



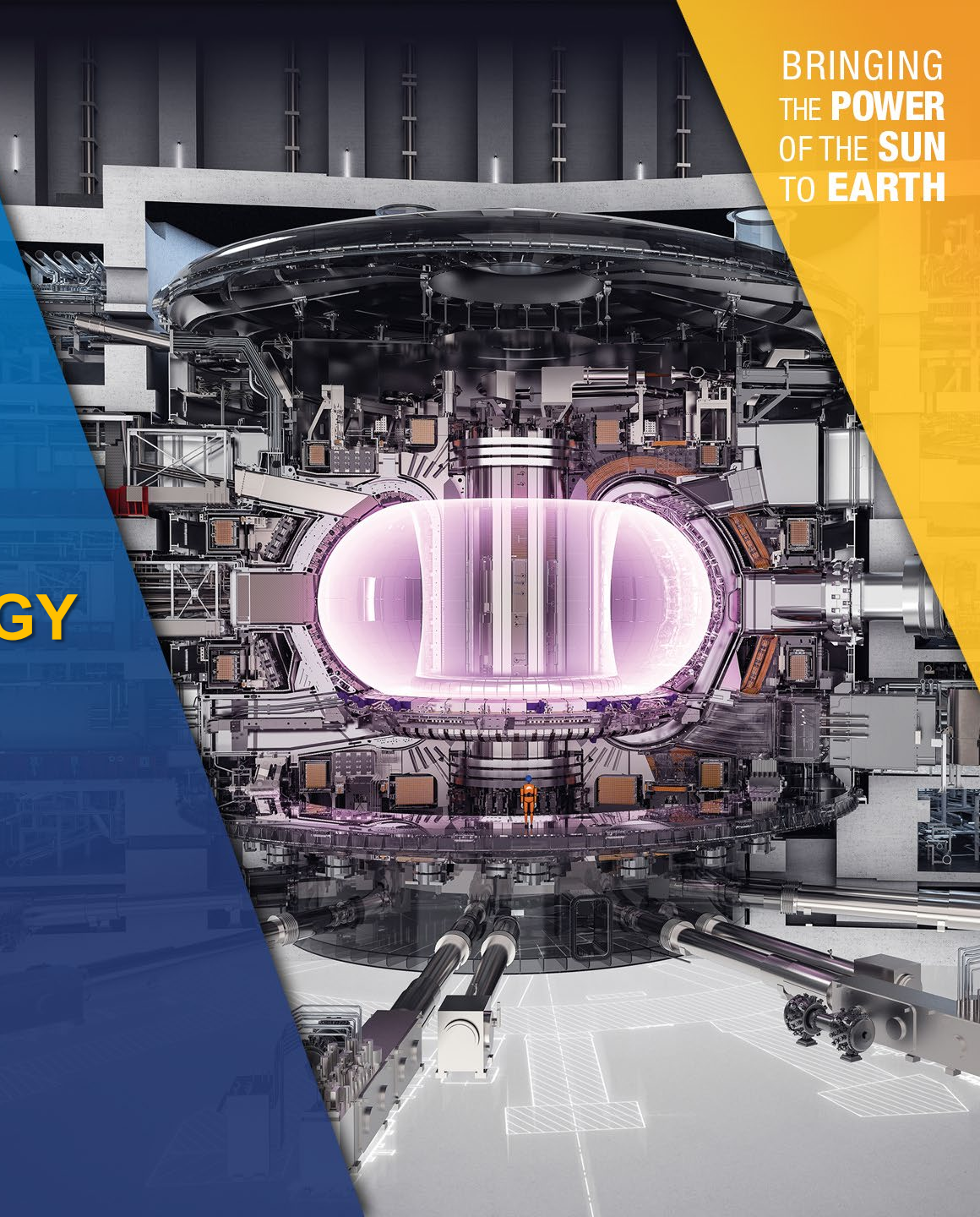
**FUSION
FOR
ENERGY**

BRINGING
THE **POWER**
OF THE **SUN**
TO **EARTH**

FUSION FOR ENERGY forthcoming CFTs

**F4E Supply Chain Unit
Mehdi Daval**

14th of April 2026 - Otwock

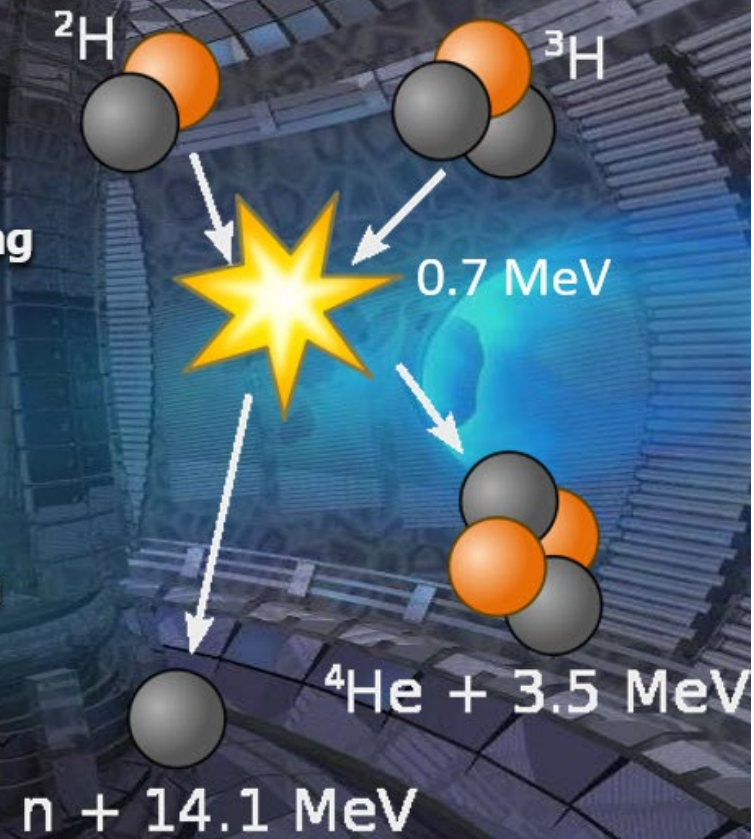


- **Fusion and ITER at a glance**
- How to access our ITER and other Fusion Programs opportunities (IO and F4E)
- Upcoming ITER opportunities (F4E)

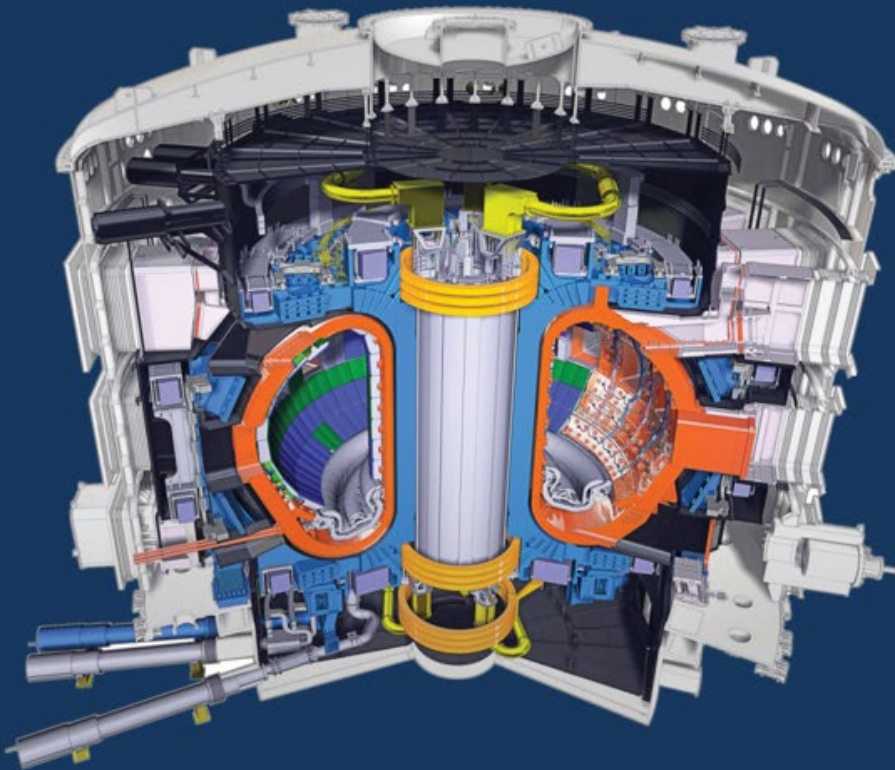
Fusion on Earth

- A plasma of Deuterium + Tritium (hydrogen isotopes) is heated to more than 150 million °C.
- The hot plasma is shaped and confined by strong magnetic fields.
- Helium nuclei sustain burning plasma.
- Neutrons transfer their energy to the Blanket.
- In a fusion power plant, conventional steam generator, turbine and alternator will transform the heat into electricity.

1 gram of fusion fuels = 8 tons of oil



The ITER Tokamak



Vacuum Vessel: ~ 8 000 t.
TF Coils: ~ 18 x 360 t.
Central solenoid: ~ 1 000 t.
Etc.
Total ~ 23 000 t.

$R=6.2$ m, $a=2.0$ m,
 $I_p=15$ MA, $B_T=5.3$ T,
23,000 tonnes

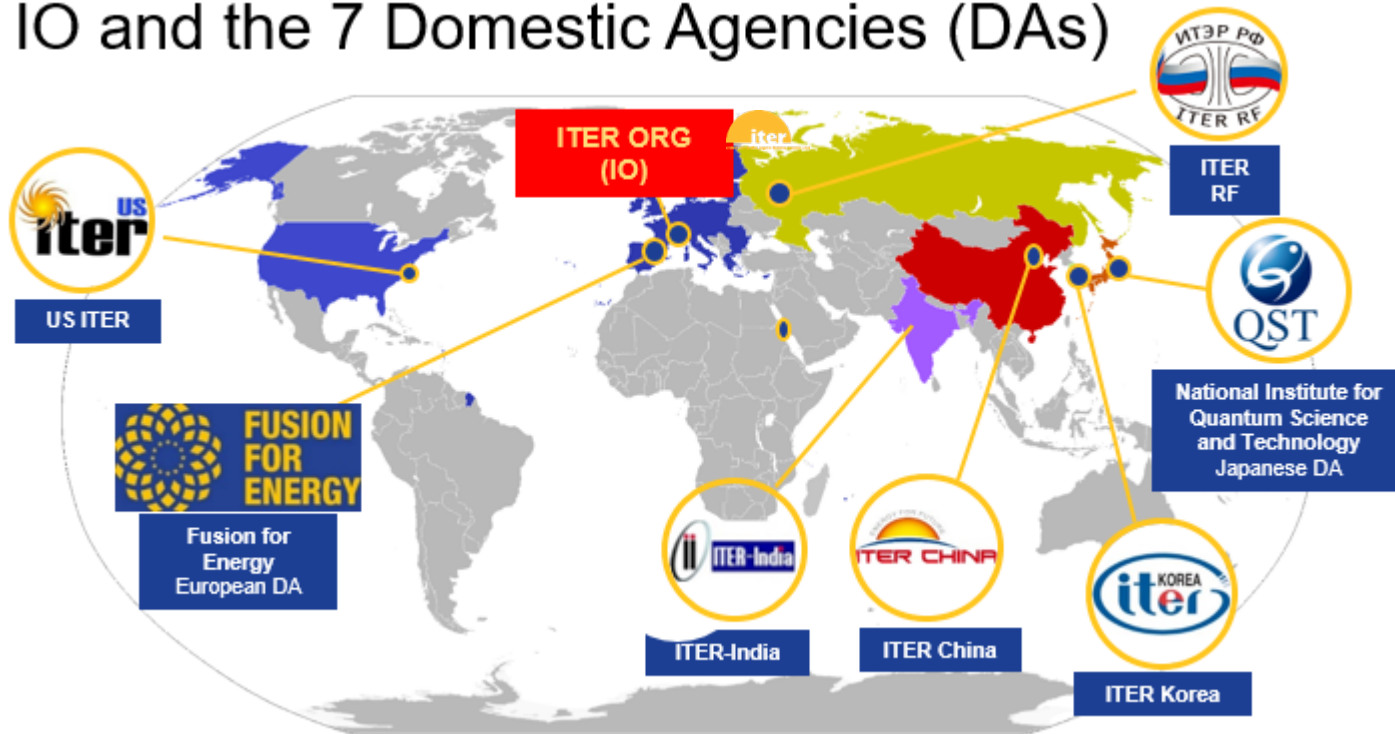


**3,5 times the weight of
the Eiffel Tower!**

High Vacuum + Nuclear + Cryogenics = (Very) High precision

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IO and the 7 Domestic Agencies (DAs)



ITER ORGANISATION (IO)

International Public Procurement Rules

Competition, fair treatment, transparency
Ultimate authority with ITER Council

Geographical scope: **all ITER parties**

Threshold for publication: **100 k€ (services)**

Publication: website and through DAs
<http://www.iter.org/proc/overview>

Types of contract: commercial procurement, ITER Project Associates, expertise.

Contact: ITER-Procurement@iter.org

Tendering: Mandatory registration on IPROC
www.iter.org/proc/overview

Procurement procedures: open call, restricted call, negotiation, competitive dialogue, etc.

Support to locate staff and facilities near ITER site is provided through **Agence ITER France** and *Welcome Around ITER* partnership <http://welcome-around-iter.com>

FUSION FOR ENERGY (F4E)

EU General Financial Regulation

(based on Public Procurement Directive 2014/24/EU)
Wide competition, fair treatment, transparency, proportionality, non-discrimination
Ultimate authority with European Parliament

Geographical scope: **EU (sometimes Worldwide)**

Threshold for publication (goods/services): **216 k€**

Publication: website and TED
<https://industryportal.f4e.europa.eu>

Types of contract: commercial procurement, research grants, innovation partnerships, framework partnerships, expertise.

Contact: mehdi.daval@f4e.europa.eu

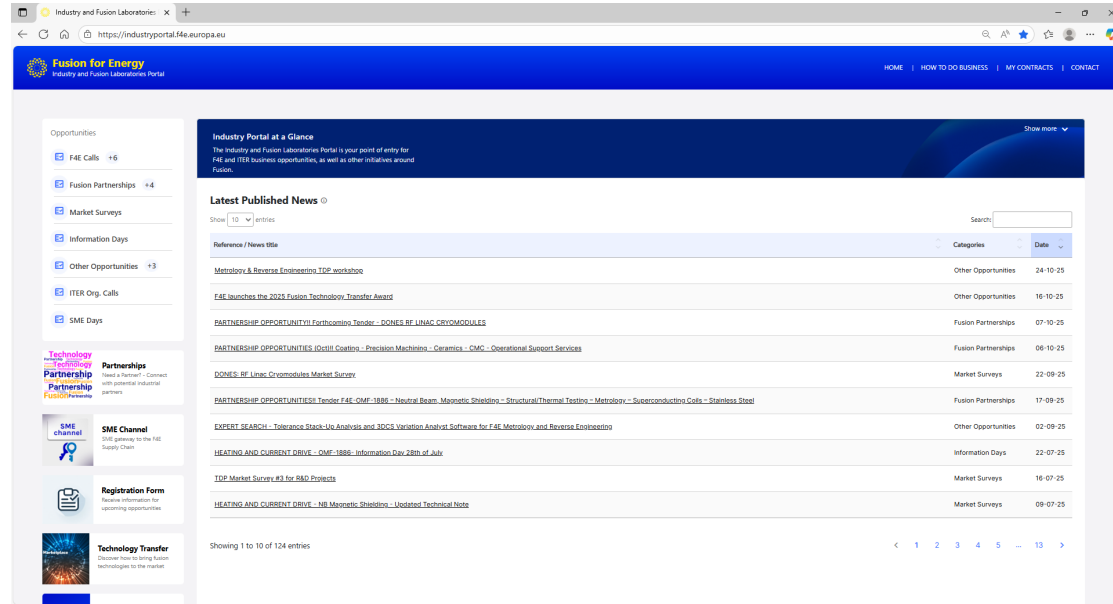
Tendering: Mandatory upload of tenders on EU Supply
<https://eu.eu-supply.com/login.asp?B=>

F4E Partnership tool



New feature available for companies/SMEs to increase their visibility and offer/request partnership on the F4E Industry Portal
[F4E Partnership marketplace](#)

Registration available for companies/SMEs, requires selection of relevant Technologies
[Register in the internal F4E Supply Chain database](#)



- **VISIT Eurofusion and F4E common marketplace**



- **2026 Fusion Technology Transfer Award in preparation**

Open to European companies.

Recognize achieved or ongoing projects which integrate fusion solutions in other markets.

Assessment of resources, efforts, and socio-economic impact of the project on the market.

Prize of €10,000 in 2025, and greater visibility within an EU network of actors in innovation and fusion technology.

2025 details here: [LINK](#)



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Vacuum Pumping (partly FP):

Leak detection and localization systems (awarded in 03/2026).
NB Cryopumps: PA signature and CFT (OPE-1845).

Cryoplant (FP):

Completion of LN2 Plant & auxiliary systems.

Tritium plant:

Isotope Separation System: PA and HRS CFT (Q2 2026).
Water Detritiation System: PA and RAP CFT.

REMS (Radiation and Environmental Monitoring Systems):

PA amendment and monitos and samplers specific contracts (OPE-1946).

- **OPE-1845 NB Cryopumps** (2 X 3 units, cat **D**)
 - 500 cryopanel ; >650 thermal shield panels
 - Tight tolerances⇒ Target CFT Q2 2026.
- **REMS Integrator & further supply** (additional lots). Target Q2-3 2026. (Cat. **C**)
- **OPE-2014 Helium Refrigerator System**. Target CFT April-May 2026. Cat **E** (Turbo Brayton System).



Mitica cryopump prototype



ITER EU Electron Cyclotron SRO Power Supplies and Gyrotrons:

- Power supplies: commissioning and site acceptance tests.
- Gyrotrons: manufacturing design activities + manufacturing.
- EC Upper Launcher and Waveguides: Manufacturing Readiness Reviews.
- EC Control system: debugging and data collection activities.

ITER Heating Neutral Beam:

- HNB: PMS CFT completion and signature (OMF-1183), NB Vessel manufacturing, and Assembly tool Design. Drift Dut manufacturing start.

Assembly tooling design activities, Absolute Valve IO/F4E joint procurement.

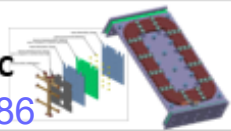
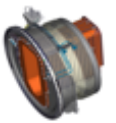

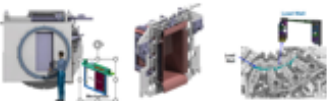

- NBTF: Beam Source and Beam line components installation.
- Diagnostics and CODAS completion.

Heating and Current Drive



Pre-SRO
↓

Post-SRO

	2024	2025	2026	Next steps
Assembly tooling	Contract signature			
PMS&ACCC OMF-1886 	Pre-procurement	Call for Tender	Contract Signature	
Drift Duct OPE-1578 	Call for Tender	Contract Signature		
Absolute Valve 		Feasibility study (IO)	Joint procurement	Call for Tender (2027) Contract signature (2028)
Fast shutter et al. 				Procurement (2027)
BLCs and BS 				Procurement (2029/30) Contract signature (2031/32)

- **New CFT** for PMS/ACC material (about 800 t. of S235 steel (EN 10025-2) + pure iron plates.

Buildings works:

- continue progressing installation and testing activities in the Emergency Power Supply Buildings (B44, B46) and Medium Voltage Distribution Buildings (B45, B47); the Load Centers LC01, LC02, LC15 & LC16 and the Medium Voltage MV04, MV05 & MV06.

Building Services:

- Continue progressing on design activities for the Tritium building DT phase.
- Procurement of the equipment (HVAC, piping, electrical, instrumentation and control, fire detection / protection) necessary for the Tokamak, Diagnostic, and Tritium building installation schedule with IO contractors.

- **OPE-1997:** New heating Buildings and bridges.
- Electro-Mechanical components (Continuation of previous OMF-1107). Cat **E** > 100 M€.



Bird eye ITER site May 2025; © ITER Organization

- **OPE-1405: Integration and testing of Actively Cooled Divertors of JT-60SA, CAT C/D.** Market Survey closed, Target CFT launch **Q2 2026** (Competitive with Negotiation).

- **OPE-1758: Supply of Tangential Phase-Contrast Imaging (TPCI) for JT-60SA.**

- **OPE-1716: Prototypes of a Low-Beta Half-wave resonator with Frequency tuning system and RF Coupler for LINAC of IFMIF- DONES SRF Coupler (Design of the cavity, Supply of a superconductive Cavity => Target CFT Q3 2026.**
- **Supply of the Upgraded Injector of the LIPAc** (replacement OPE-1407). CAT C.
- **DONES LIPAc Injector enhancement** (duplicate of injector components as spares).
- **LIPAc maintenance** and obsolescence management services. CAT D.

Input Anne: Maybe RF Power System: Q4 2026 ; Cryomodules: Q1 or Q2 2027; Injector: it will be IFMIF- DONES together

- **OMF-2019: Metrology + Reverse engineering.**

Cat. **C** . Target CFT May/June 2026.

- **OMF-2020: Provision of an Acquisition Channel for Metrology Equipment and Software. (Cat. **C**) Target CFT May/June 2026.**

- **I&C cubicle and hardware assembly.**

CAT **E** . Target CFT Q2 2026.

- **OMF-1903:** System Engineering Services (Continuation of OMF-1127). Target CFT May/June 2026. cat **D**.
- **OMF-1954:** Project Management Services (Continuation OMF-1220). Target CFT Q3 2026. Cat **E**

Later on:

- Continuation of **OMF-1321:** Quality. Target CFT Q1 2027.
- Continuation of **OMF-1110:** Nuclear Safety. Target CFT Q2 2027.
- Continuation of **CE Marking:** target CFT Q3-4 2027 maybe Q1 2028.
- Continuation of **Risk Management:** target CFT Q2 2028.

- Provision of **brokerage** and consultancy services on operational **insurance policies**. Value: CAT **A** (below Directive thresholds).
Target CFT: Q3 2026.

Proposals for Future EU Fusion Program

Proposals for MFF (2028-32) & Euratom Programme (2028-2032)



- July 2025: **Proposed budget for 2028-2035 of €5.794bn** (in-year values excl. French contribution)
- **ITER is now back inside the financial envelope for the Euratom programme** with EUROfusion
- Mentioned of a “**streamlined governance**” to discuss all aspects of fusion including ITER project
- **First EU Fusion Strategy** for the period 2026-2034 will be published by Commission.
- **Scaling up the European Public-Private Partnership** for Fusion Energy in 2026-27
- Under “**Moonshot Fusion Energy**”, a dedicated pilot fusion plant / testing facility is mentioned.



THANK YOU