

ANNUAL REPORT

2024

ICAMCYL





International Center for Advanced
Materials and Raw Materials of
Castilla y León

A man wearing a white hard hat and safety glasses is shown in profile, pointing his right index finger towards a construction site. The background is a blurred view of a construction site with earth and some structures. The entire image has a dark red overlay.

Connecting research
and industry



January - December 2024



INDEX

1

Presentation

page 6

2

The Foundation

page 10

3

Projects

page 22

4

A year in pictures

page 46

5

Communication

page 56

6

Social media impact

page 59



“The year 2024 has undoubtedly been a decisive period for the ICAMCyL Foundation. Over the past months, we have strengthened a clear and coherent strategy, firmly grounded in the principles that have guided us since the very beginning: driving regional development, fostering innovation, and positioning Castilla y León at the heart of European and international dynamics in sustainability, industry, and the energy and digital transition.

ICAMCyL’s strategy has been consolidated as an ambitious yet realistic roadmap, designed to respond to the major challenges of our time. Along this path, reinforcing our human capital has been essential. The incorporation of new, highly qualified professionals has enriched our technical and management capabilities, making ICAMCyL a stronger, more dynamic organisation, fully prepared to lead complex processes of innovation and cooperation.

The international scope of our activities continues to expand with determination.

Our participation in European consortia, international networks, and strategic platforms has reinforced the visibility of both the Foundation and Castilla y León within the European context. We are convinced that international outreach is an essential driver for attracting knowledge, investment, and new opportunities to our regional ecosystem.

Yet, as important as it is to look outward, it is equally vital to strengthen our roots. At ICAMCyL, we remain firmly committed to expanding our networks of collaboration across the territory, generating synergies with local entities, academic institutions, businesses, and public administrations.

Our goal is clear: to become a lever for development in Castilla y León and a strategic partner for all those who believe in a model of innovative and sustainable growth.

I would like to express my sincere gratitude to the Foundation's executive and technical teams for their constant effort and transformative vision. I also extend my thanks to the Board of Trustees, whose support has been and will continue to be essential. And, of course, to all the organisations and individuals who accompany us on this journey, united by a shared commitment: to build a more prosperous future.



If we had to define 2024 at ICAMCyL in just two words, they would be clear: consolidation and growth.

Since our beginnings in January 2018, we have faced significant challenges, including a global pandemic in our very first years of operation. However, our commitment and perseverance have ensured that the Foundation continues to move steadily towards its objectives.

Today, I can proudly say that we are a stronger organisation, better prepared to face the future. .

Over the past year, we have significantly reinforced our human capital, bringing in professionals who contribute with new capabilities to key areas for the Foundation's growth. New additions in project management, deputy direction, technical coordination, and communication have strengthened our structure, ensuring the right support for the wide range of initiatives we carry out.

We remain firmly committed to tackling Europe's most pressing challenges, working along the lines that will allow us to achieve the objectives necessary for a prosperous and sustainable future, always aligned with the key pillars of the 2030 Agenda.

We look ahead to the coming years with a clear focus on regional development and a decisive commitment to internationalisation—both essential to unlocking the talent and enhance our territory.

We aim to be the bridge that connects Castilla y León with global opportunities, attracting investment, innovation, and collaboration with organisations from all over the world.

Finally, I wish to express my sincere gratitude to the Foundation's Board of Trustees, whose trust and support have been essential for ICAMCyL's creation and continued growth. Their commitment has been key to advancing our mission. I am equally grateful to all the entities and partners with whom we have collaborated over the years, enabling us to carry out projects that truly make a difference. And above all, I wish to thank our entire ICAMCyL team, whose work, dedication, and passion keep this Foundation moving forward every single day.

We will continue working to make our region a benchmark in innovation, sustainability, and development.

The International Center for Advanced Materials and Raw Materials of Castilla y León

Established in 2018, the ICAMCyL Foundation drives innovation and technological development in Castilla y León, with a strategic focus on key sectors such as energy, mining, and Industry 5.0. Our work is guided by a firm commitment to sustainability and the circular economy, fully aligned with the principles of the 2030 Agenda.

It has established itself as an European benchmark, actively participating in international networks and projects funded by European programmes. The Foundation acts as a bridge between research and industry, enhancing regional competitiveness and managing high-impact projects thanks to a specialised team and strategic collaborations with prestigious organisations.

The Foundation's Board of Trustees is composed of some of the Region's leading industries, as well as institutional representatives.



Board of Trustees



Bench & Ground

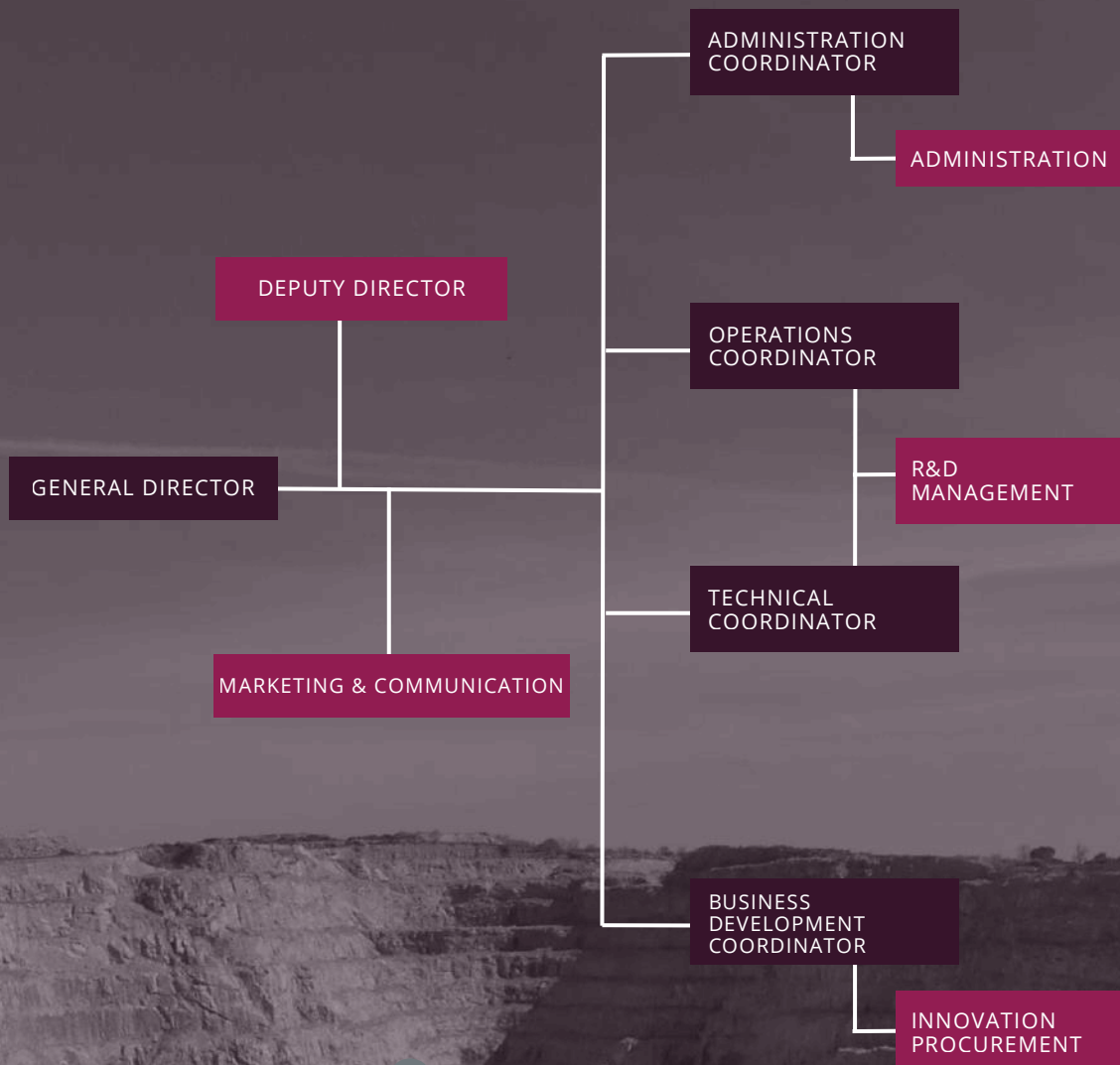


DIPUTACIÓN
DE LEÓN



The ICAMCyL team

Our organisational structure




We work through the close interconnection of our different areas, maintaining active communication and collaboration at all times, which enable us to achieve the highest-quality results.



A woman with long dark hair, wearing a white button-down shirt, is smiling and looking at a laptop. The laptop is a dark color with the 'ThinkBook' logo on the lid. She is holding the laptop with both hands. In the background, there is a whiteboard with some diagrams and sticky notes. One sticky note has the word 'research' and some handwritten notes. The overall scene is a professional office environment.

INDUSTRY
MINING
ENERGY
METALLURGY
AEROSPACE
GEOLOGY

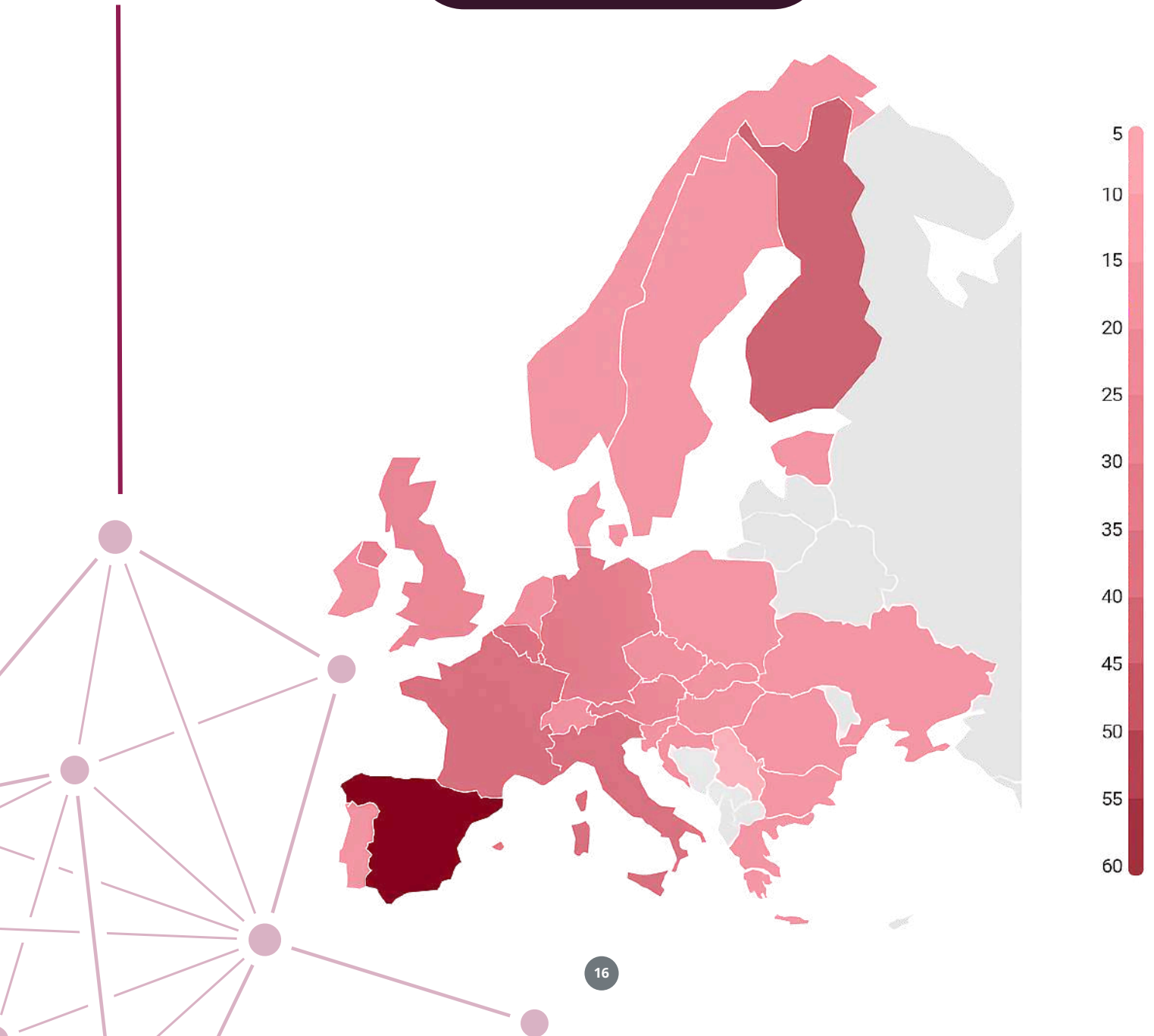
A woman with long brown hair is smiling and looking at a poster. The poster is titled 'Dust dispersion' and 'SPONTANEOUS COMBUSTION & FIRE'. It contains text about problems associated with dust, safety analysis, and computational modelling. The background is a light grey wall with the poster. The woman is wearing a light-colored top.

Thanks to our highly skilled team with a strong multidisciplinary Foundation, we are able to take on complex projects and deliver solutions perfectly tailored to the specific needs of our clients and partners.

With women representing 60% of our workforce, we proudly demonstrate our commitment to gender equality in the professional environment.

Alliances

280 partners



Over the years, the Foundation has developed a strong international presence, building an extensive network of **280 partners across 29 countries.**

This network brings together **companies, associations, academic institutions, and public administrations**, enabling us to foster collaboration and drive impact on a global scale.



Strategy



**DEVELOPMENT AND INNOVATION IN
MATERIALS AND NEW APPLICATIONS**



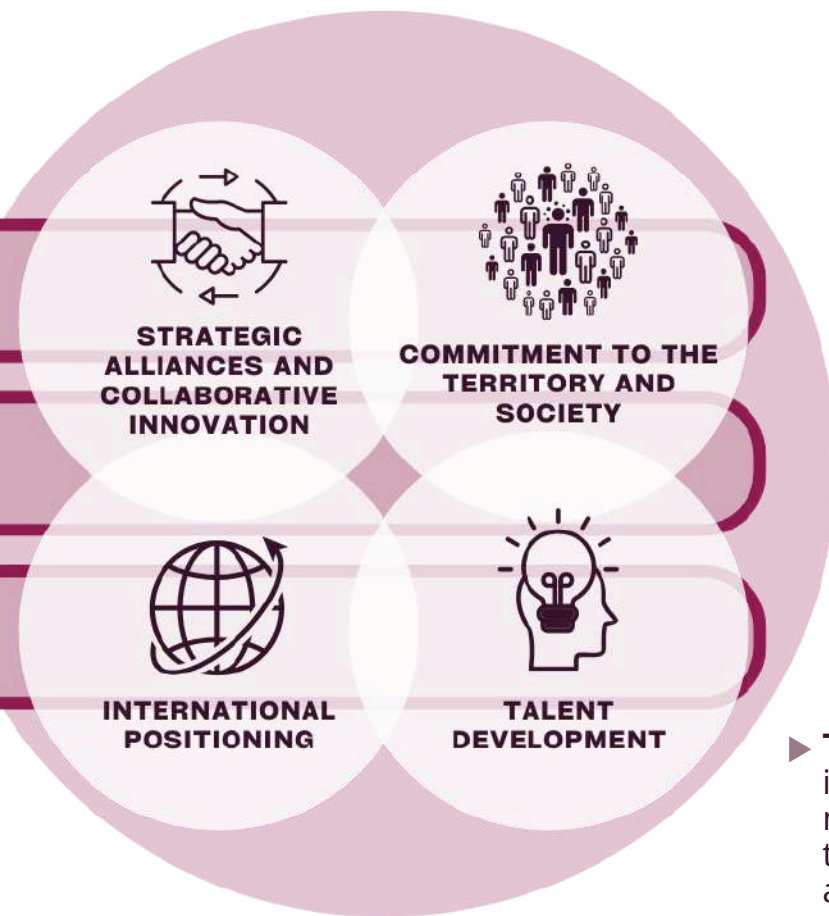
ADVANCED INDUSTRIAL TECHNOLOGIES



**ENERGY, SUSTAINABILITY AND
CIRCULARITY**

STRATEGIC INNOVATION AXES





INNOVATION CATALYSTS

- **Commitment to the territory and society:** Aimed at improving the social perception of mining-related activities among local communities and society at large.
- **Talent development:** Focused on identifying and anticipating sector needs, as well as developing new skills to train professionals in the mining and raw materials sectors.
- **Strategic alliances and collaborative innovation:** Focused on creating and consolidating an innovation ecosystem around key stakeholders, based on cooperation between universities, research centers, and public organisations. This axis seeks to boost corporate innovation at the regional , national, and European/international levels.
- **International positioning:** Aimed at establishing ICAMCyL as a leading Center for mining and raw materials innovation in Europe.



VISION

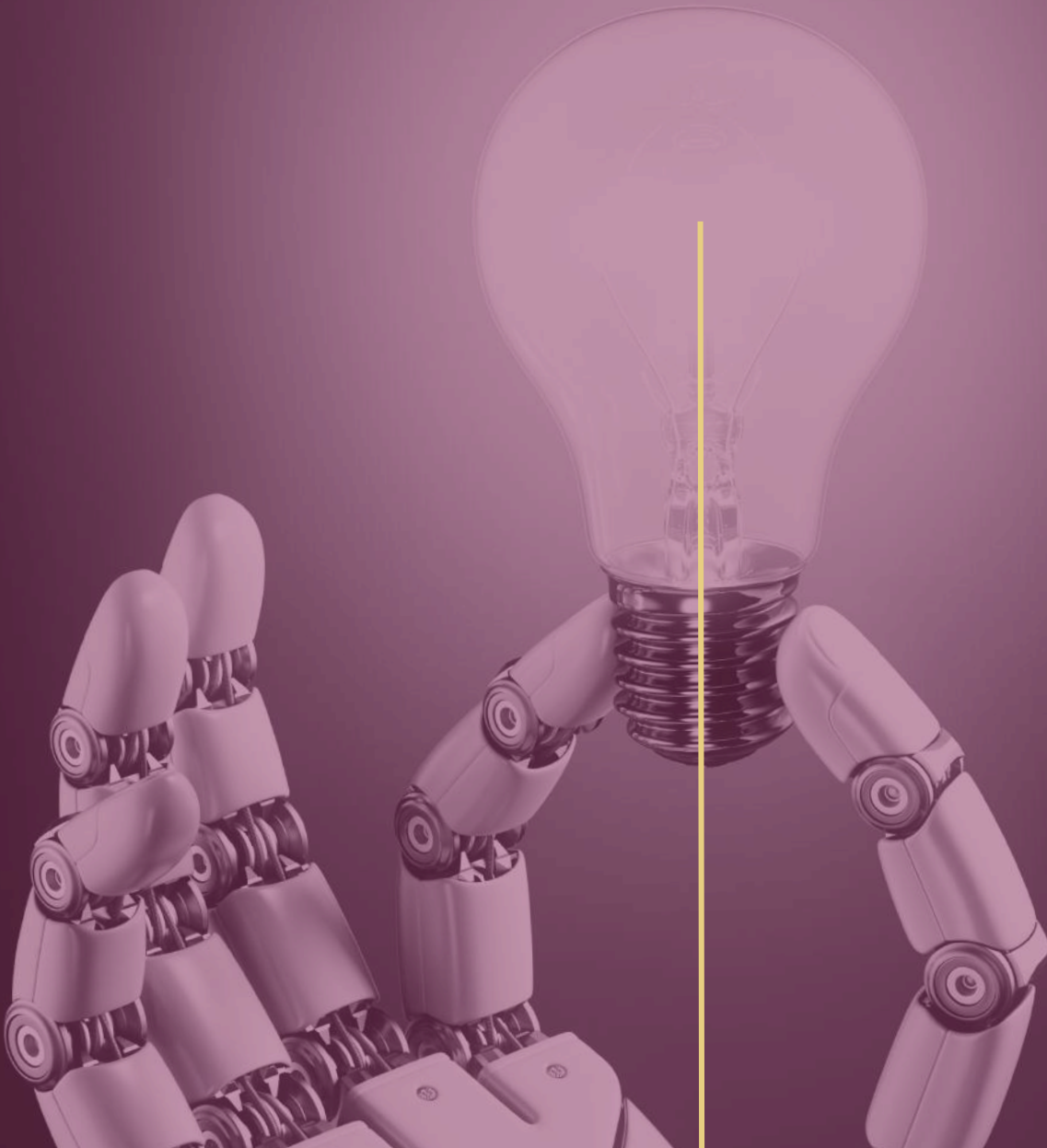
To be an European leader in the sustainable development of advanced materials and clean technologies, supporting the economic and environmental transition in Castilla y León and across Europe.

The background of the slide features a grayscale photograph of several hands of different skin tones cupped together, holding a small seedling with two leaves. The image is overlaid with a semi-transparent dark purple filter. On the far left, there is a vertical strip showing a close-up of soil and a small portion of a plant.

MISSION

To innovate in technologies that support European policies on critical materials, CO₂ capture, and renewable energies, strengthening cross-sectoral collaboration between the economic sectors of Castilla y León and the rest of Europe.

4 PROJECTS



2024 at a glance

15

Projects

238

Partners

101M€

Mobilised
investment

The projects take shape as contributions to various sectors, structured around four lines of action, with sustainability as a cross-cutting theme across all of them.

1

Advanced materials research

Projects focused on developing materials that enhance efficiency, sustainability, and performance in strategic sectors, supporting a cleaner and more competitive industry.

2

Raw materials processing technologies

Initiatives that promote innovative technologies to improve the raw materials value chain, aiming to increase Europe's autonomy in a sustainable way.

3

Sustainable development

Projects that foster circular economy, decarbonisation, and energy transition through technological innovation, actively contributing to the EU's sustainable development goals.

4

Talent development and regional competitiveness

Actions aimed at training specialised professionals, strengthening regional participation in European programs, and energising local innovation ecosystems.





1

Advanced materials
research

PASSENGER

Pilot action for securing a sustainable european next generation of efficient RE-free magnets



This project has received funding from the European Union's EU Framework Programme for Research and Innovation Horizon 2020 under Grant Agreement No 101003914



The PASSENGER project aims to develop sustainable, rare-earth-free permanent magnets to reduce Europe's dependence on critical materials. It focuses on manufacturing these magnets using raw materials available within the continent, promoting greener and more cost-effective alternatives.

Total budget: 11.309.888,75€

ICAMCyL budget: 427.000,00€

The prototypes obtained have demonstrated performance levels comparable to those of traditional motors.

Consortium: 22 partners



MALTOSE

Machine learning for tailoring organic semiconductors



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 883256.



This research project focuses on accelerating the discovery of new organic semiconductors for applications in organic photovoltaics through artificial intelligence.

The project has achieved significant progress in applying machine learning to predict the properties of large organic molecules, facilitating the search for new materials for organic electronics and laying the foundations for future applications in other fields of materials science. The models, datasets, and codes developed have already been published and are available to the scientific community.

Total budget: 172.932,48€

ICAMCyL budget: 172.932,48€



VIDEO OF THE PROJECT

REMHUB

Rare earth and magnets hub for a resilient Europe



Funded by
the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Research Executive Agency (REA). Neither the European Union nor REA can be held responsible for them



REMHUB is an European project that covers the entire rare earth elements (REE) value chain, from mining exploration to recycling. Its goal is to accelerate market access through a digital platform that drives the development of technologies and services. The project promotes active communication and the engagement of key stakeholders to increase public trust in the use of REEs and is committed to full traceability through digital twins and digital passports.

Total budget: 18.117.025€

ICAMCyL budget: 272.500€

Consortium: 18 partners



An aerial photograph of a large-scale open-pit mining operation. The image shows a deep, terraced excavation with multiple levels of rock faces. Winding dirt roads snake through the mine, and several large haul trucks are visible on the lower levels, transporting material. The overall scene is industrial and depicts the raw material extraction process.

2

Raw materials processing technologies

RESILEX

Resilient enhancement for the silicon Industry
leveraging the European matrix



Funded by
the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Health and Digital Executive Agency (HADEA). Neither the European Union nor HADEA can be held responsible for them.



2022
2026

The RESiLEX project focuses on strengthening the resilience of the silicon value chain in Europe. It aims to develop technologies that reduce import dependency, enable the recycling of end-of-life solar panels, and repurpose recovered silicon for the production of lithium-ion batteries — fostering a more sustainable and efficient circular model in the solar industry.

Total budget: 12.039.696,79 €

ICAMCyL budget: 237.917,50 €

Consortium: 21 partners



LI4LIFE

Novel domestic battery grade lithium carbonate value chain for green life



Funded by
the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Climate, Infrastructure and Environment Executive Agency (CINEA). Neither the European Union nor CINEA can be held responsible for them



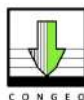
The aim of this project is to develop an efficient technology for the sustainable and environmentally friendly extraction and purification of lithium from underutilised deposits and mining waste. These raw materials will serve as the basis for the development of future clean energy products.

Total budget: 6.298.614,25 €

ICAMCyL budget: 723.875,00 €

Sustainable technologies for responsible lithium extraction in Europe, driving the clean energy transition.

Consortium: 18 partners



MADITRACE

Material and digital traceability for the certification of critical raw materials



Funded by
the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Health and Digital Executive Agency (HADEA). Neither the European Union nor HADEA can be held responsible for them



MADITRACE

2023
2026

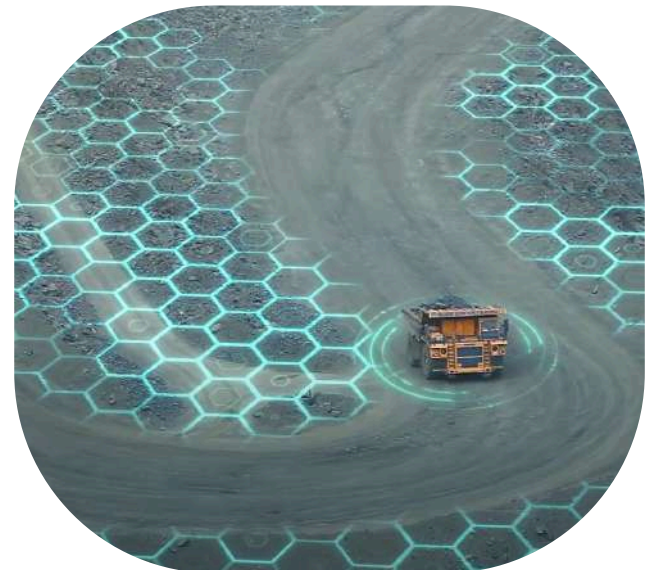
The MaDiTraCe project aims to enhance the reliability of critical raw material tracking (cobalt, lithium, natural graphite, and rare earth elements) and improve transparency in complex supply chains. Its goal is to ensure responsible practices and certification from extraction to recycling, facilitating compliance with European regulations and improving the sustainability of these complex supply chains.

Total budget: 11.024.752,50 €

ICAMCyL budget: 459.062,50 €

Digital passport for greater transparency and sustainability in raw material extraction.

Consortium: 15 partners





Funded by
the European Union

FFunded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Health and Digital Executive Agency (HADEA). Neither the European Union nor HADEA can be held responsible for them



The S34I project focuses on ensuring a secure and sustainable supply of raw materials for the EU industry. To achieve this, it develops innovative methods based on Earth Observation (EO) and satellite data for the exploration, monitoring, and management of mines throughout their lifecycle. This includes everything from water quality assessment to risk monitoring, thereby supporting better legislation and social acceptance of the sector.

Total budget: 4.498.607,75 €

ICAMCyL budget: 249.620,00 €

Consortium: 20 partners



Sample collection in the Vigo estuary in collaboration with the Geological and Mining Institute of Spain



3

Sustainable development

C-SINK

Actions required to secure the large-scale deployment of the leading CDR approaches to meet EU climate targets



Funded by
the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Climate, Infrastructure and Environment Executive Agency (CINEA). Neither the European Union nor CINEA can be held responsible for them.



The C-SINK project aims to establish standards for CO₂ removal (CDR) technologies in Europe, evaluating seven innovative methods. Its goal is to create a responsible and transparent CDR market, with a focus on environmental, social, and governance monitoring and assessment.

Total budget: 5.288.925,00 €

ICAMCyL budget: 508.843,75 €

Consortium: 20 partners



CORDINATOR



Some pilots plants:



Slovakia

Microbiological fixation plots at Ekolive facilities



Spain

Accelerated weathering plots at the Mina David operated by PASEK

EXPSKILLS-REM

Expanding knowledge and skills in rare earth permanent magnets value chain



This activity has received funding from the European Institute of Innovation and Technology (EIT), a body of the European Union, under the Horizon 2020, the EU Framework Programme for Research and Innovation.



The ExpSkills-REM project focuses on training professionals across the permanent magnets value chain, essential for sustainable technologies such as electric mobility and the circular economy. The training covers everything from rare earth mining to magnet manufacturing and recycling.

It aims to strengthen industrial resilience and promote the sustainable use of critical resources, fostering a more competitive and eco-friendly industry in Europe.

Total budget: 815.891,00 €

ICAMCyL budget: 113.750,00 €

Consortium: 7 partners



BLACKCYCLE

For the circular economy of tyre domain:
recycling end of life tyres into secondary raw
materials for tyres and other product
applications



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 869625.



BlackCycle aims to recycle used tires to produce new ones, covering the entire value chain: from the collection of end-of-life tires to the production of high-quality rubber compounds using advanced technologies such as pyrolysis and material recovery

Total budget: 4.284.241,48 €

ICAMCyL budget: 288.190,00€

One of the selected deconstruction technologies is ORC (Outside Rubber Cutting), which recovers the tread from passenger car and truck tires.

Consortium: 13 partners



3 INTERNATIONAL AWARDS

Tyre Technology Expo 2024 in the category “Environmental Achievement of the Year - Industry Contribution”

Poles for Europe in the “impact” category

Recircle Awards 2023 as “Best Tyre Recycling Research Project”



DEXPLORE

Recognising European potential for hosting deep land primary CRM by combining new mineral models and advanced exploration and visualisation techniques



Funded by
the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Health and Digital Executive Agency (HADEA). Neither the European Union nor HADEA can be held responsible for them



Its objective is to transform mineral exploration in Europe through the development of innovative and sustainable technologies, focusing on deposits critical for decarbonisation. The project employs advanced tools such as drones, ground observation, and geophysics to explore up to 600 meters deep. Its main goals include creating updated deposit models, developing new exploration technologies, and establishing an integrated data visualisation platform combining geological, remote sensing, and geophysical information.

Total budget: 4.284.241,48 €

ICAMCyL budget: 288.190,00€

Consortium: 13 partners



ICAMCYL



COREIC

TAL
TECH

MNLT



Xcalibur
SMART MAPPING

REPUBLIC OF ESTONIA
GEOLOGICAL SURVEY

ATALAYA
RIOTINTO

MINERSA
group



4

Talent development and regional competitiveness

Pilar 2
Desafíos mundiales y competitividad industrial europea

- Salud
- Cultura, creatividad y sociedad inclusiva
- Seguridad civil para la sociedad
- Mundo digital, industria y espacio
- Clima, energía y movilidad
- Alimentación, bioeconomía, recursos naturales, agricultura y medio ambiente

Centro Común de Investigación (JRC)

Funding

Cluster 1	Health	
Cluster 2	Culture, Creativity & Inclusive Societies	(including JRC) 12,345 million
Cluster 3	Civil Security for Society	42,300 million
Cluster 4	Digital, Industry & Space	41,100 million
Cluster 5	Climate, Energy & Mobility	(including JRC) 69,340 million
Cluster 6	Food, Bioeconomy, Natural Resources, Agriculture and Forestry (including JRC)	(including JRC) 111,123 million
	Total (non-nuclear direct estimate)	61,475 million

WIDEX

Knowledge transfer for widened EU excellence in advanced green technologies, sustainability and research management



Funded by
the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Research Executive Agency (REA). Neither the European Union nor REA can be held responsible for them



It seeks to turn the Technical University of Košice (TUKE) into an EU Center of Excellence for sustainable mining, focusing on the recovery of critical raw materials essential to Europe's strategic sectors. The project promotes the development and adoption of green and non-invasive mineral extraction technologies, fostering sustainability and reducing dependence on third countries.

Total budget: 1.492.271,60 €

ICAMCyL budget: 178.375,00 €

It will also create a specialised industrial cluster and establish a Virtual Center of Excellence to encourage collaboration and innovation among different stakeholders in the sector.

Consortium: 11 partners



I4 - GREEN

Interregional investment for the sustainable supply of raw materials in the EU green energy transition



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Innovation Council and SMEs Executive Agency (EISMEA). Neither the European Union nor EISMEA can be held responsible for them.



I4-GREEN



The I4-GREEN project aims to boost green and circular innovation in the EU by promoting interregional collaboration to reduce dependence on imported critical raw materials and mitigate the environmental impact of their extraction and processing. It will develop two main pilot projects, both focused on promoting circular and sustainable solutions in the mining and raw materials value chains.

Total budget: 4.284.241,48 €

ICAMCyL budget: 288.190,00€

Consortium: 15 partners





The initiative seeks to develop innovative and sustainable solutions that strengthen the resilience of European value chains, particularly in less developed regions. Its aim is to foster strategic collaborations and prepare solid business plans so that these projects can be scaled up and brought to market. In addition, the project provides support in securing both public and private funding.

Total budget: 1.239.226,39 €

ICAMCyL budget: 119.908,48 €

Consortium: 8 partners



ICA-BOOSTER

Consolidation and strengthening of ICAMCyL's European programmes Unit



La publicación es parte de la actuación GPE2023-001394-P, financiado por MCIN/AEI/10.13039/501100011033, siendo GPE2023-001394-P la referencia que figura en la resolución de concesión; MCIN el acrónimo del Ministerio de Ciencia e Innovación; AEI el acrónimo de la Agencia Estatal de Investigación; y 10.13039/501100011033 el DOI (Digital Object Identifier) de la Agencia.



The main objective is to increase the organisation's participation and success in Horizon Europe projects. The programme aims to optimise innovation management and improve the use of available resources, resulting in greater economic return, cost savings, and enhanced competitiveness for the Foundation.

In addition, it supports regional SMEs in accessing European projects, thereby contributing to the technological development and internationalisation of the innovation ecosystem in Castilla y León.

Total budget: 117.900 €



5 A YEAR IN PICTURES

Throughout the year, ICAMCyL organised and took part in **43 activities**, ranging from outreach events promoting the Foundation and its projects, to training and dissemination workshops, and collaborative working sessions.



12

Activities
organised

350
attendees

31

Invited speaking
engagements

EIT RAW MATERIALS SUMMIT

Brussels



RAW MATERIALS WEEK

Brussels



MMH. MINING AND MINERALS HALL

Seville





ENGAGEMENT IN OTHER PROJECTS AND CONFERENCES





STRATEGIC AGREEMENTS

Cooperation between research centers, universities, and industry is essential to address global challenges and to position Castilla y León as a benchmark for innovation and sustainability



universidad
de león



Colegio Oficial de ingenieros de minas del
centro de España

5 COMMUNICATION

2.545

followers



+18

press coverage



[illegible]

de construir un futuro energético más limpio y seguro. Europa, altamente dependiente de sus principales proveedores de materias primas críticas, necesita estrategias para avanzar en la situación energética y las tecnologías clave en el pacto verde europeo, como las nuevas sistemas de almacenamiento de energía, la generación de electricidad eléctrica. Sin embargo, el continente suporta cerca del 90% de estas materias primas, principalmente de países como China, o fuentes como África, donde las prácticas mineras no siempre consideran correctamente tecnologías de reducción de emisiones, la mitigación del cambio ambiental y respeto a la naturaleza, o los derechos de las tribus.

regiones como Castilla y León, Asturias, reservas de materias primas críticas y estratégicas tales como el tungsteno en el Bierzo y Salamanca, magnesita en Soria, y Zinc en distintos pun-

tos de la geografía leonesa, h
des ellos claves para el desarro
lio de las cadenas de valor de
una industria europea sosteni
ble y resiliente.
Desde ICAMCYL creemos que

debemos unir fuerzas por convivir la provincia de León en un foro Europeo de la nueva minería de materias primas críticas, recordando un ecosistema de innovación que multiplique el valor de nuestros recursos endógenos, atraiga y desarrolle tecnologías innovadoras para la extracción, necesario y recuperación de materias primas de manera sostenible. Desde Europa se transmiten el mensaje de que es crucial tener los permisos para lograr explotaciones sostenibles garantizando que cumplan los estándares más estrictos de reducción de impacto ambiental, al tiempo que trabajan una licencia social derivación con las pequeñas comunidades.

ICAMCYL ha posicionado a León en el mapa de la innovación y de acciones que promueve la Ley Europea de Materia Prima, trabajando como un puente entre tradición e innovación, desarrollando tecnologías que optimizan la gestión de recursos y minimizan el impacto ambiental, desde la recuperación de materiales hasta la creación de productos más limpios, promovemos la minería que responde a las necesidades del presente y prepara el futuro.

RÉCORD HISTÓRICO EN LA CAPTACIÓN DE FONDOS EUROPEOS

La Unión Europea, a través del programa Horizonte Europa, con más de 100 millones de euros movilizados, de los cuales 5 millones de euros han llegado directamente a la provincia de León, se ha materializado gracias a 2 proyectos de innovación tecnológica liderados por la Universidad de León, el Consorcio Europeo en la Nueva Minería del Siglo XXI, la investigación en materias primas, materiales avanzados y tecnologías sostenibles.

ha permitido que la práctica no solo participe en proyectos de innovación, sino que asuma un papel de liderazgo en Europa. Así, ICAMEYL ha puesto a Lohr en el mapa de las regiones más innovadoras, liderando acciones contribuyentes de manera relevante a los planes de plataformas regionales europeas estratégicas en minerales, materiales avanzados para baterías, construcción sostenible, o creación de Alianza Europea para la inversión en Innovación en Economía Circular.

En materia de innovación, los logros más destacados de la acción en los últimos años ha sido desde iniciativas que combinan la tradición y el procesamiento de materias primas con tecnologías empresariales con el medio ambiente. Entre los proyectos destacan aquellos que incorporan tecnologías amigables para procesar productos de manera eficiente y sostenible, así como iniciativas orientadas a combatir el cambio climático, como el proyecto SINCO, coordinado por la Fundación para evaluar tecnologías de vanguardia para reducir, almacenar y reutilizar las emisiones de CO₂.

NACIA UN FUTURO SOSTENIBLE
OLÓGICO
 Los proyectos liderados por ICAL no solo han mejorado la eficiencia en el uso de recursos, sino que también han reducido significativamente el impacto ambiental de las industrias locales. Como resultado, León se ha posicionado como un referente mundial de sostenibilidad dentro de Norteamérica. Barbara está orgullosa de ver cómo un equipo joven de líderes continúa el legado de la región en la oportunidad tecnológica para el desarrollo económico y social.

ICAMCYL Se ha consolidado como motor clave de innovación

Impulsa la nueva minería desde León: sostenible y estratégica

La Fundación ICAMCYL se consolidó como un motor clave de innovación y el desarrollo en el sector minero.

nos centrados en
eficiencia de ma-
nifestaciones en el
referente en la re-
lación social, que
lleva a nosotros
nuestro uso de
No. A través de
ICAMC, me he
preocupado con la pro-
piedad, sino que
la generación de
los economistas, don-
de empleo y fuerza
clave entre los países.

MINERÍA: EL GAP: APOYO A UNA MINERÍA SOSTENIBLE
Otro claro ejemplo de la importancia de la minería es el caso de la **INE TIL GAP**, donde un coordinador, con el apoyo para PYME de la **INE TIL GAP**, ayuda a desarrollar los planes de una minería sostenible para el siglo XXI. **INE TIL GAP**, distribuido por valor de millones de euros, beneficia a empresas innovadoras.

Nuestro objetivo siempre ha sido impulsar el avance de un poder de una élite harmoniosa entre ellos. Los fondos que alianzas estratégicas que han logrado reflejar el reconocimiento en materia primas y bonidad, expresa Cuesta López.

**IMPULSO A LA ECONOMÍA CIRCULAR
DESDE LEÓN**
En el ámbito de la...

... el pasado mismo de la región en una oportunidad tecnológica para el desarrollo económico y social.

**DEL PASADO MINERO
AL FUTURO SOSTENIBLE**
liderando el cambio

ICAMCYL

ULE e Icamcyl impulsan un HUB de investigación e innovación en materias primera estratégicas en el Noroeste de España



Foto: Oti Cornejo (entre Icamcyl y ULE)

Europa Press Castilla y León



Publicado: miércoles, 10 diciembre 2024 11:18
@comarcasleon

UNED
Descubre nuestros
grados universitarios

Online y Semipresencial
uned.es

10 | COMARCAS

INDUSTRIA | Centro Internacional de Materiales Avanzados y Materias Primas de Castilla y León

Dos proyectos con sello leonés brillan en 'Horizonte Europa'

Las iniciativas tecnológicas coordinadas por la Fundación Icamcyl, con sede en León, participarán en el evento referencia del sector en España

L.N.C. LEÓN

Dos de los proyectos europeos que coordina el Centro Internacional de Materiales Avanzados y materias Primas de Castilla y León, con sede en la ciudad de León, han sido seleccionados para ser exhibidos como casos de éxito de coordinación tecnológica en este evento de referencia para la ciencia y la innovación española. El Centro Tecnológico que dirige el prestigioso tecnólogo Santiago Cuesta-López, presentará dos proyectos de Horizonte Europa coordinados que movilizan más de 11 millones de euros, y que reflejan su compromiso en innovación alineado con la agenda 2030 y el pacto Verde Europeo.

Cuesta presentará por un lado el proyecto 'C-SINK' que innova las más novedosas tecnologías en captura y almacenamiento de carbono, y por otra parte el proyecto 'Li4Life', que consolida la estrategia de la Fundación en la coordinación de los esfuerzos europeos para asegurar el suministro sostenible de Litio para la electrificación de Europa.

Este evento se celebrará en Oviedo, y además de estar organizado por el CDTI, colaborarán de manera relevante el Ministerio de Ciencia, Innovación y Universidades, la Comisión Europea, el Ayuntamiento de Oviedo y la Agencia de Ciencia, Competitividad Empresarial e Innovación Asturiana (Sekumi).

La selección de sendos proyectos Li4Life y C-SINK para ser expuestos en la Conferencia del Programa Marco, es un reconocimiento doble al plan estratégico regional e internacional del Centro Tecnológico, diseñado por Cuesta-López, y a la labor de ICAMCYL como



Santiago Cuesta-López, director de la Fundación Icamcyl. ICAMCYL

coordinador en iniciativas de mejora del impacto ambiental de la actividad industrial, reflejando de este modo su compromiso con la innovación sostenible en Europa. «El reconocimiento del comité organizador de la Conferencia del Programa Marco a nuestros proyectos, es una recompensa a nuestros esfuerzos en Europa por generar sinergias con el territorio leonés, al tiempo que demostramos que una transición hacia una economía verde superando la actividad industrial en la región es posible», comentó Cuesta-López.

Los dos proyectos seleccionados, impulsados por la Fundación y su comité estratégico de dirección, y gestionados por los investigadores y gestores Dra. J.V. Nave, R. Cabrera y A. Gutiérrez, proponen soluciones tecnológicas referentes a nivel mundial.

'Li4Life' con un presupuesto de 6 millones

de euros, y más de 14 socios internacionales implicados, pone encima de la mesa un abanico de soluciones para el proceso eficiente de litio, que serán demostradas e implantadas en explotaciones mineras europeas, reduciendo el impacto de su extracción y haciendo más eficiente la cadena de valor completa de baterías para la electrificación del transporte en Europa.

C-SINK se enfoca en la captura y almacenamiento de carbono como respuesta al desafío de reducir las emisiones en sectores industriales intensivos. El proyecto con más de 5 millones de euros de financiación y 24 socios representa una contribución importante a la agenda 2030, analizando el actual abanico de tecnologías que la UE va a fomentar e implantar en sinergia con la política de valles industriales de cero emisiones netas como solución para el cambio climático.

Lunes 24.10.24
La Nueva Crónica

ENERGÍA | La fundación presentó algunos de los 25 proyectos desarrollados el pasado año |

León se posiciona en el mapa global de la minería sostenible

Icamcyl asiste al 'Mining and Minerals Hall', un evento celebrado en Sevilla con 14.700 visitantes y expertos de todo el mundo

L.N.C. LEÓN

La Fundación Icamcyl (Centro Internacional de Materiales Avanzados y Materias Primas de Castilla y León) ha asistido al 'Mining and Minerals Hall' (MMH) de Sevilla, uno de los eventos más importantes del sector minero a nivel mundial. Según los datos oficiales, esta quinta edición ha tenido un impacto económico de más de siete millones de euros, ha reunido a 14.700 visitantes, ha contado con 250 expositores y ha acogido a 1.300 congresistas. Además, se han priorizado a 4.436 contactos comerciales y se han escuchado las propuestas de 143 expertos internacionales y nacionales.

Esta edición del MMH comenzó el pasado martes, 15 de octubre, destacando la importancia de los minerales en nuestro día a día y su papel esencial para llevar a cabo las transiciones energética y digital. Retos clave por los que Europa apuesta dentro de los objetivos del Pacto Verde y sus acciones contra el cambio climático.

Icamcyl, una fundación con sede en León, participó activamente en el evento con ponencias que resaltaron su liderazgo en sostenibilidad e innovación dentro del sector. Las presentaciones que llevaron a cabo reflejan su compromiso con la innovación tecnoló-



El equipo de la Fundación Icamcyl, en el Mining and Minerals Hall (MMH) de Sevilla. L.N.C.

gica y la transición energética, consolidando a Castilla y León como un referente en materias primas avanzadas. «Este congreso ha sido una oportunidad única para presentar nuestras capacidades y proyección a nivel global, y para reafirmar que en Castilla y León estamos impulsando soluciones innovadoras y sostenibles en el ámbito de las materias primas y la minería», afirma en un comunicado desde Icamcyl. La fundación sigue consolidándose como un actor estratégico en el ámbito de la investigación y el desarrollo tecnológico, alineando su trabajo con

los objetivos de sostenibilidad y economía circular a nivel europeo.

Priorio al congreso, la fundación organizó una sesión vinculada con la temática del MMH para destacar el papel de las PyMES en el sector europeo y cómo el I+D es la clave al acceso de las empresas al motor económico, tecnológico y social.

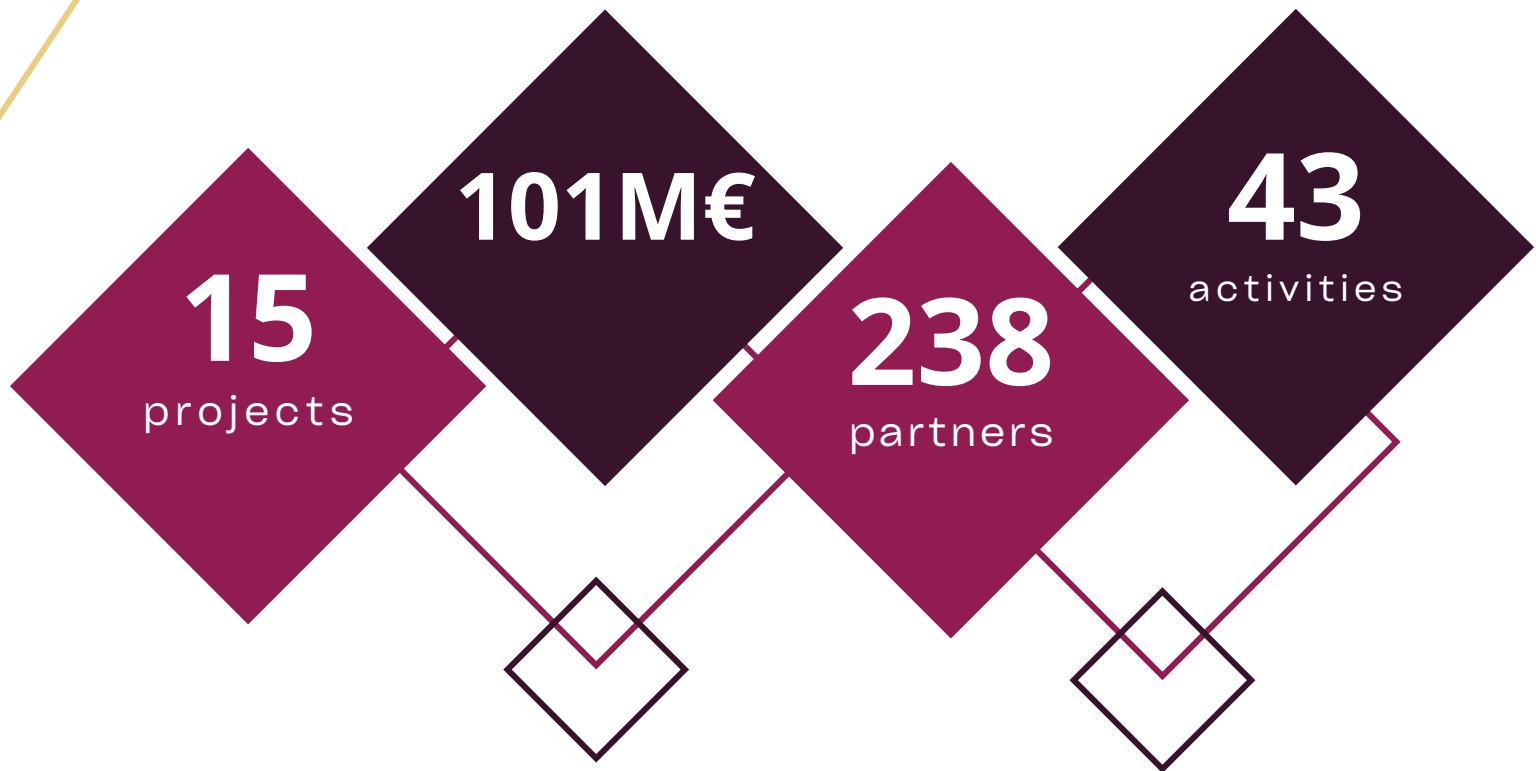
Durante el desarrollo del MMH, participaron activamente con ponencias que pusieron de relieve su liderazgo en sostenibilidad e innovación dentro del sector minero. Santiago Cuesta-López, director general de la fundación, pre-

sentó «La importancia de la captura y compensación de la huella de carbono», abundando tecnologías y acciones clave para reducir el impacto ambiental. María Alemán, ingeniera de Minas y de la Energía, presentó «La importancia de la plataforma del RMIS en la Gestión de Materiales Críticos», destacando el valor estratégico de esta herramienta europea. Además, Cuesta destacó en una segunda ponencia sobre los ecosistemas industriales de innovación en materias primas, resaltando el papel de las regiones europeas en atraer inversiones a proyectos mineros.

Icamcyl, además de estas ponencias, protagonizó también diversos foros y presentaciones por los proyectos que ha impulsado en los últimos años, como es el caso de BlackCycle, Tarapúta y Maditace, entre otros. La cantidad de proyectos movilizados por la fundación se convirtió en un puente a resultar por parte de moderadores y otros participantes.

Durante el año 2023, la fundación llevó a cabo un total de 25 proyectos tanto europeos como nacionales y autonómicos, movilizando un total de 5,6 millones de euros, de los cuales, 4,6 han repercutido directamente en Castilla y León. La fundación continúa de mano y centro de competencias, orientado hacia la industria y catalizador de los recursos de la región. Icamcyl participa en la estrategia de gestión eficiente de recursos industriales, eficiencia energética, eco-innovación y sustitución de materiales críticos con el fin de promover el desarrollo de materiales avanzados para la red de industrias de la región y la valorización de la riqueza en materias primas de Castilla y León, en línea con su Estrategia de Especialización Inteligente (RIS3).

6 IMPACT





www.icamcyl.com



icamcyl@icamcyl.com



987 440 481

St. Julia Morros s/n first floor, offices 106-108
24009 Armunia (León)