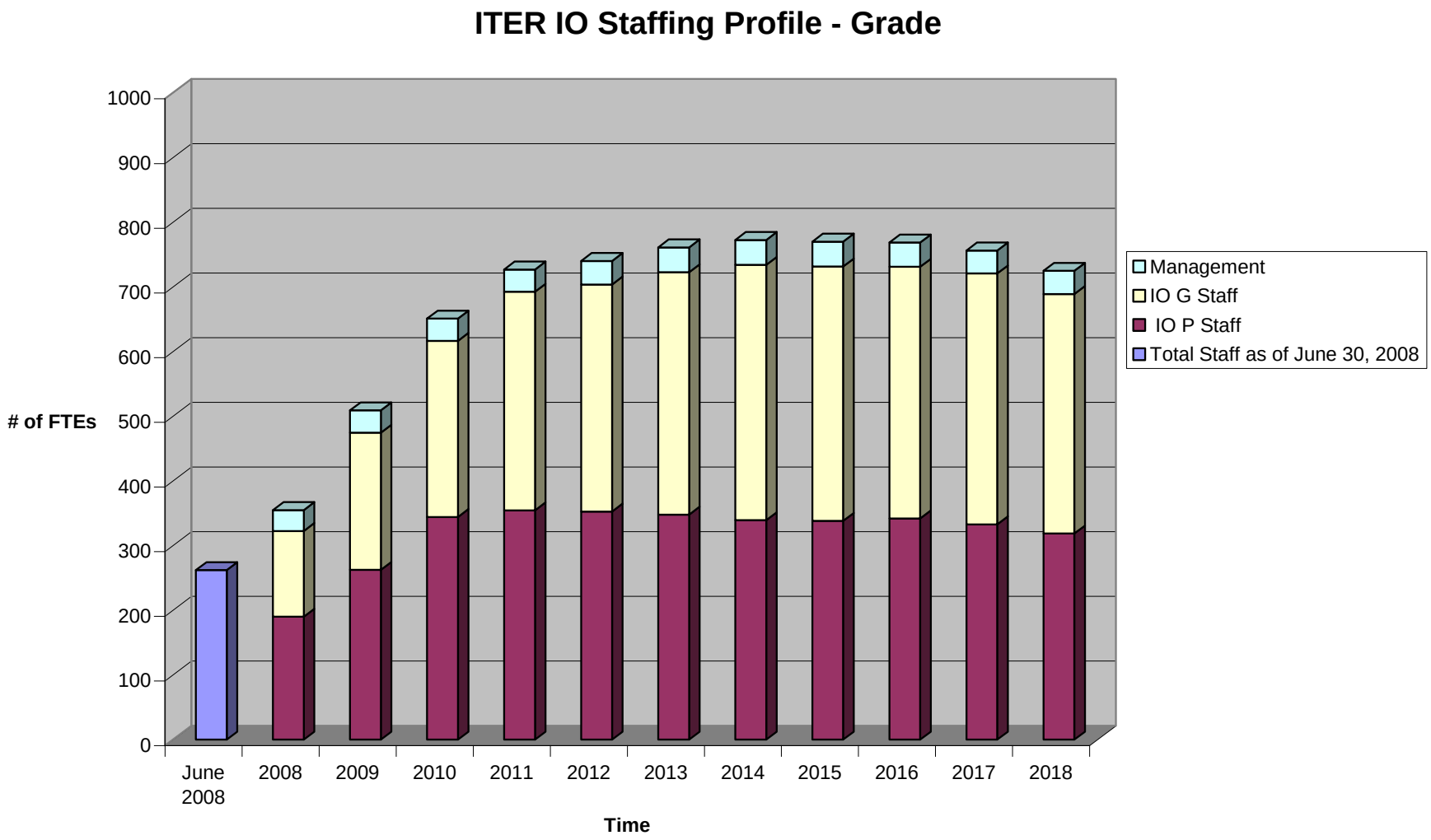
261 Staff Members (24 nationalities)
: 202 Professionals and 59 Supporting Staff



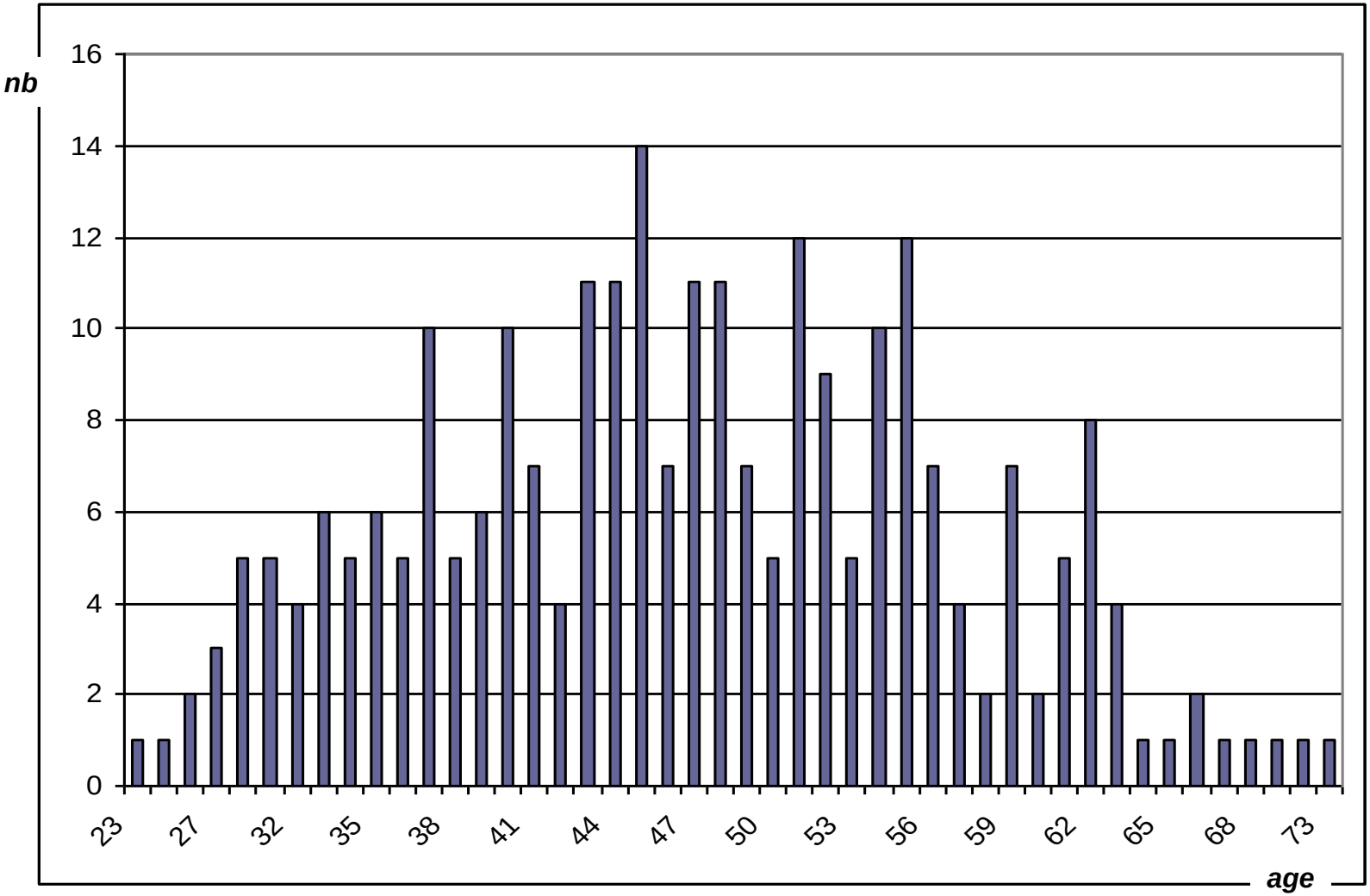


Professional staff by Members as of 30 June 2008:

Long-Term Manpower Resource Estimates (currently under review)



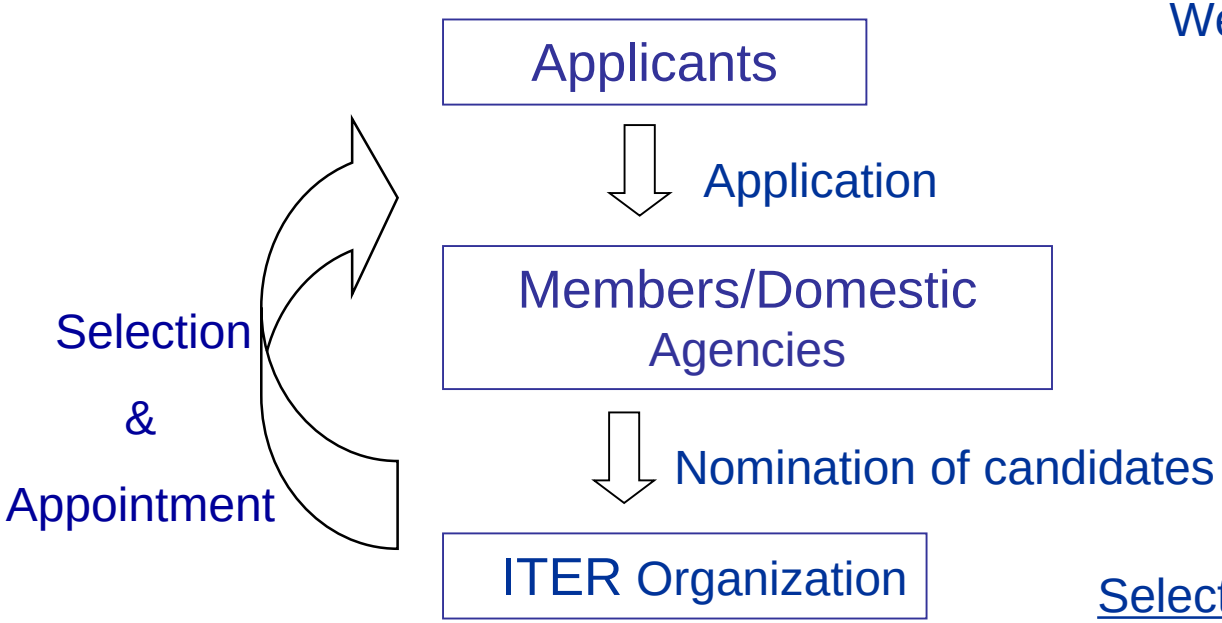
The Average Age: 46 yrs old!



ITER Organization Recruitment Process

Vacancy Notice

ITER Organization
Website: www.iter.org



Selection Criteria

- Educational background
- Professional experience
- Ability to work in a multinational team
- Coordination and communication skills
- Fluency in English etc.

ITER Domestic Agencies Contact

European Union

Fusion for Energy (F4E)

Mr. Stavros Chatzipanagiotou
Acting Head of Resources Department
email: iter-applications f4e.europa.eu
http:// fusion for energy.europa.eu

Japan

Japan Atomic Energy Agency (JAEA)

Mr. Toshiro ANDO
Leader, ITER International Coordination Group
Division of ITER Project, JAEA
e-mail: ando.toshiro jaea.go.jp
http://www.naka.jaea.go.jp/ITER/index.html

The People's Republic of China

ITER China, Ministry of Science and Technology
e-mail:iterchina@most.cn

India

Institute for Plasma Research

Dr. Subrata Pradha, Leader, Magnet Group
Bhat, Gandhinagar (Gujarat), India
e-mail: pradhan ipr.res.in
http://www.iter-india.res.in

The Republic of Korea

ITER Korea
National Fusion Research Institute

Soun Pil Kwon, Daejeon
e-mail: iter_korea nfri.re.kr

The Russian Federation

Rosatom

Alexey KALASHNIKOV
Moscow, Russia
e-mail: akalashnikov uant.faae.ru

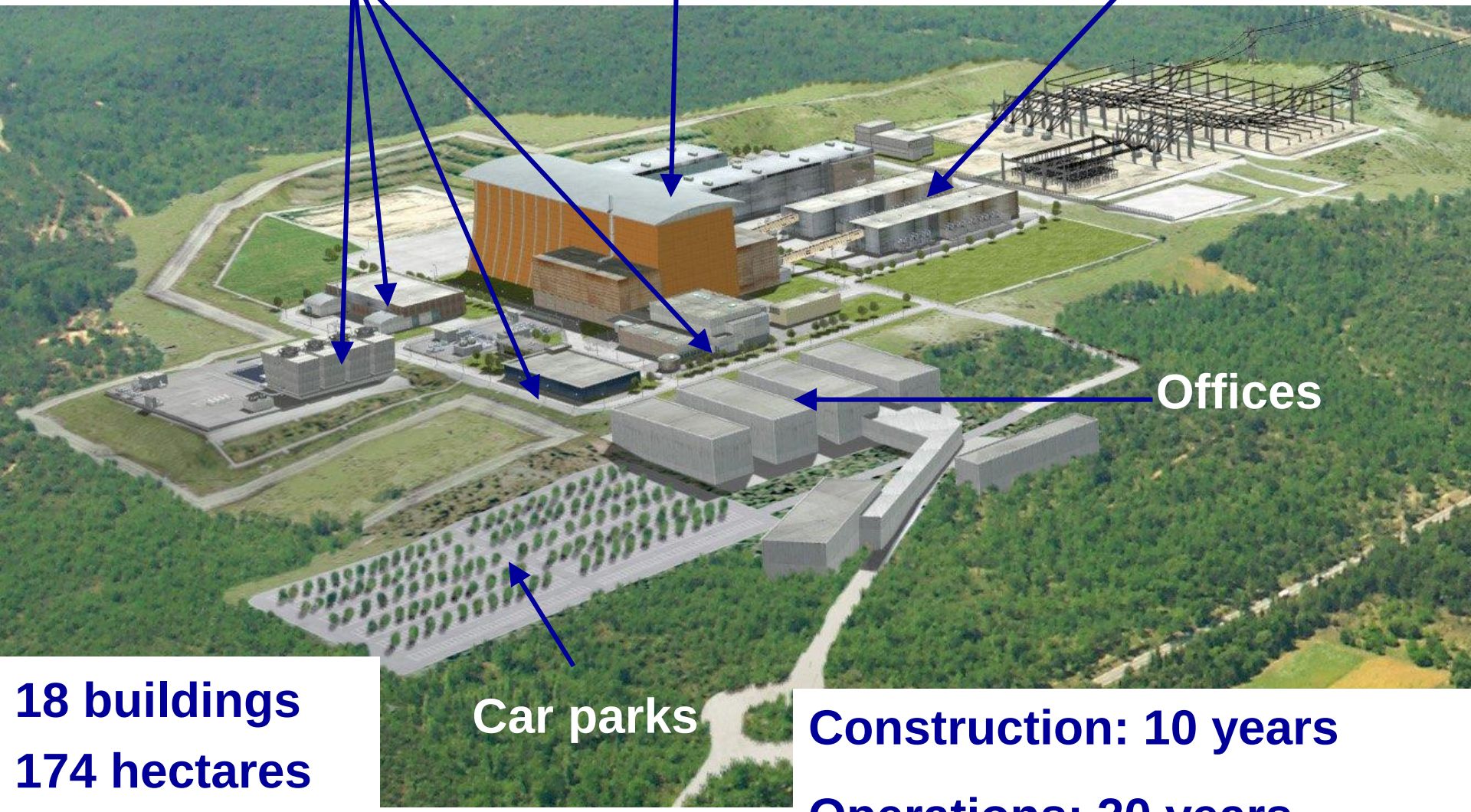
USA

US ITER

Oak Ridge National Laboratory

Ms. Bonnie Hébert
Human Resources and Communications
e-mail: hebertb ornl.gov
www.usiter.org website

From the Drawing Board to Reality



18 buildings

174 hectares

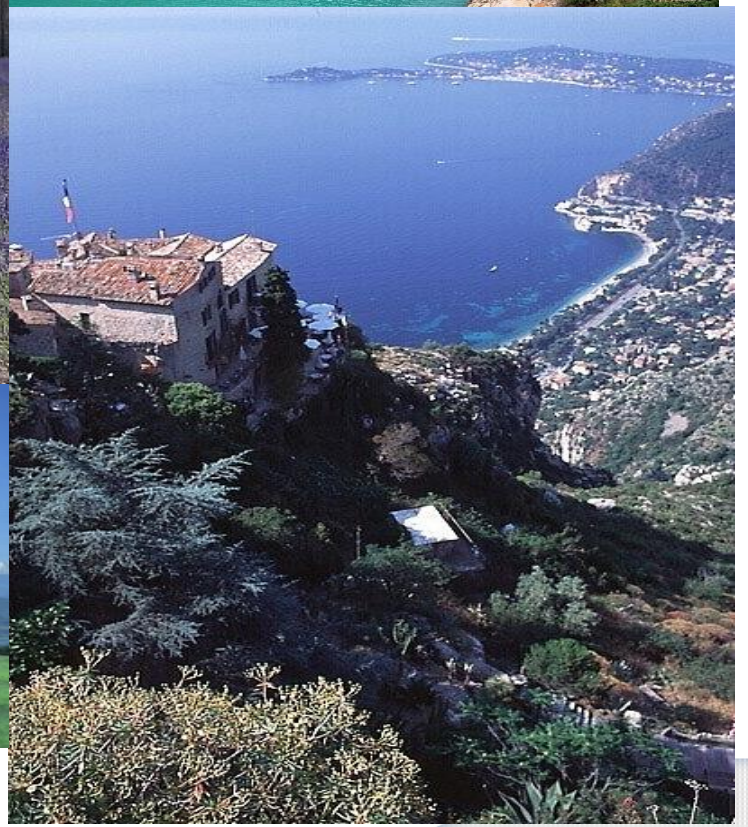
Construction: 10 years

Operations: 20 years

Current Cadarache Site

(Pictures by courtesy of AIF)

Provence…



Working hard & having fun !

The ITER Band

The First ITER Soccer Match

ITER Kayak-Raft Team

ITER gathering in the Center Court

Challenges

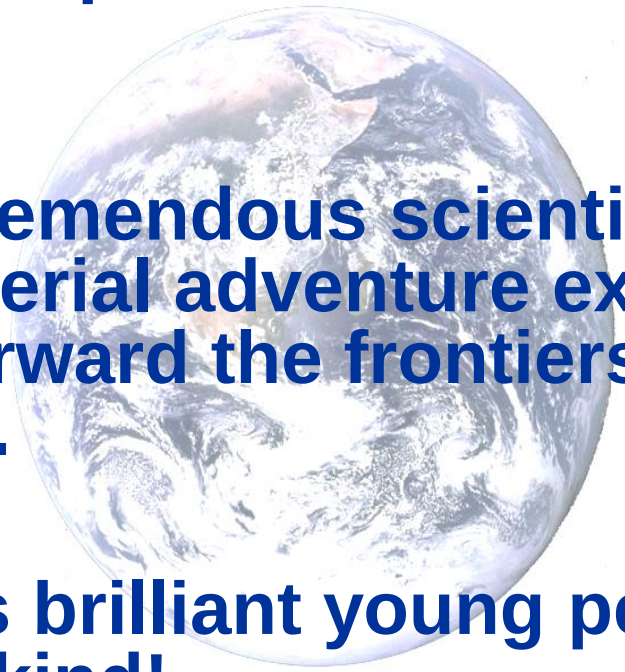
- Achieving Agreement (consensus rather than compromise)

- Establishing a new Organization
  - Development of Infrastructure (buildings, administrative systems, human resources)
  - Team building

    (24 different nationalities ==>> 24different cultures & approaches)

Summary

- ITER is a unique international cooperation project
- ITER is a tremendous scientific, technical, and managerial adventure exploring and pushing forward the frontiers of our knowledge.
- ITER needs brilliant young people for the future mankind!



Please join us!

ITER Organization Contact for further information

- **www.iter.org**
- About recruitment by the ITER Organization: HR-recruitment@iter.org
- About the Monaco/ITER Post-doctoral Fellowships: david.campbell@iter.org
- Or in general: sachiko.ishizaka@iter.org

Thank you.