CIME (Centro de Investigación Materiales Estructurales y Avanzados)

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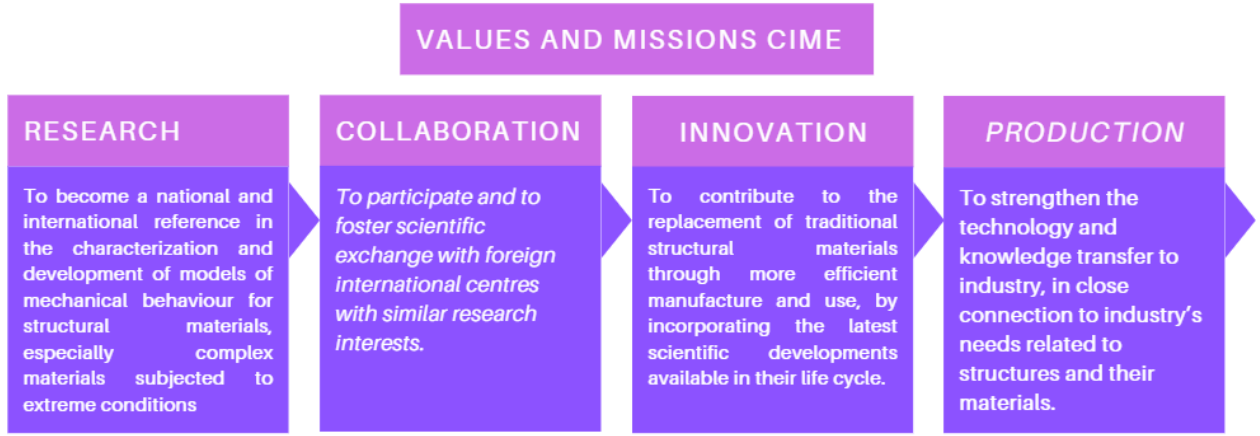
ABOUT US

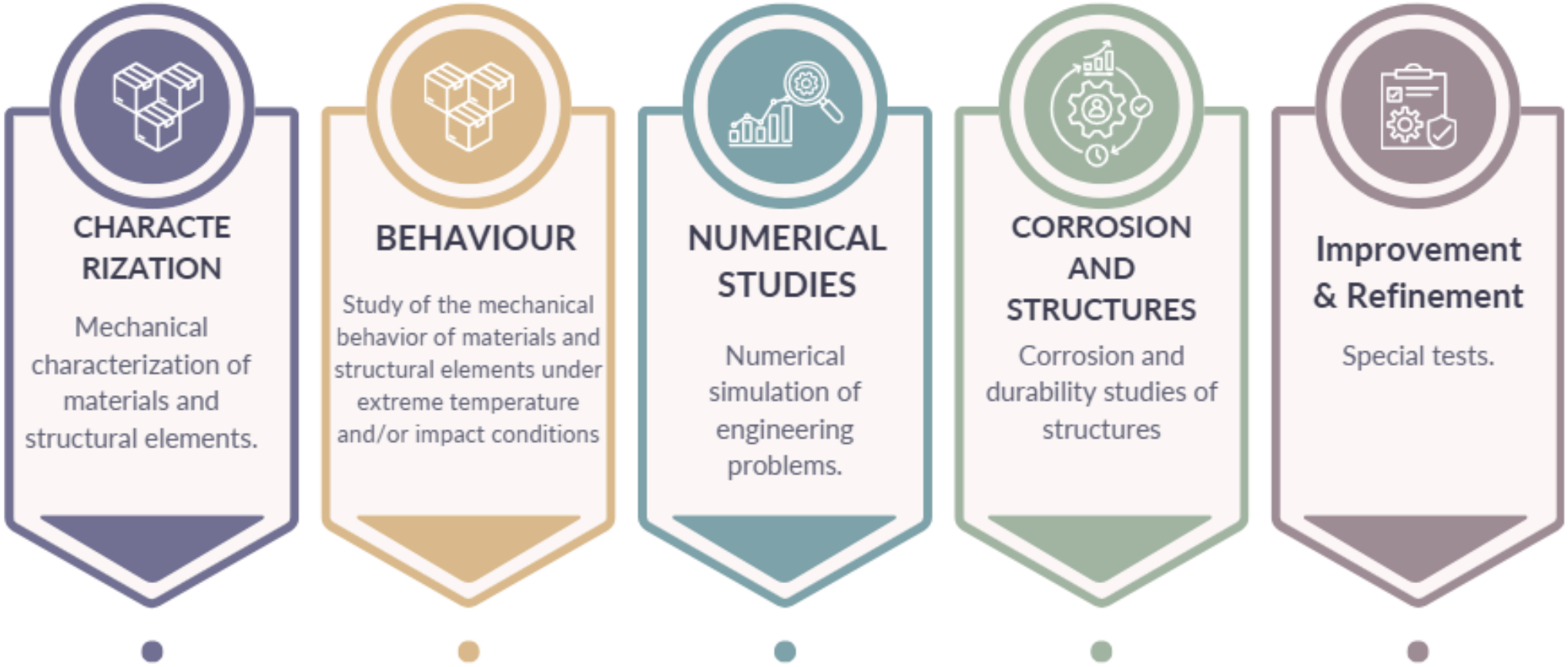
- We are a research center at the Polytechnic University of Madrid focused on the study of structural materials and structural behavior.
- We have several laboratories and a total of 54 researchers, including 16 university professors and 13 tenured professors.

- Our Mission: CIME's mission is to contribute to the development of more efficient, safe, and sustainable structural materials and structures, through the generation of scientific knowledge and technology transfer to industry.

FIGURE 1: Gobernance structure of CIME



CAPABILITIES



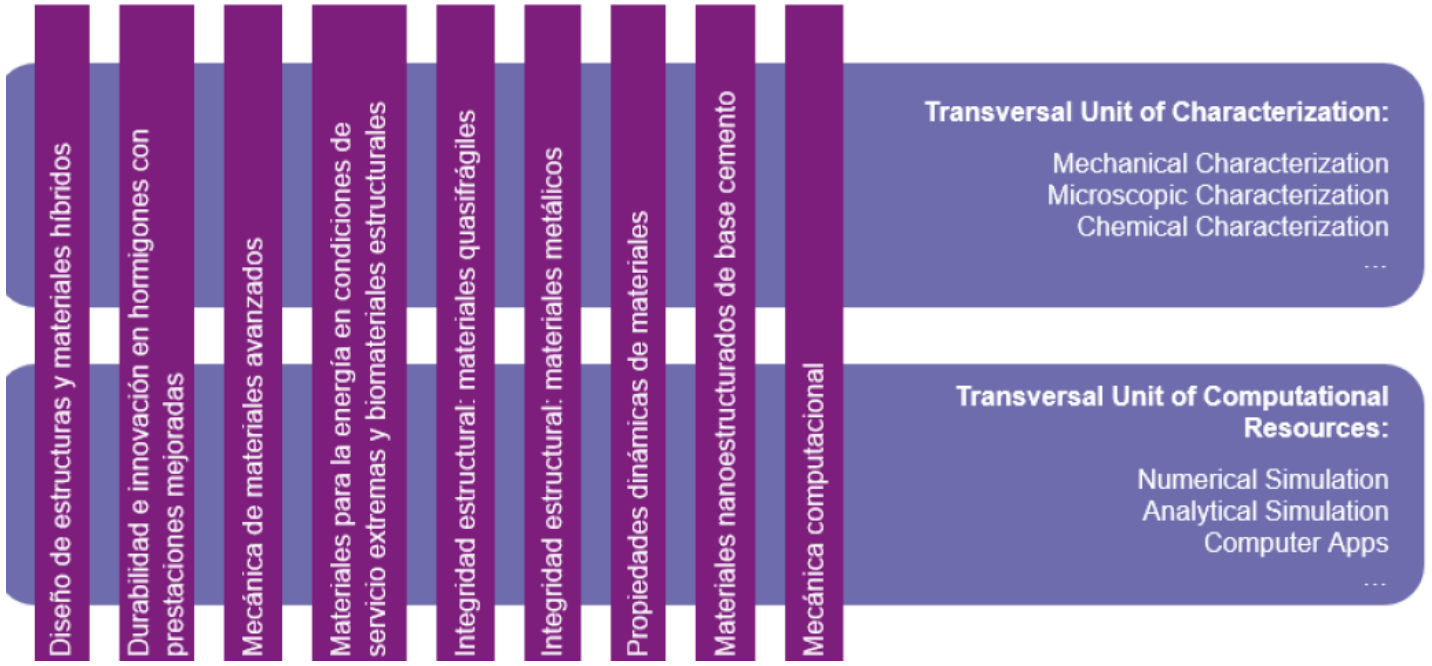
FACILITIES

- *Mechanical characterisation:*
- *Universal testing machines (up to 1,200 kN)*
- *Environmental chambers (77 - 2,200 K and ultra high vacuum)*
- *Hopkinson Bars (up to 1,100 K) with high speed video recording*
- *Ballistic testing on gas cannon and explosion test bench*
- *Nano-indenter (MTS-XP) and micro-hardness testers*
- *Tribometer wear tests (up to 1,300 K)*
- *Physical and microstructural characterisation: (LabEnd, Madri+D Laboratory Network)*
- *Residual stress measurement laboratory (LMTR, UNE-EN ISO/IEC 17025 accredited by ENAC, the only one in Spain)*
- *Non-destructive testing laboratory*
- *Oxygen, nitrogen and hydrogen analyser*
- *Thermal analyser (ATD, TG, DSC)*
- *Mercury porosimeter*
- *Optical and scanning electron microscopy*
- *Equipment for metallographic preparation*

RESEARCH LINES

Currently, CIME's research activities are arranged around nine research lines. Further to these lines, two transversal units are assisting and providing services to all of them.

- Structural Integrity:Quasi-brittle Materials
- Structural Integrity: Metallic Materials
- Dynamic Properties and Impact
- Design of Hybrid Materials and Structures
- Computational Mechanics
- Mechanics of Advanced Materials
- Durability and Innovation in Concretes
- with Enhanced Characteristics
- Nano-Structured Cement-Based Materials
- Materials for Energy Under Extreme Conditions and Biomaterials
- Transversal Unit of Characterization



COLLABORATION

- Collaboration with diferentes members of our innovation ecosystem, wehere we can find synergies and somo other linkhoods.
- Different expertises in order to cover all the spectrum of the innovation and research in the materials fields.

Colaboraciones Estratégicas

Instituciones de la UPM	Instituciones ajenas a la UPM	Empresas
Cátédfa-Empresa SIKA	CIEMAT- Centro de Investigacionos Energétic-Medioambientales y Techologicas	ALLOYED LIMITED
Centro Láser	Fundeción IMDEA Materiales	AMVALOR
Centro de Tecnológia Biomédica (CTB)	Fundación para la Investigación Biomédica del Hospital Universitario La Paz	IXBLUE
Grupo de Investigacion Tecnologia de Imagenes Biomédicas UPM	Instituto Nacional de Tecnica Aerosspacial (INTA)	Compass Ingeniería y Sistemas SA
CIME - Centro de Investigacion en Materiales Estructurales (UPM)	CIMNE - Centre Intenacional de Métodes Numêrics en Enginyeria (UPC)	TSi Técnicas y Servicios de Ingenieria, S.L.
	CETIC - Centre of Excellence in Informat-ion and Communication Techniogies	CARBON3 SYSTEMS
	CENTRUM VVZKUMU REZ.S R.O.	PHYONA LTD
	Institul e for Nucleor Research e Nuor Energy	BIOXEGY SAS
	Institut Jozef Stefan	XEV SRL
	Paul Scherrer Institut	AVS Added Value Industrial Engineering Solutiones SLU
	Forschungszentrum Jùich Gmblil	EnerOcean S.L.
	Karísruher Institut fur Technologle (KIT).	
	VTT - Táknologian “utk muskeskus VTT Oy	
	IREN: Institut de Radloprotection et de Surete Nucléaira	

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