

# SPANISH SCIENCE INDUSTRY

DR. ERIK FERNÁNDEZ (INEUSTAR)

09/07/2024



**ineustar**  
Asociación Española de la Industria de la Ciencia

# SPANISH SCIENCE INDUSTRY

Who we are?

What do we do?

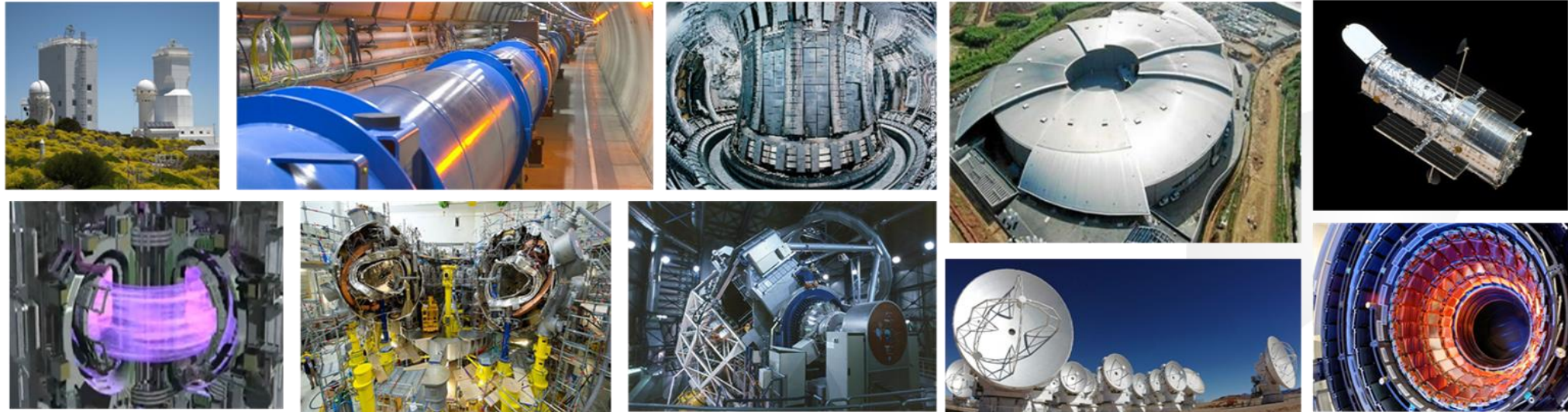
Our activities in ILC

What next?

Who  
We Are?



SCIENCE INDUSTRY is the economic sector which includes the companies devoted to the design, engineering, construction, updating and keeping of scientific research facilities, its equipment and other related instruments



# Some Spanish Companies working in Science Industry

## CATALOGUE: Spanish Capacities in Large Scientific Facilities



# Science and technology



Dr. Erik Fernández

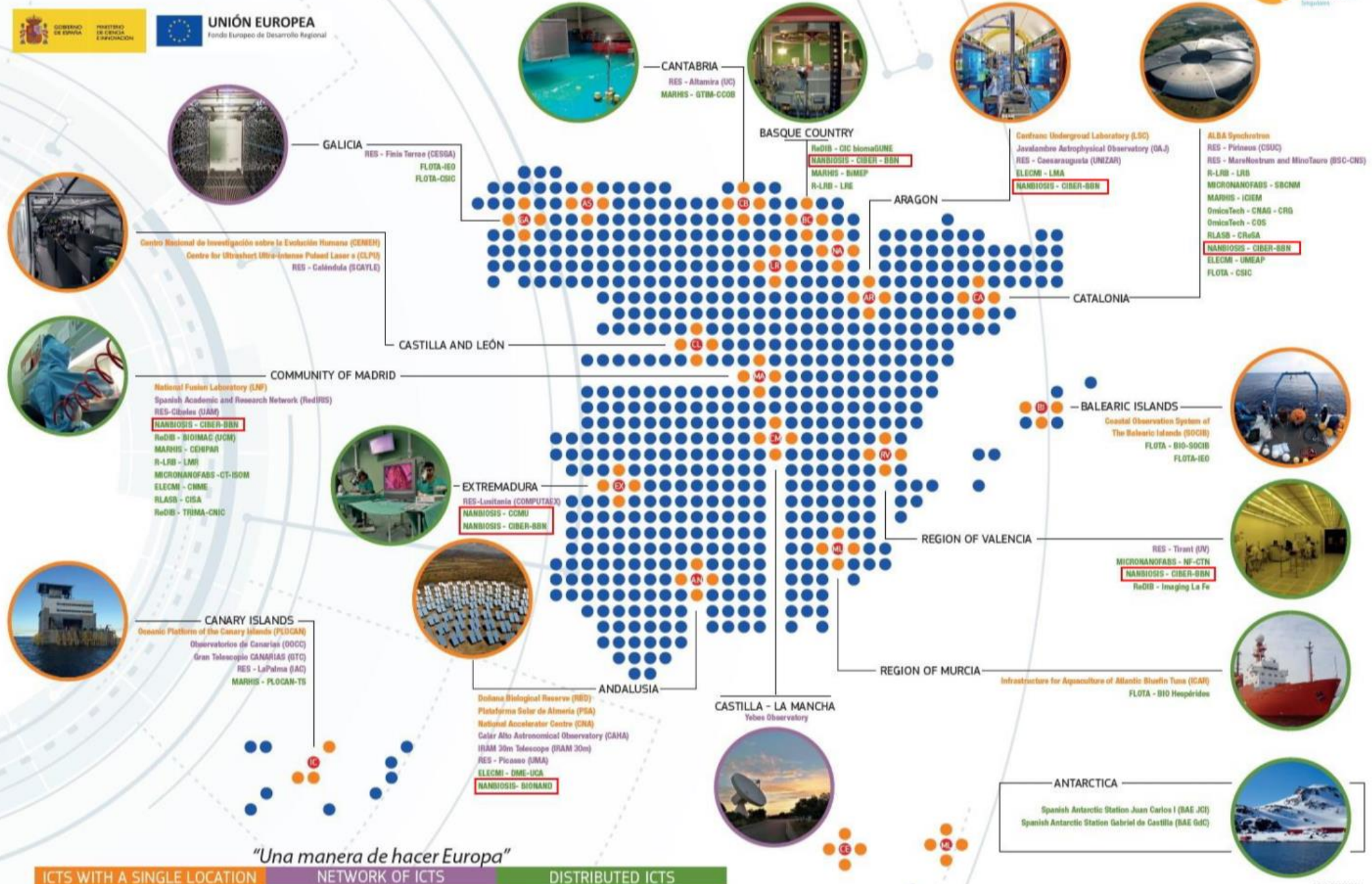
# MAP OF UNIQUE SCIENTIFIC AND TECHNICAL INFRASTRUCTURES



## Map of



ustar  
Jla de la Industria de la Ciencia



"Una manera de hacer Europa"

ICTS WITH A SINGLE LOCATION

NETWORK OF ICTS

DISTRIBUTED ICTS

# Public Authorities





## Our goal is to help to:

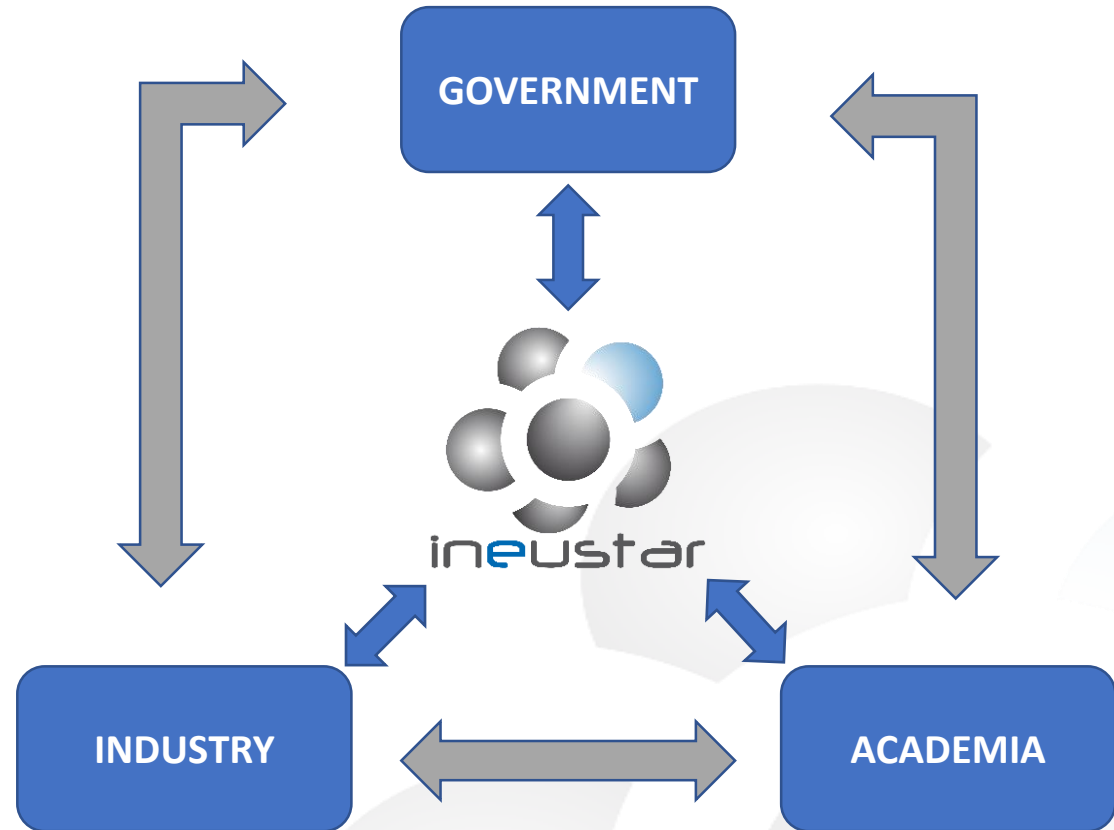
Increase economic impact

Boost technology transfer

Dissemination

Boost of R&D promotion

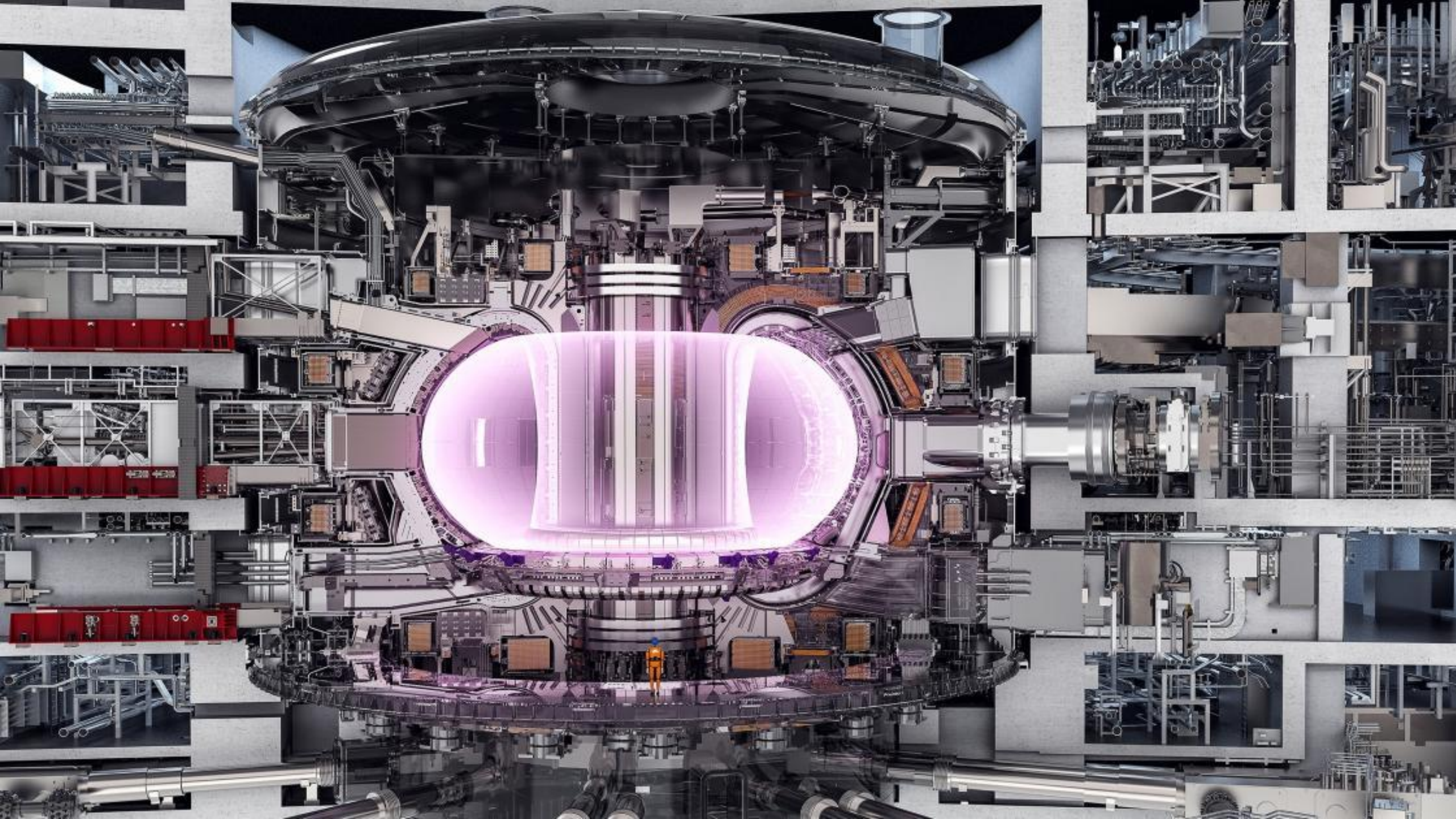
New activities attraction

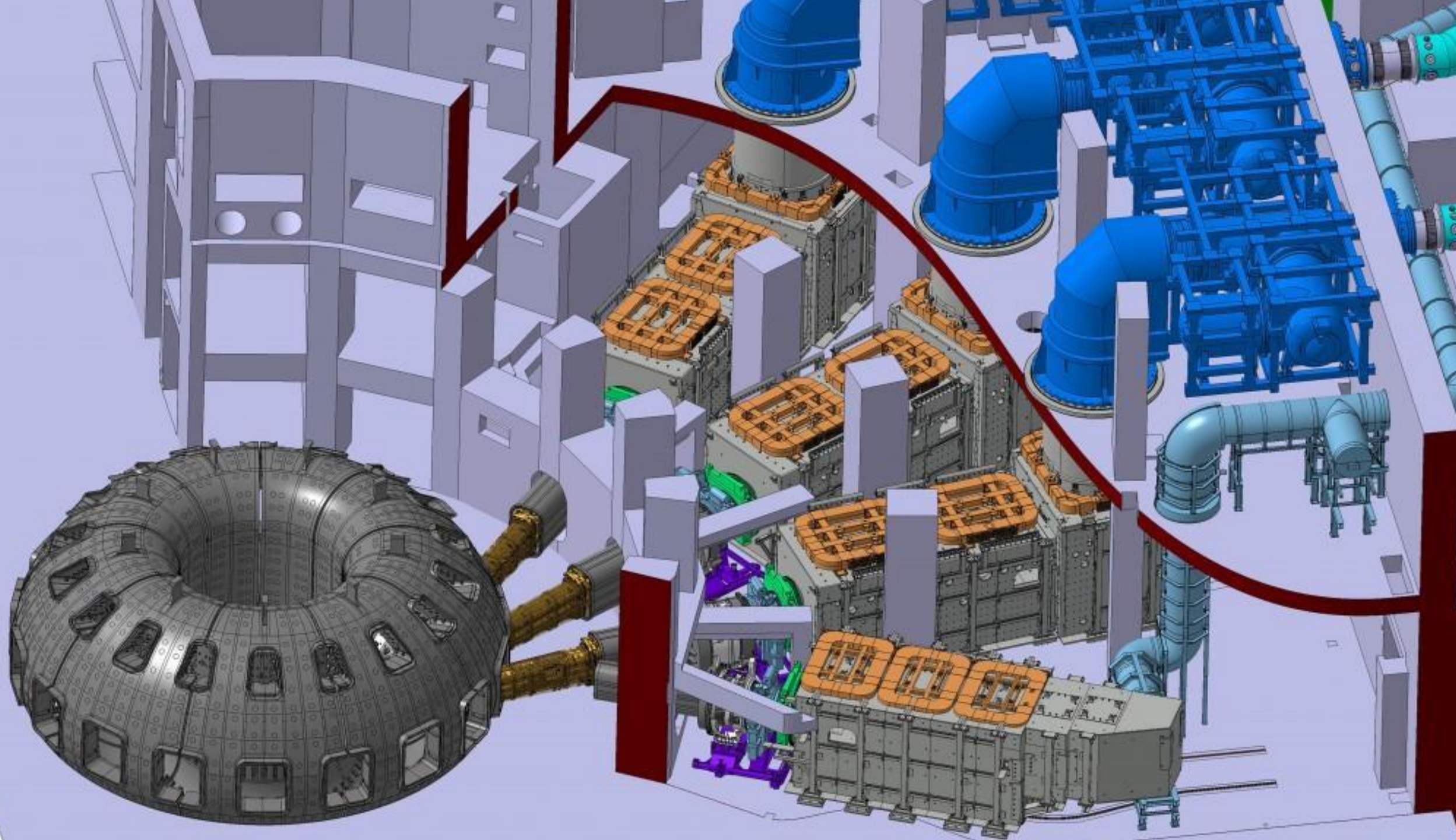


**We Can Do It!**







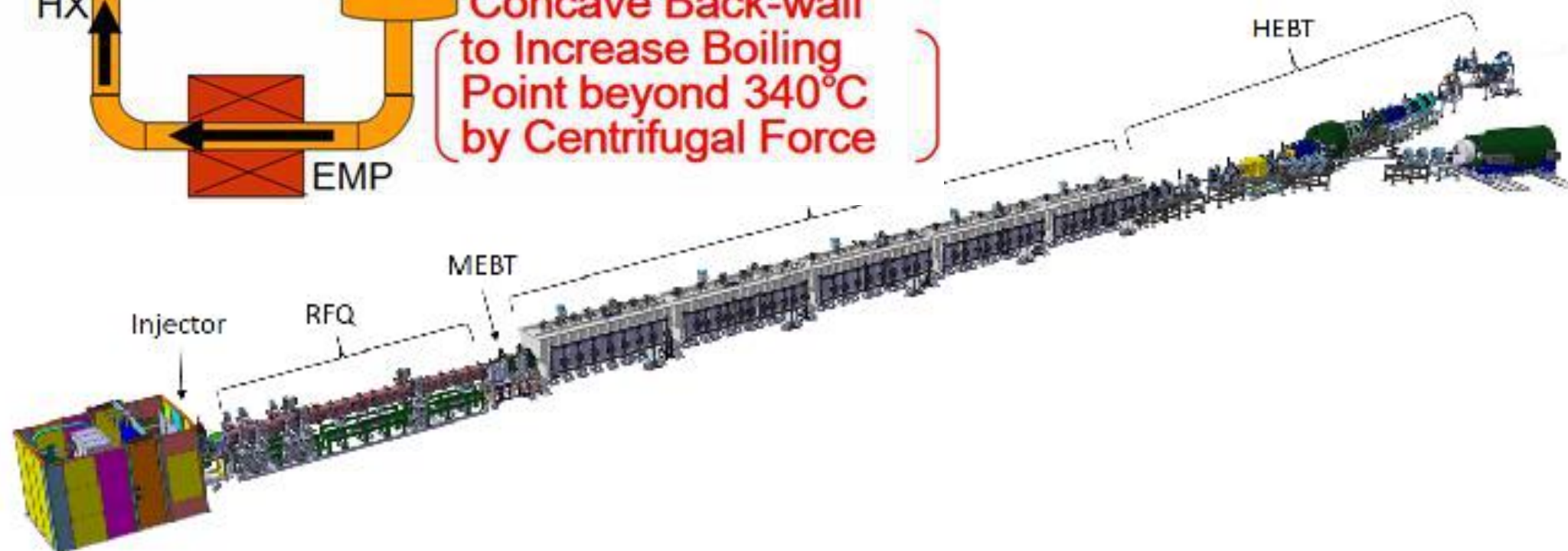
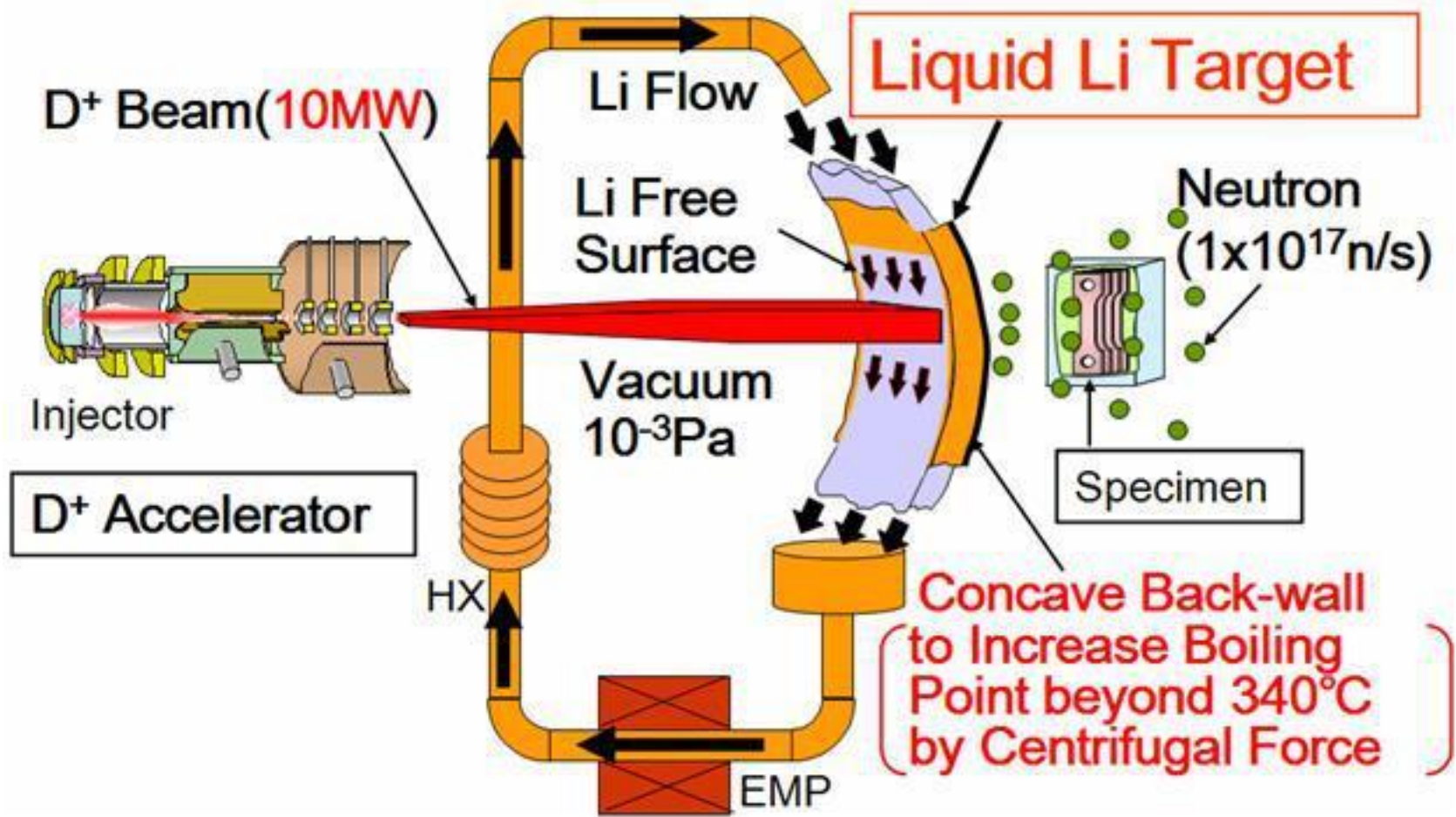




# IFMIF-DONES

International Fusion Materials Irradiation Facility  
DEMO Oriented Neutron Source

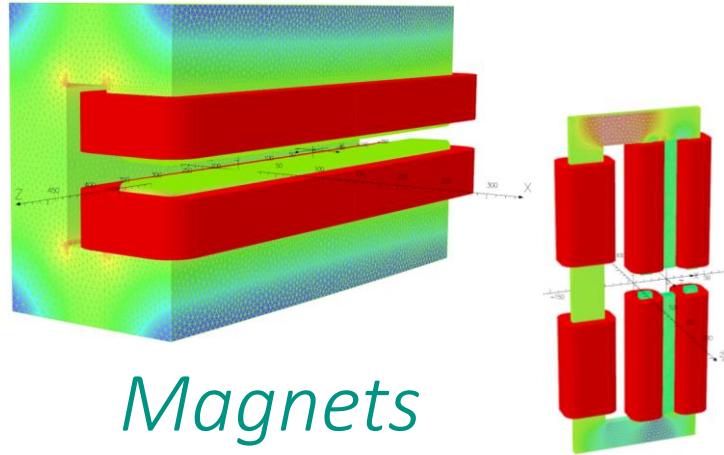
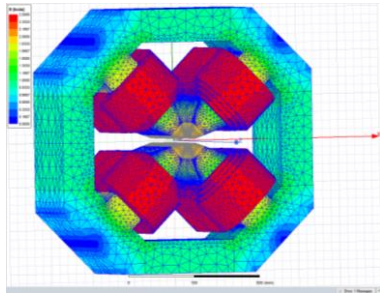




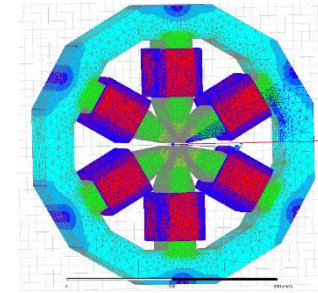




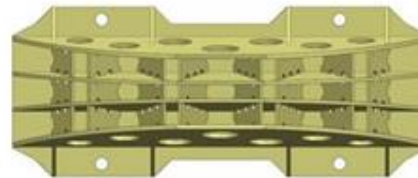
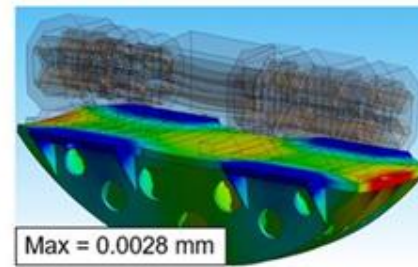
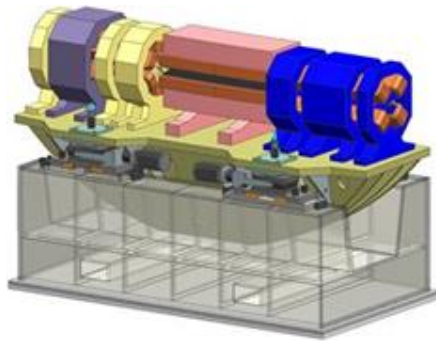
# Prototypes



*Magnets*



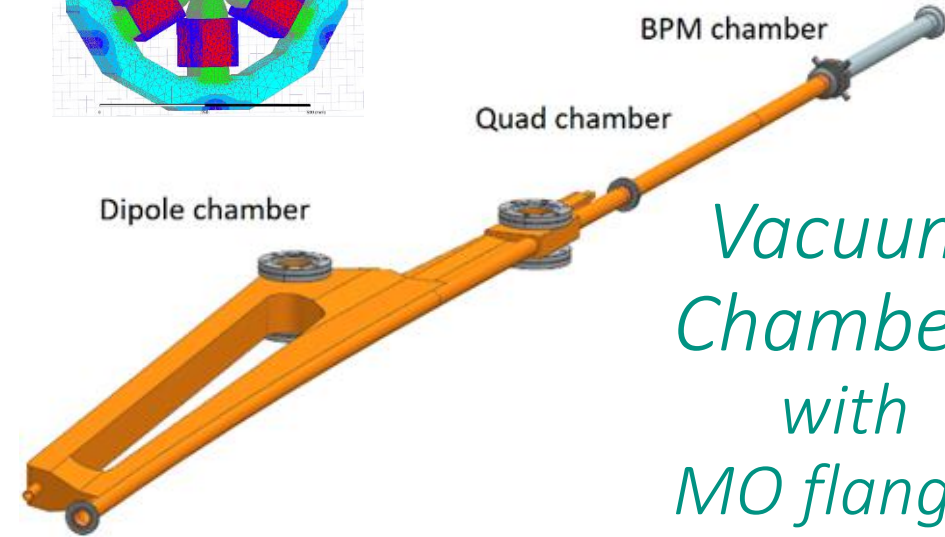
Dipole chamber



1<sup>st</sup> eigenmode = **124 Hz**

Deformation < **3 um**

*Girders*



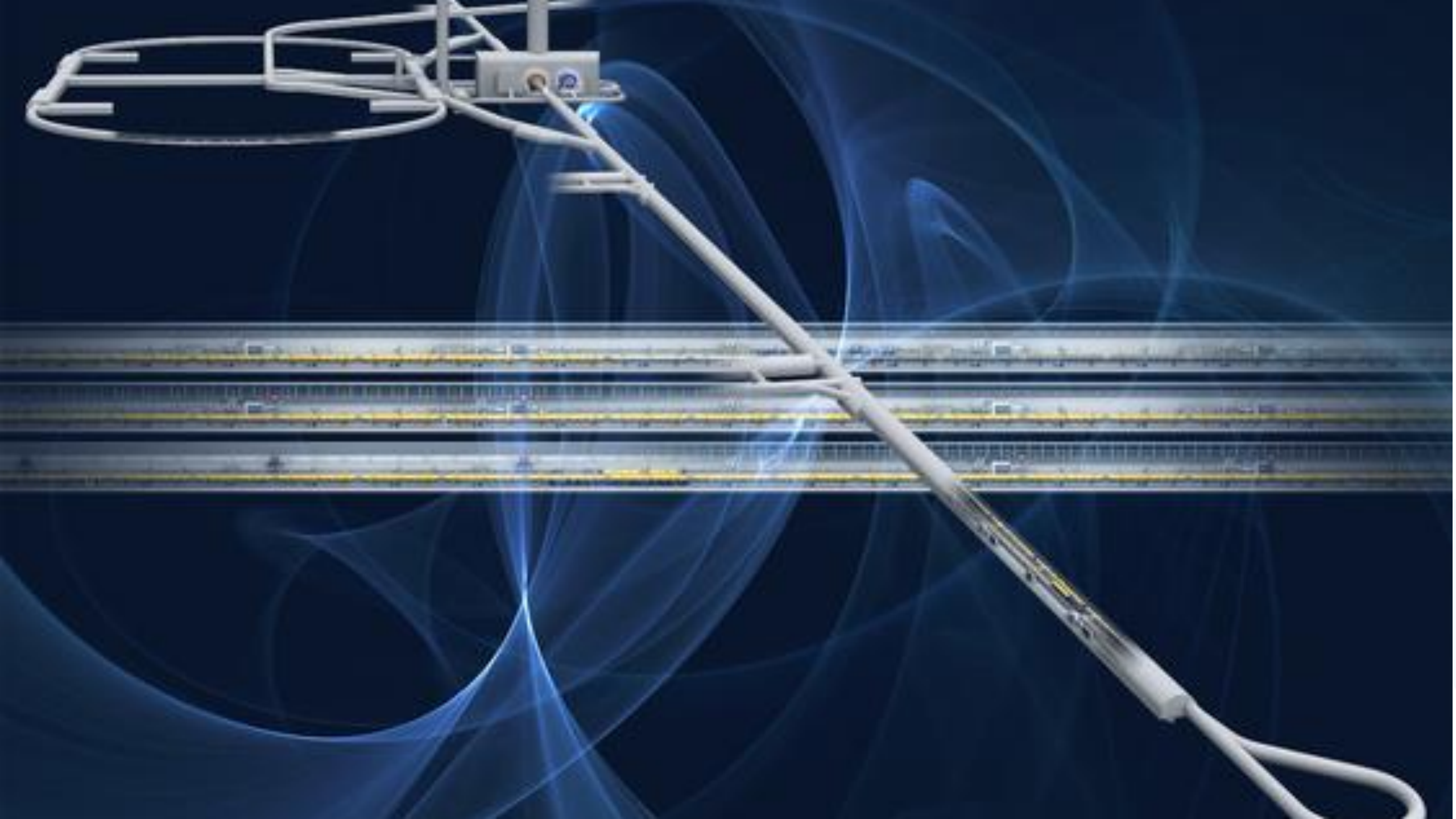
BPM chamber

Quad chamber

*Vacuum Chambers with MO flanges*

*DDK: Double Dipole Kicker*

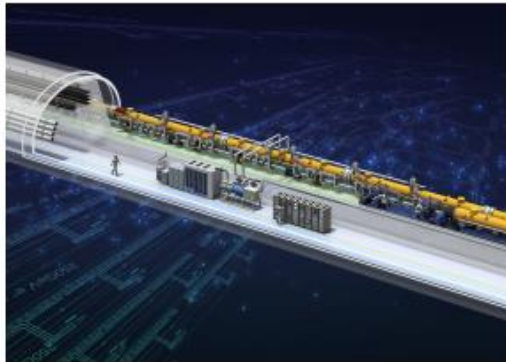
*SCU: Superconducting Undulator*



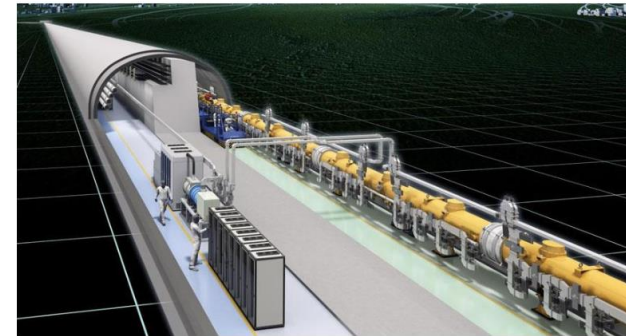
Version 2.2, December 4<sup>th</sup>, 2020

## A Spanish contribution to the International Linear Collider

Prepared by the Spanish network for future colliders



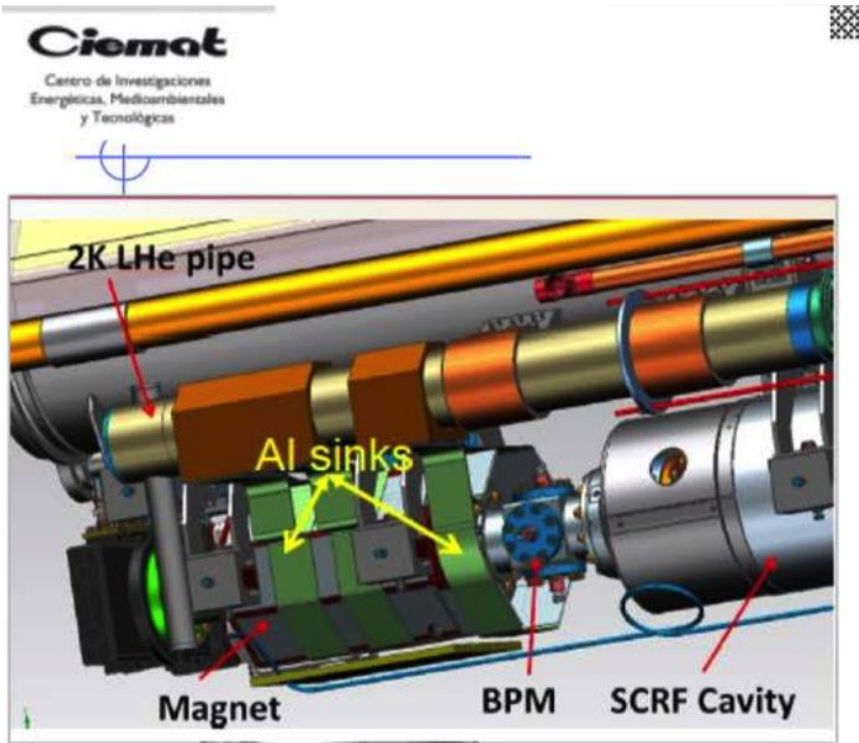
## OPORTUNIDADES E INTERESES ESPAÑOLES EN EL INTERNATIONAL LINEAR COLLIDER (ILC)



## Extraction lines and beam dump system

## Damping Rings

## Linear Accelerator



	<b>ILC Cryomodule Magnet</b>	
Type: Combined	QUADRUPOLE	DIPOLE (2 H&V)
Overall N° of Magnets	<315	<630
Integrated Field	36 T	0.075 Tm
Peak Field	3.3 T	
Magnetic Length	680 mm	
Inner Diameter	78 mm	
Op. Current	100 A	
Baseline Technology	Splittable NbTi <sub>2</sub> Conduction Cooled	
Alternative Technology	Splittable MgB <sub>2</sub> Conduction Cooled	

A yellow diamond-shaped sign with a black border and two silver fasteners at the top and bottom. The sign is positioned in the foreground, slightly to the right of the center. The background is a desert landscape with a winding road, a small white vehicle, and brown mountains under a clear blue sky.

**WHAT'S  
NEXT?**



# Supply Chain Risk Mitigation for Scientific Facilities and Tools

Report from the November 2021 Roundtable



## SPANISH CAPACITIES IN LARGE SCIENTIFIC FACILITIES







**THANK YOU  
FOR YOUR ATTENTION !**

*Dr. Erik Fernández*  
[efernandez@ineustar.com](mailto:efernandez@ineustar.com)



**ineustar**  
Asociación Española de la Industria de la Ciencia