



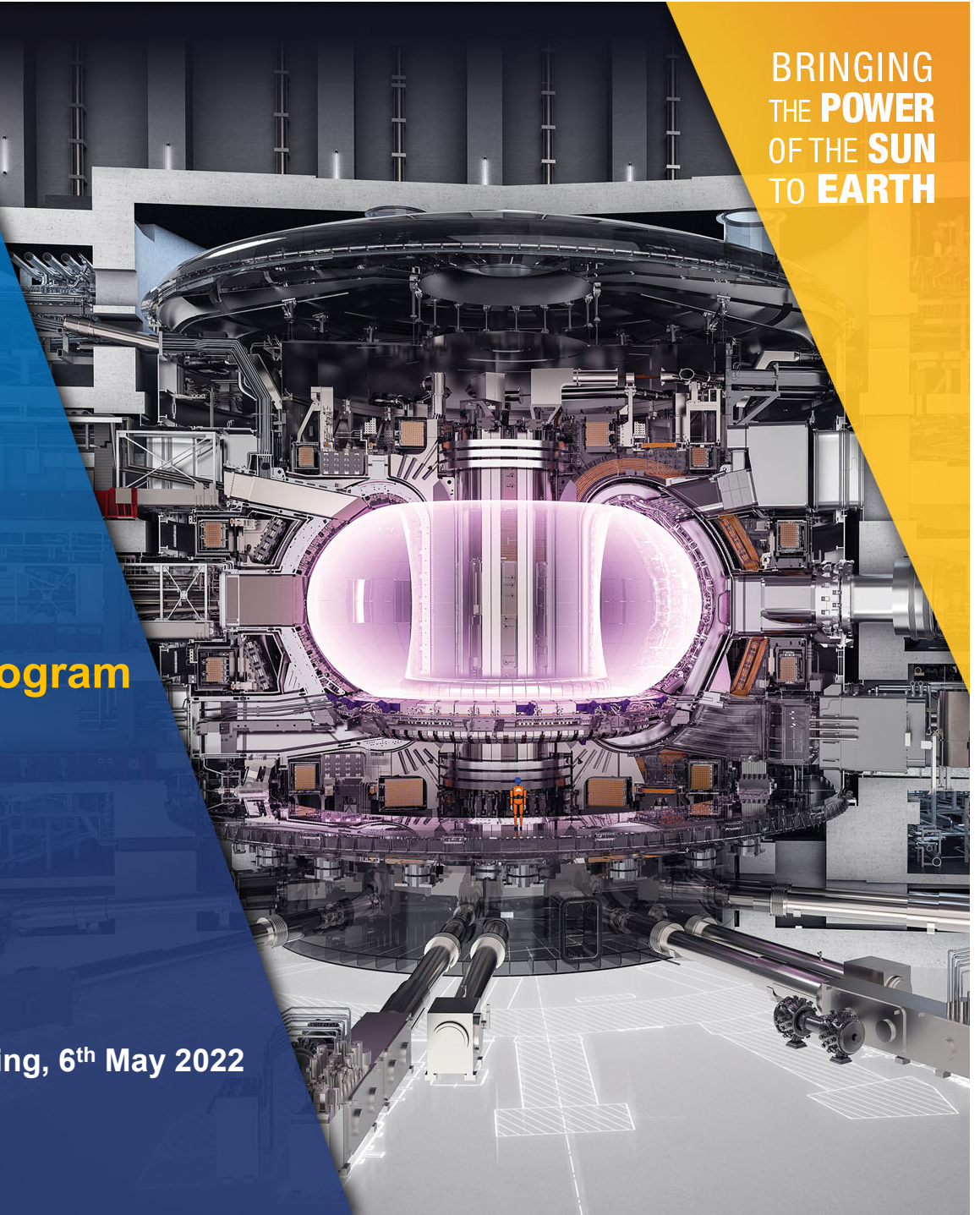
**FUSION  
FOR  
ENERGY**

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

## **F4E Technology Transfer Program**

**Carmen Casteras**  
IP and Technology Transfer Officer

Particle Physics Outreach Group meeting, 6<sup>th</sup> May 2022



# Our Innovation Model



- ▶ Providing the EU In-kind contributions to the ITER project
- ▶ F4E is placing contracts and working closely with industry to provide the infrastructure and the components of the ITER fusion reactor.
- ▶ Budget
  - ▶ 2007-2020 ~€6.8bn (2008 values)
  - ▶ 2021-2027 ~€5bn (2019 values)



## Goal: to increase European Industry competitiveness

- 4-year Program (2020-2023).
- Implemented with the support of a team of Technology Transfer brokers.

Objective: **Success stories** of increased competitiveness, growth, business, employment.

For years, Fusion for Energy is:

Raising a Technology Transfer Culture.

Managing the IP to create business by Industry.

Increasing motivation of companies to work with F4E.

## Activities

### I. Portfolio of Technologies

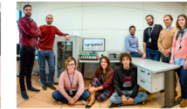


#### Latest technologies



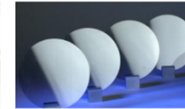
**High-precision dimensional inspections**

An innovative optical prototype system to scan and to reconstruct components in 3D at large distance with high accuracy for inspection and quality control.



**Cost effective robot system ready for the market**

Time and cost savings in the development and configuration of robots thanks to this high-quality industrial software dedicated to safe and precise control of operations.



**Innovative material to outperform natural diamond properties**

A strong manufacturing know-how in diamond discs featuring properties challenging natural diamond for high-power beam transmission or optics.

### II. Brokerage services (fusion and non-fusion companies put in contact). Brokers are supporting:

-F4E Suppliers to find new business opportunities.

-European companies to adopt F4E technologies in their business, solve technical needs and launch new products.

### III. Webinars

“Sales pitch” webinars business oriented.

### IV. F4E Technology Transfer Award

1<sup>st</sup> Edition (awarded in June 2021), 2<sup>nd</sup> Edition to be awarded June 2022. 10K to reward the commercial use of a fusion technology.

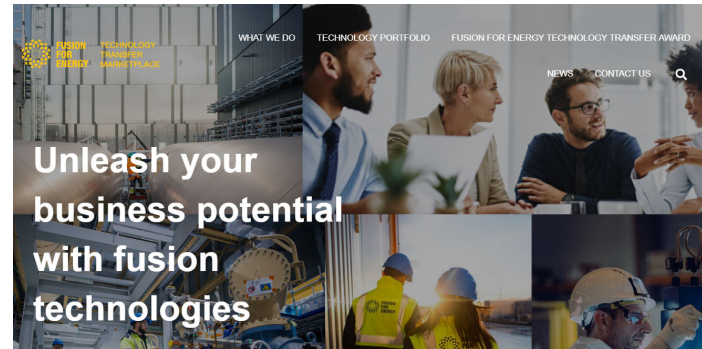
### V. F4E Demonstrator project

1<sup>st</sup> Edition (awarded in February 2022). 35K to fund a project that facilitates the commercial use of an F4E technology.

### VI. BSBF!!



## F4E Marketplace



Key information for companies on the [F4E Marketplace of technologies](#) :

- Contact details of the brokers (e-mail address).
- Portfolio of technologies with their corresponding 'Product data sheet'.
- Webinars recorded.
- Technology Transfer Award.
- Open Call for TT Demonstrator proposals.
- Success Stories.

### Communications marketplace

#### Website data \*Since last report

**8 697**  
views

**-19%**  
**25**  
Views/day  
(average)

#### Top 4 page views

1. Technology Portfolio	1647	18,9%
2. Home	1383	15,9%
3. F4E TT Award	1134	13%
4. Open Call	999	11,5%

**302**  
Best overall  
views in 1  
day

**December 17,  
2021**

#### Top 3 Technology Offers views

1. High precision dimensional inspection	113
2. Cost effective robot system ready for the market	106
3. New electron beam welding technology for very large structures assembly	104

#### Top 3 Success stories views

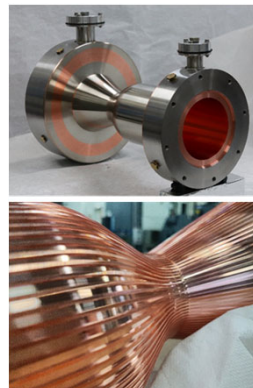
1. ITER electrical connectors open a new market for VAC-TRON in the Oil and Gas industry	116
2. Fusion manufacturing know-how cools down space thrust chambers and particle accelerators	33
3. From impurity diagnosis of fusion plasma to an in-line control system using multispectral vision	22

## Success stories

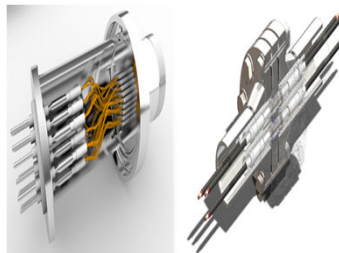
### Fusion is inspiring other fields...



Robust and safe remote-control system for elderly people assistance (Heemskerk Innovative Technology)



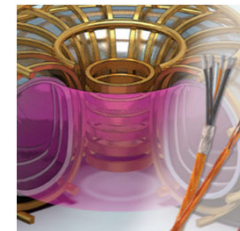
Fusion manufacturing know-how cools down space thrust chambers and particle accelerators (CECOM)



ITER electrical connectors open a new market for VAC-TRON in the Oil and Gas industries



Welding ITER vacuum vessel components helps Pro-beam to sign contracts with Ariane Group and Solar Orbiter



ITER wires and cables generate new sales and jobs outside fusion (AXON Cable)



**FUSION  
FOR  
ENERGY**

**Thank you**

[carmen.casteras@f4e.europa.eu](mailto:carmen.casteras@f4e.europa.eu)

