



**FUSION
FOR
ENERGY**

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

Doing Business with Fusion for Energy (F4E)

Big Science Sweden – 04/02/2020

- **F4E contribution to ITER**
- **Pre-procurement**
 - **Procurement**
 - **Upcoming Opportunities**

Kristel Tans and Cristina Ortiz

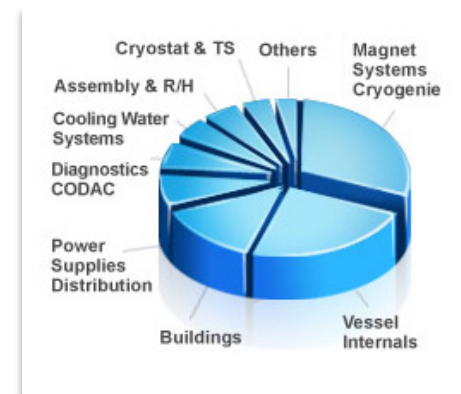
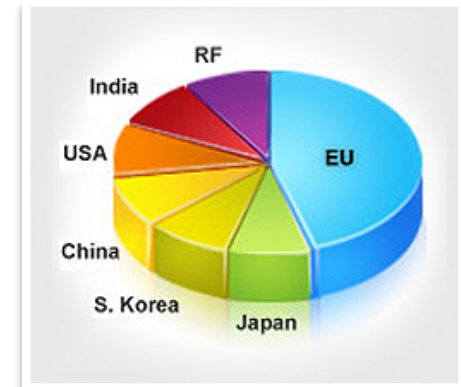
04/02/2020



- ▶ EU public body – JU of the Council of the EU-
set up in 2007 for 35 years
- ▶ Barcelona, Spain
Cadarache, France
Garching, Germany
Rokkasho, Japan
- ▶ Staff: 460 (mostly engineers)
- ▶ Budget: €6600m 2007-2020 (2008 value) and €7280m
proposed for 2021-27 (current value)

Fusion for Energy vs ITER International Organisation

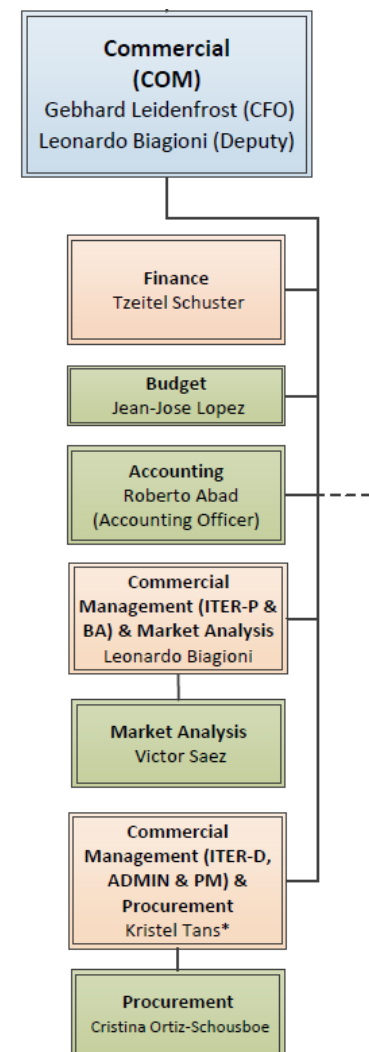
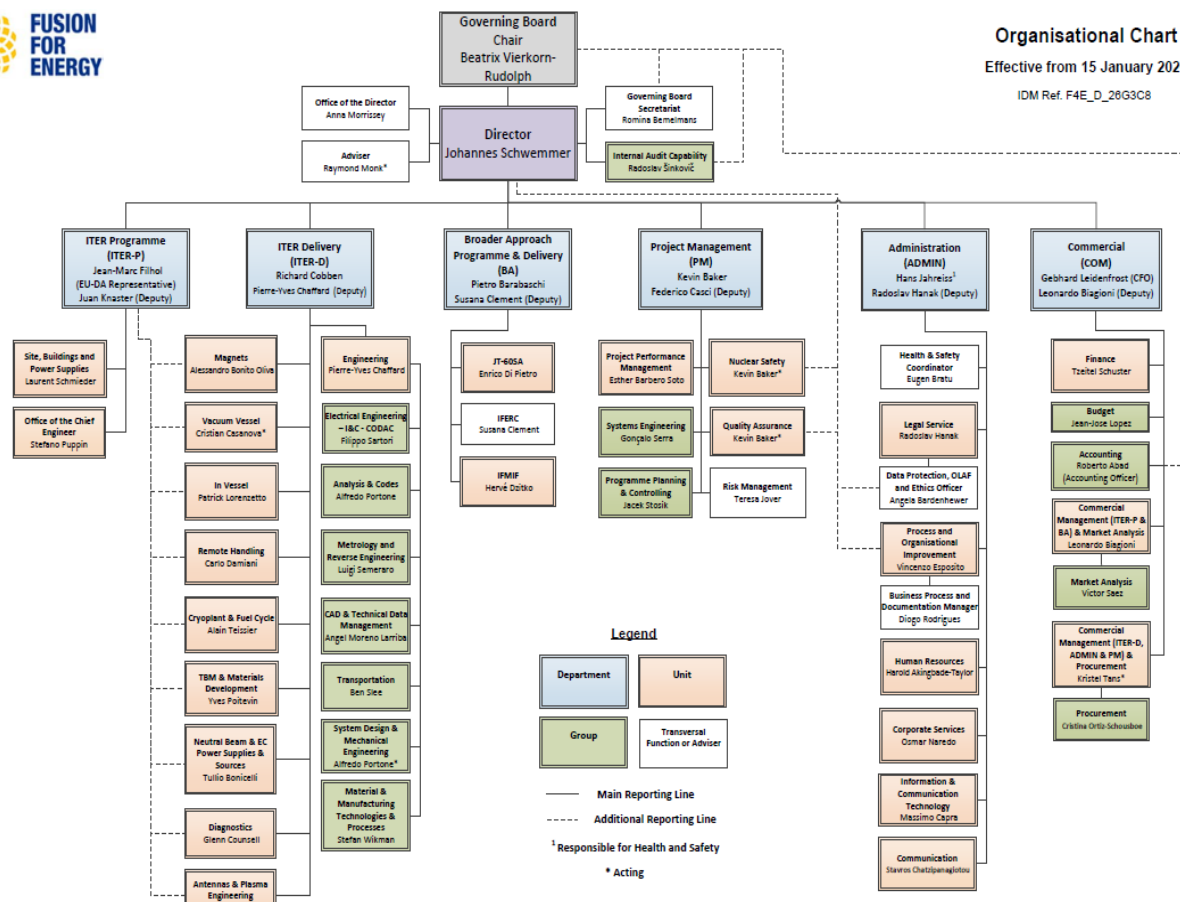
- EUCJ: jurisdiction
- Financial Regulation – PP directives
- EU Staff members
- 50% contribution to the ITER project



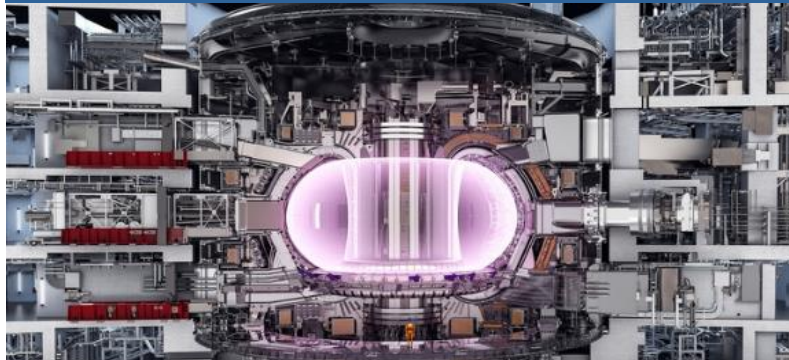
Organisational Structure



Organisational Chart
Effective from 15 January 2020
IDM Ref. F4E_D_26G3C8



ITER: Burning Plasma



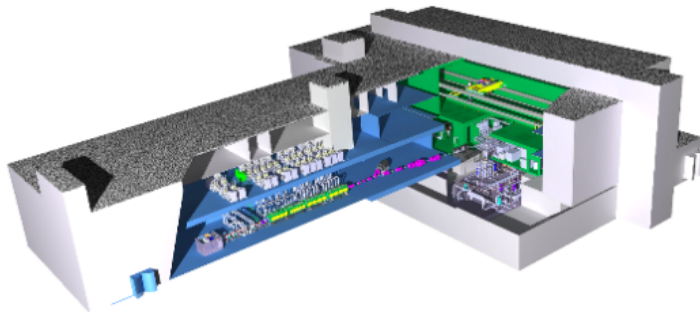
F4E is responsible for Europe's contribution to **ITER**, the world's largest scientific energy project

BROADER APPROACH



F4E is working with Japan on fusion projects known as the **Broader Approach**

DONES: Materials Testing



F4E is responsible for the design & future construction of the **DEMO Oriented Neutron Source**

DEMO: Continuous Power



F4E will prepare a programme to build a power-generating **Demonstration Fusion Reactor**

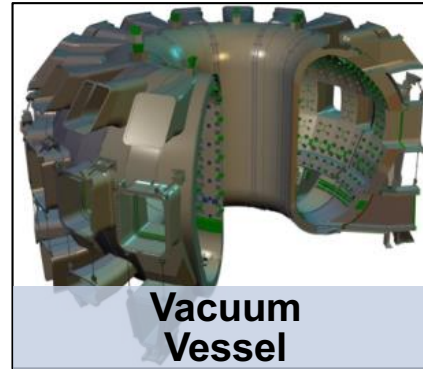
Europe contributes to ITER



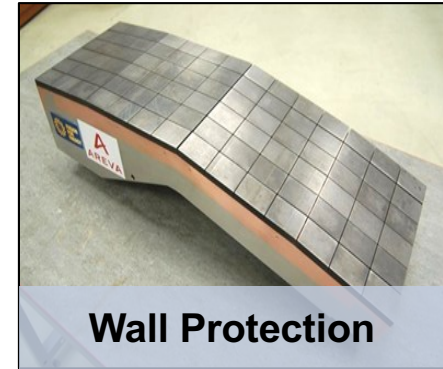
Site & Buildings



Superconducting Magnets



Vacuum Vessel



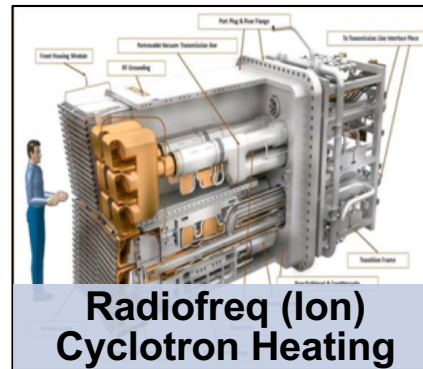
Wall Protection



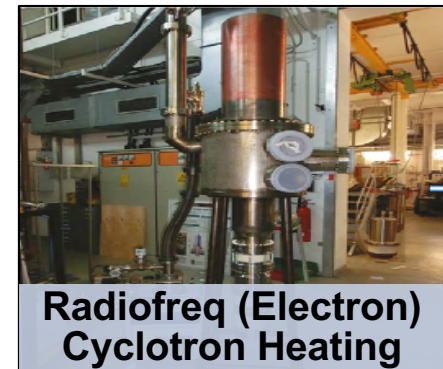
Robotic Remote Handling



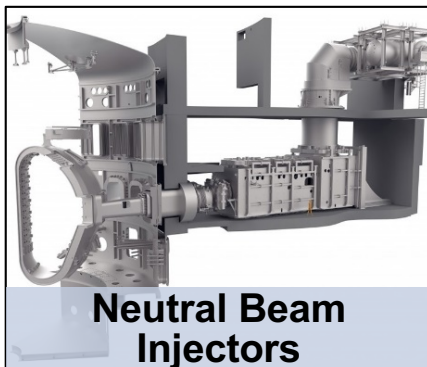
Cryoplant & Fuel Systems



Radiofreq (Ion) Cyclotron Heating



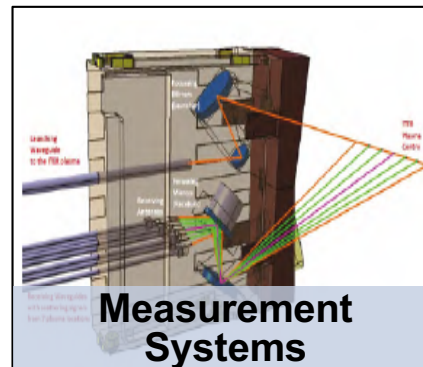
Radiofreq (Electron) Cyclotron Heating



Neutral Beam Injectors



Neutral Beam Test Facility in Padua (IT)

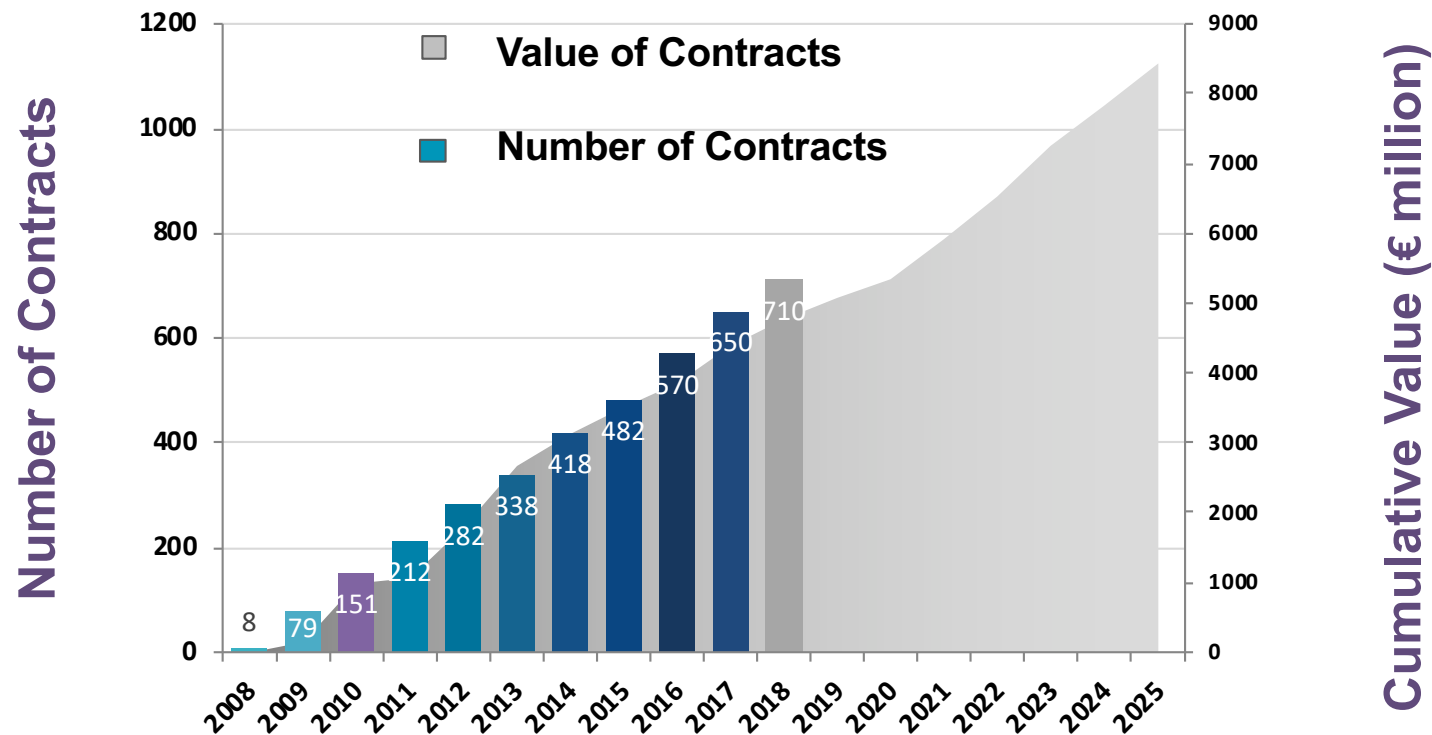


Measurement Systems



Fuel Breeding Modules (TBM)

F4E is approx. half way through its ITER mission in budgetary terms



4.1 B€ market exclusive to European companies until First Plasma (2025)

To date: 4.75 B€, 450+ contractors, 1000+ subcontractors, from 22 EU States



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Pre-Procurement at F4E



Publication of the call for tenders and other business opportunities



F4E web page: procurements and grants, opened call for tenders,

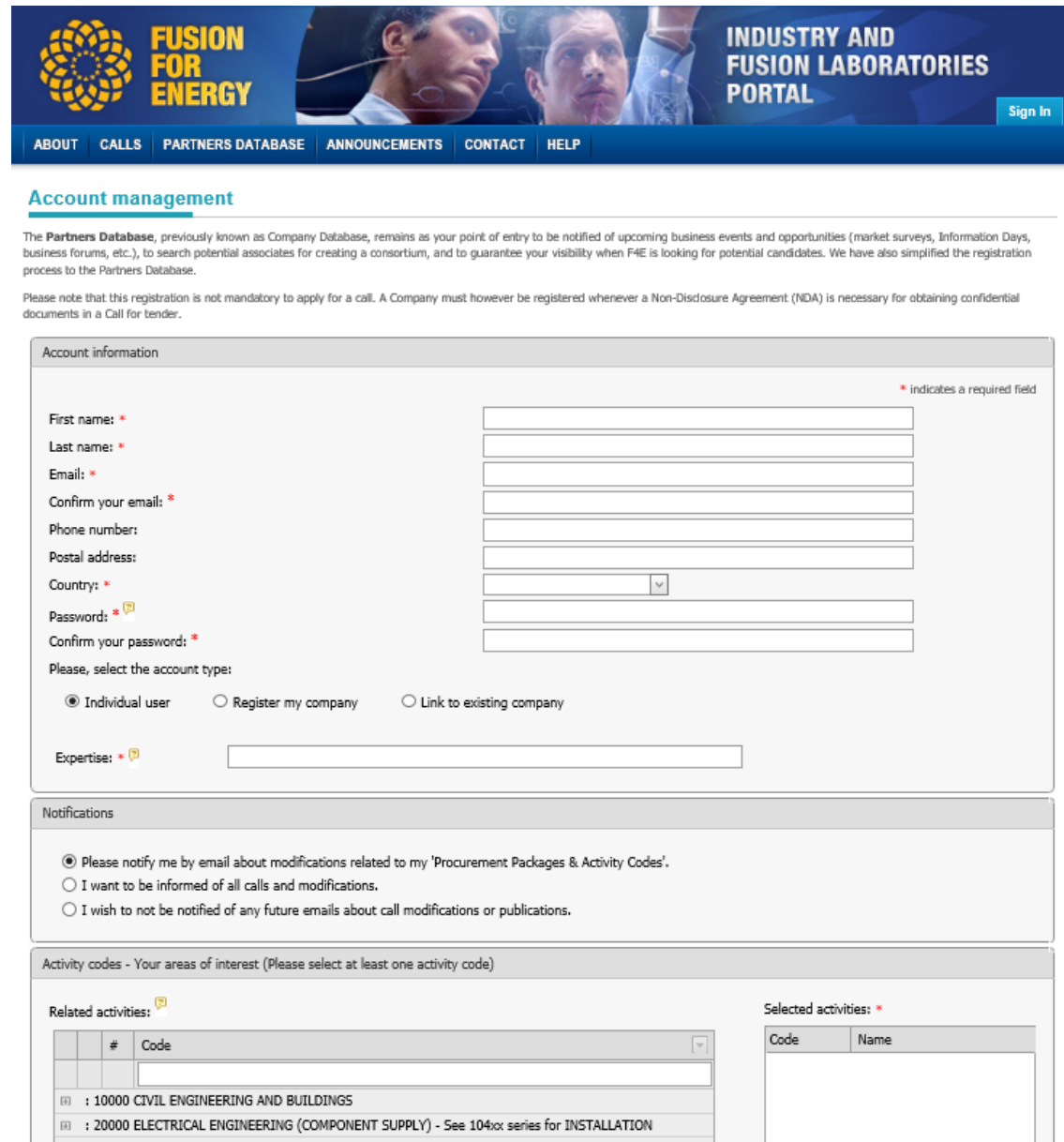


Industry portal
Other information: Important communication, Info Days, Communication events, market surveys



Partners Database:

- Register company profiles –
source of information for F4E !
- Register Company to
receive automatic
notification on business
opportunities



INDUSTRY AND FUSION LABORATORIES PORTAL [Sign In](#)

[ABOUT](#) [CALLS](#) [PARTNERS DATABASE](#) [ANNOUNCEMENTS](#) [CONTACT](#) [HELP](#)

Account management

The **Partners Database**, previously known as Company Database, remains as your point of entry to be notified of upcoming business events and opportunities (market surveys, Information Days, business forums, etc.), to search potential associates for creating a consortium, and to guarantee your visibility when F4E is looking for potential candidates. We have also simplified the registration process to the Partners Database.

Please note that this registration is not mandatory to apply for a call. A Company must however be registered whenever a Non-Disclosure Agreement (NDA) is necessary for obtaining confidential documents in a Call for tender.

Account information

* Indicates a required field

First name: *

Last name: *

Email: *

Confirm your email: *

Phone number:

Postal address:

Country: *

Password: *

Confirm your password: *

Please, select the account type:

☒ Individual user
 ☐ Register my company
 ☐ Link to existing company

Expertise: *

Notifications

☒ Please notify me by email about modifications related to my 'Procurement Packages & Activity Codes'.
 ☐ I want to be informed of all calls and modifications.
 ☐ I wish to not be notified of any future emails about call modifications or publications.

Activity codes - Your areas of interest (Please select at least one activity code)

Related activities:

#	Code
(E)	10000 CIVIL ENGINEERING AND BUILDINGS
(E)	20000 ELECTRICAL ENGINEERING (COMPONENT SUPPLY) - See 104xx series for INSTALLATION

Selected activities: *

Code	Name

Industrial Liaison Officer Network



laboratories Portal

PARTNERS DATABASE



LINKS

> F4E

> ITER Organization CALL FOR TENDER page

> Euratom

31/01/2020 17:02

to the consequences of

ILO contacts (on behalf of F4E) companies to:

- Inform them about business opportunities
- To request info on available technologies



PROCUREMENT AND GRANTS

Can I apply?

Procurement

Grants

Industrial policy

Intellectual Property

Business Opportunities

Key Reference Documents

ITER Task Agreements

ITER IO Calls

> ILOs

Industry and Fusion Laboratories Portal

Industrial Liaison Officers

A network of Industrial Liaison Officers (ILOs) from different European countries regarding funding schemes and ways to get involved in the ITER project. A series planned throughout the year to report on the roadmap of the different procurement between companies.

Austria

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Procurement at F4E



Which Rules does F4E apply?

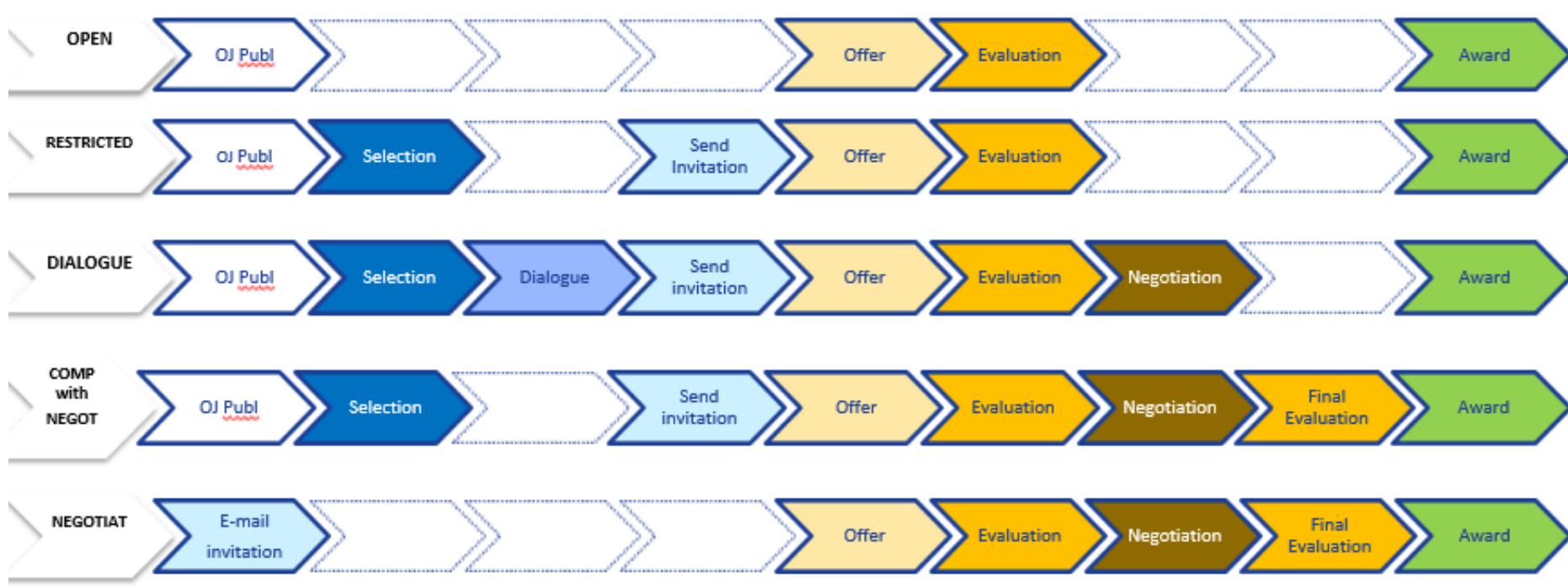
Legal Basis

- F4E Financial Regulation (F4E FR)
- European Commission's Rules: General Financial Regulation (GFR)
- Our basic principles:
 - Transparency
 - Equal treatment
 - Widest Competition for better quality and price
 - Proportionality
 - Sound financial management: economy, efficiency and effectiveness



Procurement procedure types

- Open
- Restricted
- Competitive dialogue
- Negotiated procedure and Negotiated Low Value with competition
- Competitive procedure with negotiations
- Innovation partnership



- **Direct contracts**
- **Framework Contracts (single, cascade and with re-opening)**
- **Innovation Partnership Contracts**
- **Grant Agreements / Framework Partnership Agreements**

Who can participate & how?

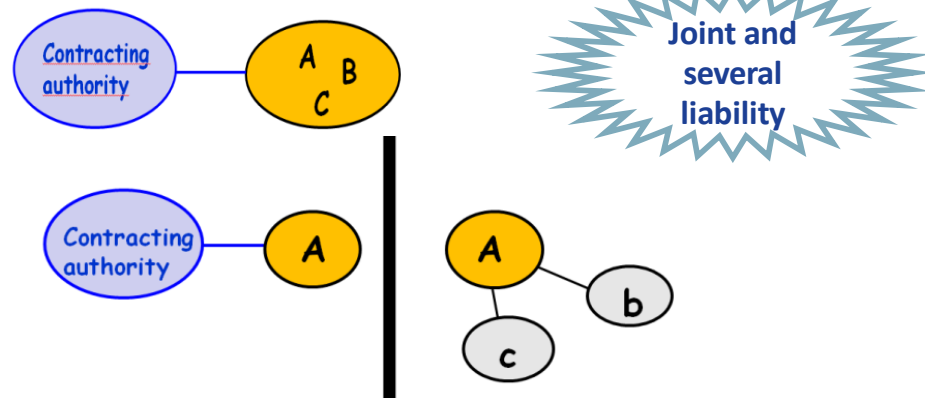
The Principle: F4E Members (EU + CH)

The Exception: World Wide/particular country



Participation in 4 ways:

1. Single Tenderer/Contractor: A
2. Joint Tender: ABC
3. Single + subcontractors: A +(b+c)
4. Joint + subcontractors: ABC + (b+c)



Subcontracting:

Always and unlimited



+



(note 'critical tasks')



F4E Contracts signed: 4.75 B€, 450+ contractors, 182 consortia, 1000+ subcontractors

- **Clear division of tasks, required resources and priorities**
- **Good internal communication channels and decision making procedures (transparency and openness)**
- **High level of commitment from all partners, “we are in this together” mentality**
- **Close monitoring and management of all partners and subcontractors**
- **Pro-active attitude & empowerment to solve issues**

Submission



Step 1: Tenderer registration:

Submit Here

IMPORTANT: Tenderers must register on the e-submission portal at least 48hrs in advance of the submission deadline. Click [HERE](#) to register.

SUBMIT HERE

Step 2: E-submission:

Package 187466:1 Response form

Print... Save Save and back Exit

Response form

Time left before session times out 59:53

Administrative Offer	1 questions to answer 1 questions not answered
Please confirm you have uploaded your administrative offer	
☐ Yes	
Technical Offer	1 questions to answer 1 questions not answered
Please confirm you have uploaded your technical offer	
☐ Yes	
Financial Offer	1 questions to answer 1 questions not answered
Please confirm you have uploaded your financial offer	
☐ Yes	

Time left before session times out 59:53

Print... Save Save and back Exit

Declaration on Honour & supporting evidence

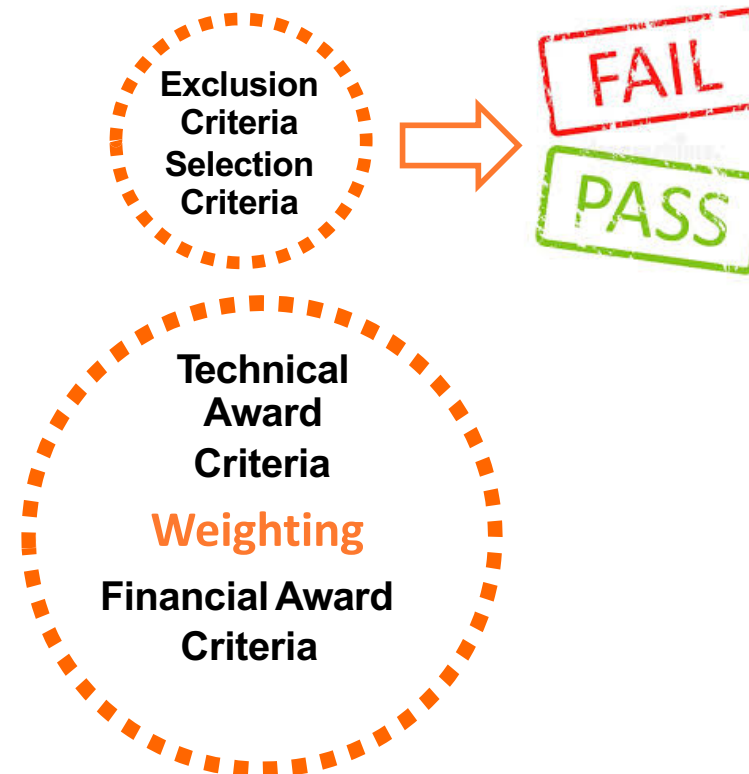
- Exclusion criteria
- Selection criteria

Technical Offer

- Technical compliance
- Technical award criteria

Financial Offer

- Financial award criteria



1. **Best price - quality ratio**
2. **Lowest price:** Compliant tender with lowest price



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Upcoming Opportunities

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In-Vessel

- **OMF-1033:** High Heat Flux tests of First Wall components (CFT deadline 10/02/2020)
- **OMF-1019 :** CuCrZr material for first wall (Target CFT 03/2020)
- **OMF-1074:** Hot Helium leak test for First Wall components (Target CFT 04/2020)

Remote Handling

- **OMF-1034:** Engineering Services (CFT deadline 23/03/2020)

Cryoplant & Fuel Cycle

- **OPE-1056** Radiological and Environmental Monitoring System (REMS) (Target CFT 06/2020)
- In Pipe Inspection Tool (IPIT) (Target CFT Q3 2020)

Antennas

- **OFC-0885:** EC Windows Mechanical Part - To be launched Q1 2020 (Prototype and series)
- **OPE-1XXX:** ECL Assembly – To be launched Q1 2020
- **OFC-1064:** Procurement of CuCrZr for the fabrication of EL EW components (Target CFT Q2 2020)

Neutral Beam & Electron Cyclotron Power Supply & Sources

- Pressure Vessel and Magnetic shielding (Market survey under preparation)
- 6 gyrotrons of 1 MWe and associated components/services (Target CFT Q1 2021)

Diagnostics

- **OPE-1055:** IDES (RH Connector) (including shunt, socket) (Target CFT Q1-Q2 2020)
- **OFC-0847:** CPTS Prel. & Final Design (2 task orders) (Market survey: imminent)
- Collective Thomson Scattering (Target CFT Q4 2021)
- CXRS Camera system (CFT in 2021, if necessary for first plasma, or 2026)
- Clips, clamps and junction boxes for the MIC cables (Target CFT Q1-Q2 2020)
- WAVS port plug components: Target CFT Q2 2021

Test Blanket Modules

- **OFC-1070 - TBM Set Fabrication Development and Manufacturing**
(CFT Q2 2020)

Site and Buildings and Power Supplies

- **TB21:** Retrofit and Finishing works for the Tokamak Complex and surrounding buildings. Target launch: Q1 2020.
- Nuclear doors (TB20) (Market survey closed, CFT target: Q1 2020)
- Support to the Owner for the Hot Cell Complex.

Broader Approach

- **OPE-1061:** Polychromators for JT60SA (Cat A) Competitive with Nego (End of Feb)
Info Day – March, 3 2020 Barcelona
- **OPE-1051:** Solid State Power Amplifiers IFMIF (Cat B)
- **OMF-1048:** Global Logistics provider in support of BA Agreement (<200k€) LAUNCHED
- **OPE-1XXX:** Cryopumps for JT60SA (Cat A) Competitive with Nego (April/May)
- **OPE-1069** Beam loss detection with high sensitivity (IFMIF) ~Apr/May – Open Procedure (~350kEUR)

Supporting Activities (PM & Technical)

- Project Management support service in CE marking
- Support for nuclear safety inspection (Low value, tenderers acknowledged by ASN)
- Material Characterization (Framework contract)



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