



SPANISH SCIENCE INDUSTRY

DR. ERIK FERNÁNDEZ (INEUSTAR)

09/07/2024









SPANISH SCIENCE INDUSTRY

Who we are?

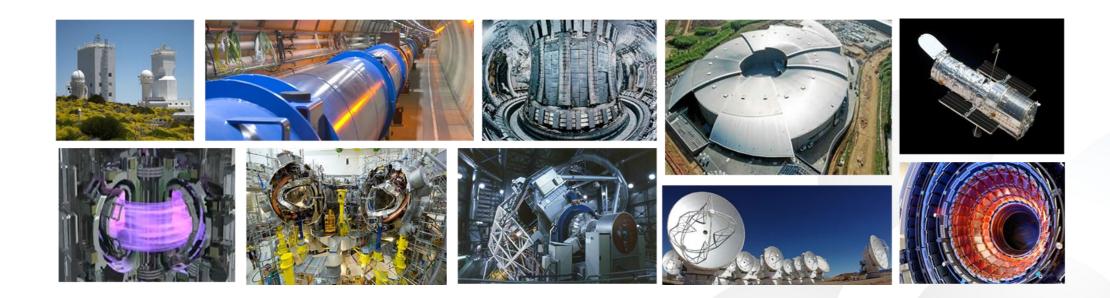
What do we do?

Our activities in ILC

What next?



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







Telstar.

ABENGOA























wisslan

VLORIMEV































gasNatural



RAMEM













GSE Optics







fenosa































LCWS 2024

Science and technology





























Barcelona Institute of Science and Technology













tecnal:a

MEMBER OF BASQUE RESEARCH & TECHNOLOGY ALLIANCE





MOLECULAR Y NUCLEAR







UNIVERSIDAD **COMPLUTENSE**

MADRID

















Departamento de Física Teórica

Universidad Zaragoza





Universidad del País Vasco



















Dr. Erik Fernández

MAP OF UNIQUE SCIENTIFIC AND TECHNICAL INFRASTRUCTURES









Public Authorities









PENSTERIO DE INDUSTRIA, COMERCIO YTURISMO





GOBIERNO DE ESPAÑA MINISTERIO DE CIENCIA E INNOVACIÓN













Our goal is to help to:

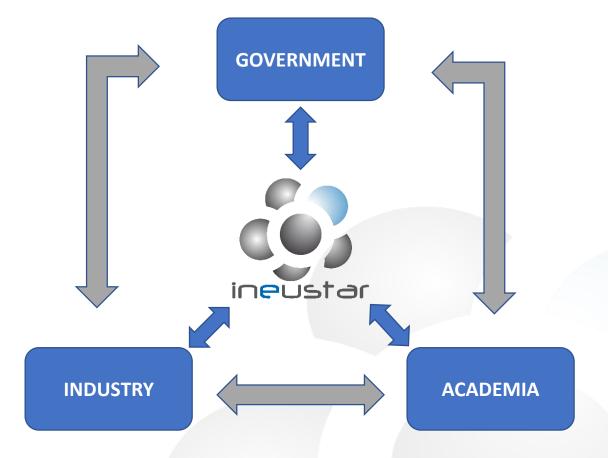
Increase economic impact

Boost technology transfer

Dissemination

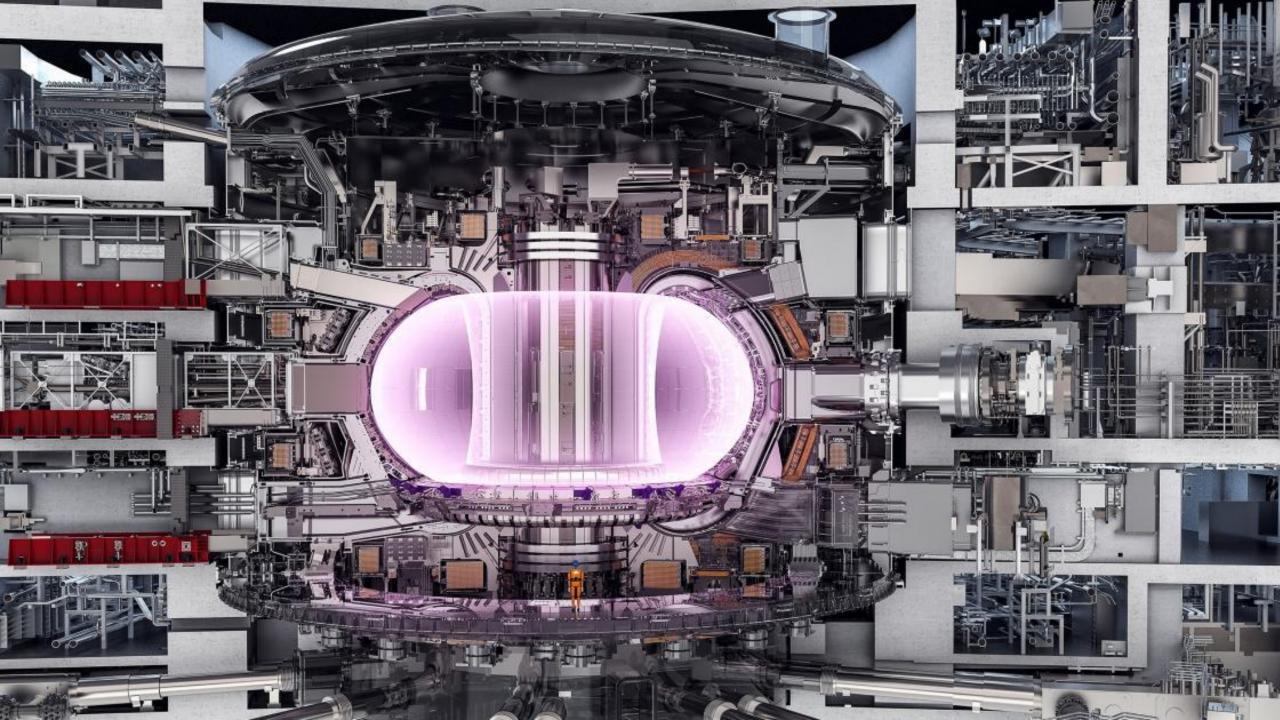
Boost of R&D promotion

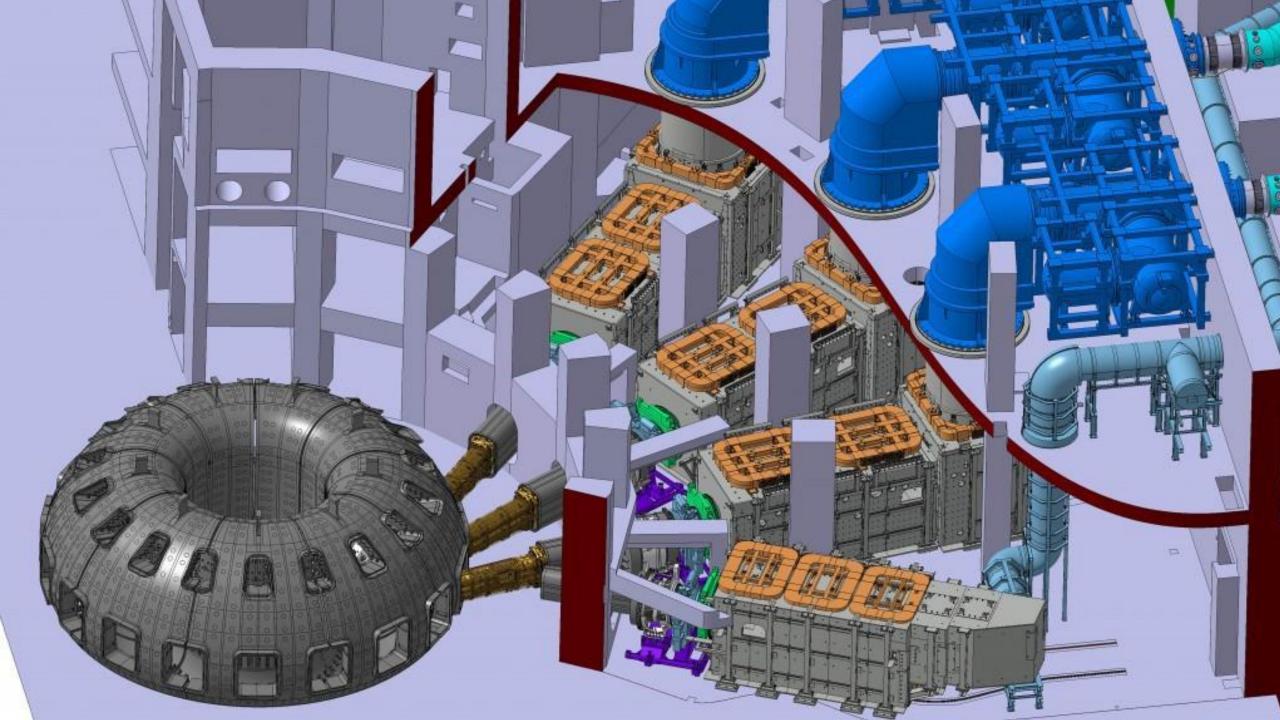
New activities attraction



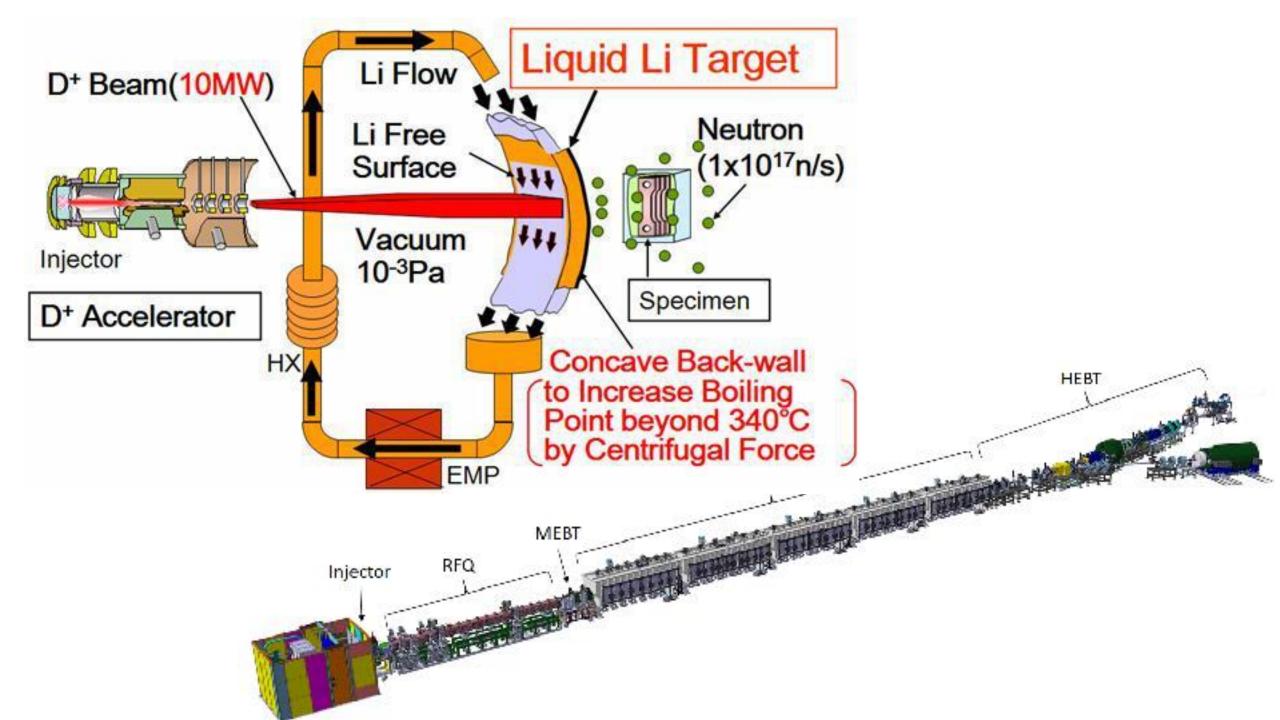






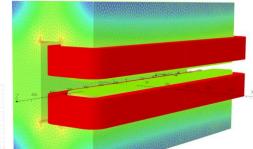


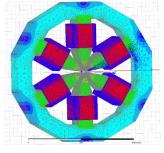






Prototypes







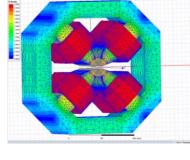
Ayuda ICTS-MRR-2021-02-CELLS financiada por:

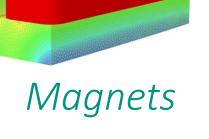


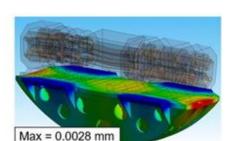




2022-2025







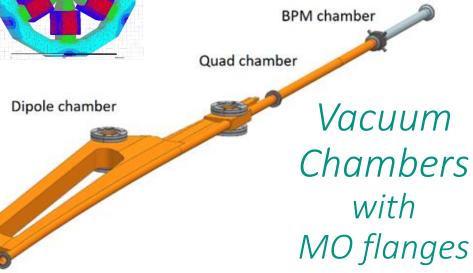


1st eigenmode = **124 Hz**



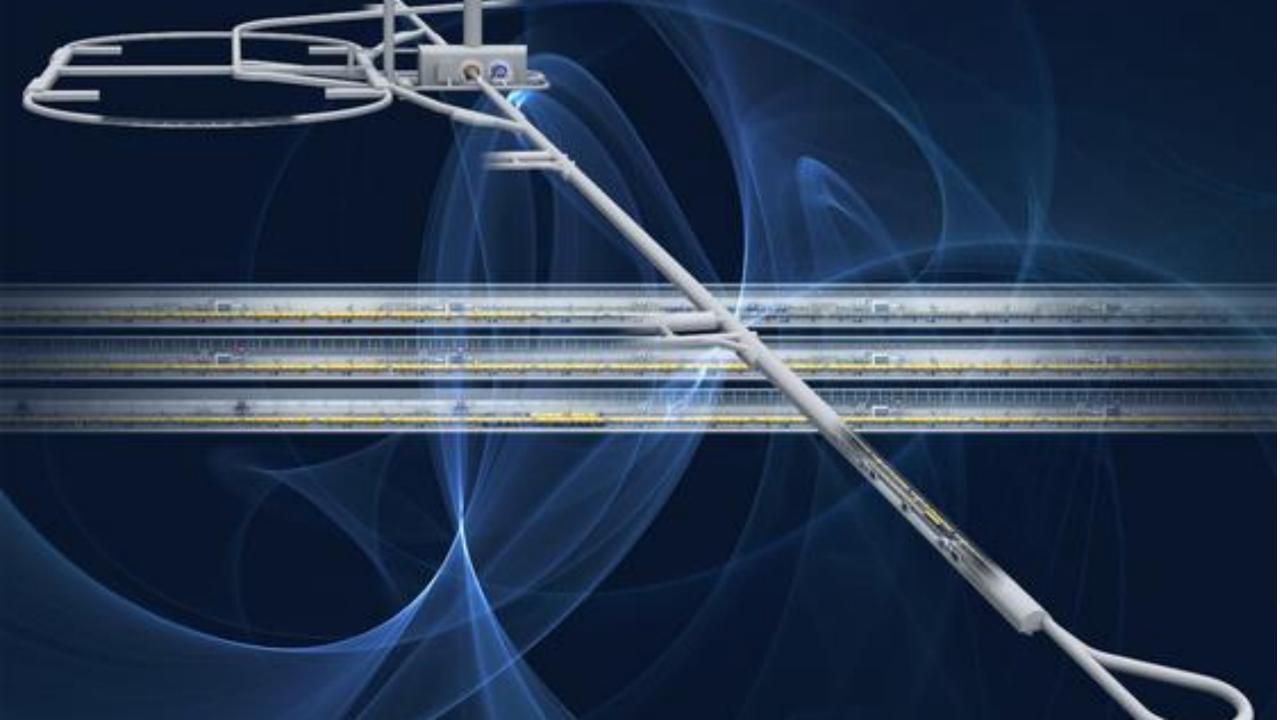
Deformation < 3 um





DDK: Double Dipole Kicker

SCU: Superconducting Undulator



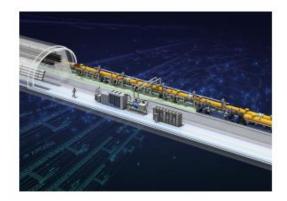
Medium-long term vision and COLLABORATION



Version 2.2, December 4th, 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)





RED ESPAÑOLA DE FUTUROS COLISIONADORES

Medium-long term vision and COLLABORATION



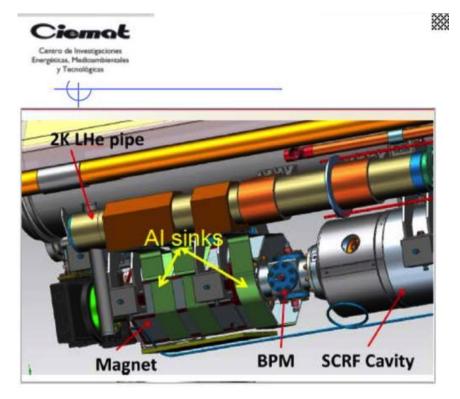
Extraction lines and beam dump system

Damping Rings

Linear Accelerator



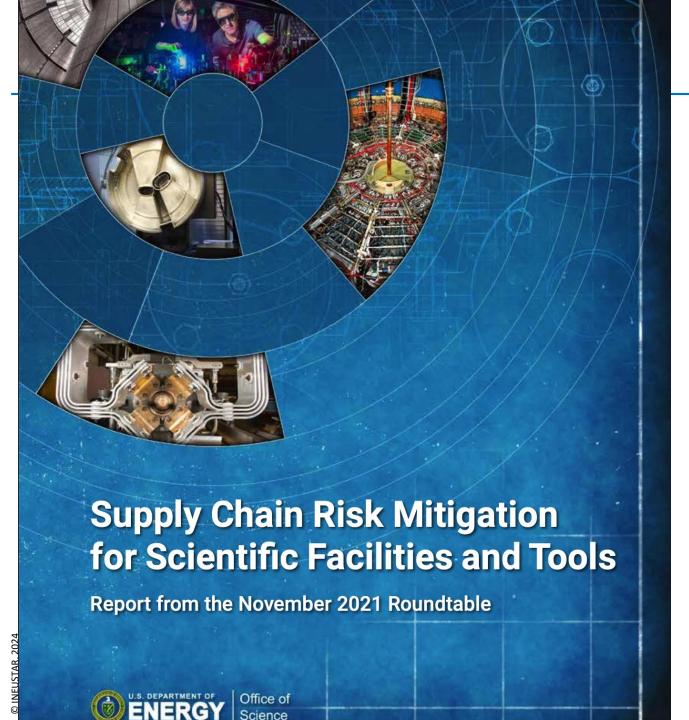




	ILC Cryomodule Magnet											
Type: Combined	QUADRUPOLE	DIPOLE (2 H&V)										
Overall No of Magnets	<315	<630										
Integrated Field	36 T	0. 075 Tm										
Peak Field	3.3 T											
Magnetic Length	680 mm											
Inner Diameter	78	mm										
Op. Current	100 A											
Baseline Technology	Splittable NbTii Conduction Cooled											
Alternative Technology	Splittable MgB ₂ Conduction Cooled											

© INEUSTAR, 2024







SPANISH CAPACITIES IN LARGE SCIENTIFIC FACILITIES







	TRAINING	ENGINEERI NOTCONSO L'ANC ESPISI O DESCRESSIONES DE DOS PROCESSIONES DE PROCESS	Mechanical Engineering	Bechloal Engineering	Opto-medianical Engineering		Ectrical/Mechanical Engineering	Opto-electranic Engineering		entitio	CONSTRUCTION (BUILDING & ROAD)	She Preparation (after and earthworks)	1	Pleasing, occurig, vertilisation, Ar conditioning Compressed air	Water supply and treatment	Bec+power supply, wind/solar	Roads	_	Control and communication Cables	Switchgar and Switchboards	Power Conductors and Supplies, Labels	Recent Surely Commonwells	_	ELECTRONICS	Power Supples - Transformers	Crout Boards	RF and	Function	_	Passive Components Addive Components	MECHANICS	Raw Materials	Equipment/Tods (machine tods, welding portable/special tods, etc.)	Manufacture and Supply of Produce	and i	Cas they + molding, longing	Wedning, procision welding Sheet metal work	Custom made pos	Precision Machining Work and Supply of Produce	nstom made pos	Standard production items	Spark erosion machining	Specialized Manufacture	Working of spec metal Allows	Heattrashmentandace beatm	Fibragiass, composite, plassic	Ceramics moulding + machining	INFORMATION TECHNOLOGY	Hardware (comms, computers, worlestations)	Storage Systems	Data communication	Software (PLC, development, C&D. Cath. vtc.)	rs utancy (manterance, cuspou	Double charles. Charles. Charles. Charles.	Mirrors, prisms, filtors, fibres, degicon, pers, ebc.	vical Treatment of Material, ogain	Manufacturing of Opto-Mechanical Perioes	Laboratory Equipment - Positioning Laboratory	Option ectronic detectors and compounds	Photo/Film Equipment, Materials and Consumables
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THANK YOU FOR YOUR ATTENTION!

Dr. Erik Fernández efernandez@ineustar.com

