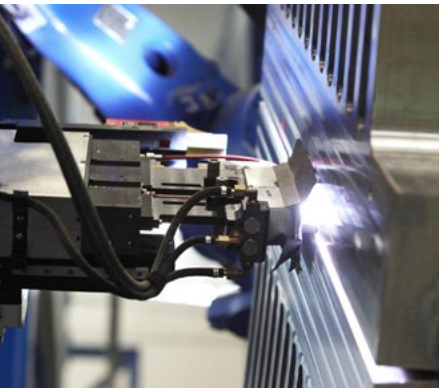
FUSION FOR ENERGY

Discover Europe's business potential in ITER



ITER: the way to abundant, safe and sustainable energy for the future

Fusion for Energy (F4E) offers the possibility to companies and R&D organisations to be part of ITER – the biggest scientific collaboration in the field of energy. Through their contribution they have made progress in the fields they operate, worked with suppliers outside Europe and managed to tap into new business markets.

What is ITER?

ITER will be the world's largest experimental fusion facility to test the feasibility of fusion power. The project brings together seven parties which represent half of the world's population (China, Europe, Japan, India, the Republic of Korea, the Russian Federation, US) and 80% of the global GDP.

How is Europe contributing to ITER?

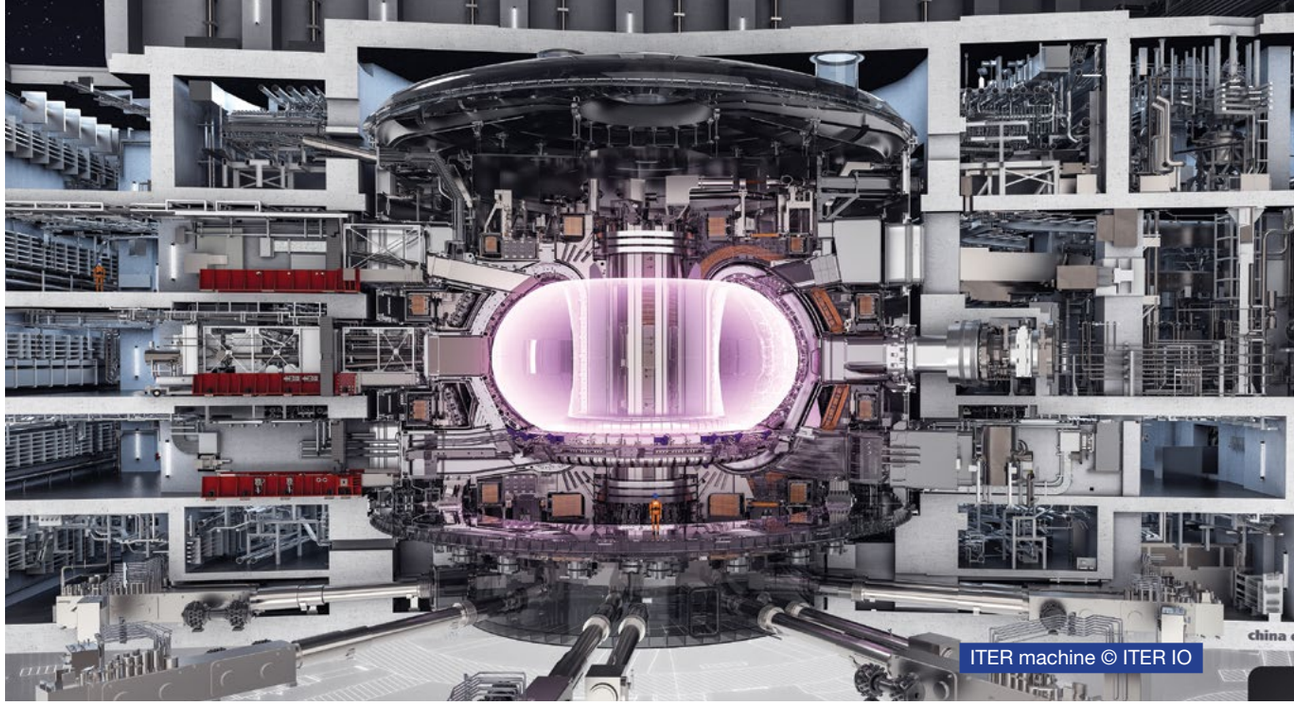
F4E is the EU organisation managing Europe's contribution to ITER, which amounts to nearly half of its cost, and translates into a wide range of business opportunities for companies and R&D organisations.

Europe's participation in ITER has helped them to grow, enabled them to operate in an international context, boosted their competitiveness, and offered them the possibility to develop new knowledge leading them to new business markets.

Why is fusion part of the solution?

A sustainable and diverse energy mix is essential for our well-being and prosperity. Fusion has the potential to play a significant role in the decades to come.

Its fuels are widely available and virtually inexhaustible. There is no production of greenhouse gas emissions or long-lasting radioactive waste. Given the fact that the EU is the largest importer of energy in the world, at a cost of 400 billion EUR per year, it is in everyone's interest to explore alternatives.



ITER machine © ITER IO

Since 2008

594
contracts have been signed since 2008

440
main contractors have been collaborating with F4E

65
R&D organisations have been involved

24
countries host our contractors

1500
subcontractors have been assisting our main contractors

Improving competitiveness and fostering growth

Stimulating smart growth will help Europe become more competitive. The scale of the ITER project offers companies and R&D organisations, no matter their size, the possibility to make a contribution, grow and prepare for tomorrow's technology challenges.

Giuseppe Tadia
OCEM ET

"We are an SME…we are small but this project has helped us think big."

Marianna Ginola
SIMIC

"ITER has given us the opportunity to build international collaborations, access new markets and grow both in size and expertise."

Jean-Claude Cercassi
CNIM

"Because of our participation in ITER we have improved our infrastructure, increased our workforce and trained it with new tools and processes, to manufacture our share of components."

Stefano Pittaluga
ASG

"Thanks to ITER and our leadership in magnets technology, we see new possibilities for our business to grow in the energy sector."

Manufacturing of ITER Poloidal Field coils performed by CNIM, Cadarache

ITER Toroidal Field coils insulation tooling, ASG, Italy

Cutting of radial plates for ITER Toroidal Field coils, SIMIC, Italy

Testing equipment at the High Voltage Laboratory at HSP GmbH

Developing new skills and stimulating innovation

Due to the scale and complexity of ITER, we need to think out of the box. This one-of-a-kind scientific collaboration invites suppliers to demonstrate their expertise and go beyond the state of the art. Acquiring new knowledge will help them develop new skills and empower them to stimulate more innovation.

Michael Krohn
Siemens

“Our company is proud to be part of this international research project and to play an active role in the manufacturing of its equipment.”

Xavier Vigor
Air Liquide Advanced Technologies

“The knowledge we will acquire from ITER will be deployed in energy markets exploring the use of hydrogen and helium.”

Michael Peiniger
Research Instruments

“The cutting-edge requirements of this project help us to reach that benchmark of technology.”

Pascal Delcey
ENGIE

“ITER has offered us an incentive to push forward our know-how.”

Construction works in progress at the ITER Cryoplant
November 2016, © ITER IO

Inspecting part of the upper segment of
one of the sectors of the ITER Vacuum Vessel
October 2016 © Walter Tosto Spa

Oriol Ribas
Ferrovial

“ ITER has given us the incentive to invest in an energy market, at research stage, which is somehow pushing us towards innovation and technical excellence.”

Prof Dr Uwe Krueger
Atkins

“ ITER is one of these projects that really excites the imagination of scientists and engineers.”

Paolo Bonifazi
Walter Tosto

“ ITER for us has been a booster extending our level of know-how capability.”

Transferring know-how and generating new applications

To break new ground, suppliers will have to use their expertise from various technical areas. The challenging ITER environment will pave the way towards new applications with direct use beyond fusion technology. The spin-offs stemming from this project will help us to reinvigorate Europe's industry and economy.

Detlev Koch
Ampegon

"Our competence was in the field of radio frequency, used in broadcasting for short wave, middle wave and long wave transmitters. Today we are using our know-how to manufacture accelerators in scientific projects."

Stephen Sanders
Oxford Technologies

"We have been able to take that knowledge and expertise and use it in other markets such as high-energy physics and nuclear decommissioning."

Christine Francillon
Airbus Safran Launchers

"We took our space know-how, developed on the Ariane launchers and the fully-automated European ATV space cargo, and adapted it for the Remote Handling System of ITER."

Jens Verbeeck
MAGICS Instruments NV

"ITER allowed us to demonstrate our innovative technology in microelectronics, which is suitable for its environment, and helped us to transfer our know-how to the fission industry."

Divertor Test Platform (DTP2) Facility, VTT, Finland
© ITER IO

"ITER has helped us to develop new expertise in areas like mechanical engineering, manipulator arms, control system software, virtual reality and so on. The possible industrial applications are widespread."

Jouko Suokas
VTT

ITER Worksite, October 2016

“We have developed partnerships with other companies and established subsidiaries to target new markets.”

Bernard Blanc
Assystem

Building international collaboration and commercial partnerships

Assembling the biggest fusion machine requires the involvement of many different parties. In essence, we are laying the foundations of a future energy market. ITER offers its suppliers the possibility to operate in an international context and to build potential partnerships which could generate substantial commercial benefits.

Patrick Geraud
Apave

“ITER has given us the opportunity to work with countries we were not used to collaborate and become familiar with an emerging technology.”

Anne Neumann
Saarschmiede GmbH Freiformschmiede

“We have gained experience in large-scale international projects.”

Maria-Teresa Dominguez
Empresarios Agrupados

“We have been given the possibility to work in an international context with many companies, including SMEs, which was not the case before.”

Marcus Kind
R.Kind

“ITER opened for us international markets.”

Setting a new benchmark for fusion technology

Contributing to the biggest fusion machine to date, pushing science to its limits and using cutting-edge technologies, will bring us one step closer towards the realisation of fusion energy. ITER has managed to build a bridge between the fusion research community and the industry of the future.

Ambrogio Fasoli
École Polytechnique Fédérale de Lausanne

"It is a project that pushes innovation all the way into the future. It is important to be able to apply our research findings into real projects like ITER – a machine that will demonstrate that fusion is not a dream but a reality."

Christian Linsmeier
Forschungszentrum Jülich

"We gain scientific knowledge and offer it to make fusion energy a reality."

Luis Rodríguez Llopis
IDOM

"We are very proud of the opportunity that we have been given to collaborate in what most likely will be the most important research project of the XXI century in the field of energy and engineering."

Julio Lucas
Elytt Energy

"We are honoured that our work is going to contribute to the development of a future inexhaustible energy source for all mankind."

Operator testing equipment at ENEA, Italy

"We have developed new technologies and made them available to industry in order to bring fusion energy a step closer."

Aldo Pizzuto
ENEA

Fusion for Energy
The European Joint Undertaking for ITER
and the Development of Fusion Energy

C/ Josep Pla, nº 2
Torres Diagonal Litoral
Edificio B3
08019 Barcelona
Spain

Telephone: +34 933 201 800
E-mail: info@f4e.europa.eu

F4E Industry and Fusion Laboratories portal:
https://industryportal.f4e.europa.eu

www.fusionforenergy.europa.eu
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