

SISAL PILOT – Consortium Meeting in Brussels

On 14 and 15 October 2024, in Brussels, the researchers linked to CITMAGA of the USC, M. Dolores Gómez Pedreira and María del Pilar Salado Rodríguez, attended the last meeting of the consortium of the *SisAl Pilot project*.

The final in-person meeting of the SisAl Pilot project took place on October 14-15, 2024, in Brussels, marking the official end of a 4.5-year effort dedicated to researching and developing sustainable processes for silicon production. Funded by the Horizon 2020 program, the project was coordinated by NTNU (Norwegian University of Science and Technology) under the direction of Gabriella Tranell and managed by Maria Wallin. It involved 22 partners, including CITMAGA, along with companies such as Fundiciones Rey (Spain), ELKEM (Norway), and Mintek (South Africa).



Initially led by Alfredo Bermúdez, the CITMAGA team included researchers José Luis Ferrín, Pilar Salgado, and Dolores Gómez, the current coordinator. Additional contracted personnel included Jorge Albella, Branca García, Luis Pérez, Óscar Crego, and Iván Martínez, with Sebastián Bouzas overseeing management. Javier Bullón, a CITMAGA's Industrial Advisory Committee member, also participated as a partner.

Collaboration among SisAl Pilot partners focused on scaling and demonstrating a new patented technology: the aluminothermic reduction of quartz in slag, using secondary raw materials like aluminium scrap as replacements for traditional carbon reductants. This innovative approach promotes “circularity” through an industrial symbiosis between the aluminium and silicon sectors, where the aluminium industry acts as both a raw material supplier and an end-user of silicon products. Results showed that this process is viable on both small and industrial scales. Product quality, environmental impact, and economic viability were validated throughout the project to lay the groundwork for future commercialisation.

The Brussels meeting focused on two central axes. First, each partner presented updates on the work packages since the last meeting in South Africa. During this time, CITMAGA contributed significantly to modelling and simulating processes within the industrial furnaces at Fundiciones Rey and ELKEM and disseminating results through scientific articles, conference presentations, and media coverage. The consortium’s annual meeting between Santiago de Compostela and Fundiciones Rey’s facilities in June 2022 received notable media attention.



Rosalinde Van der Vlies, *Directora de Clean Planet - DG Investigación e Innovación, y coordinando la mesa de debate* **Simon Pickard**, *Network Director de Science|Business*.

On October 15, participants attended a roundtable organised by Science|Business and NTNU's Brussels office titled “Critical Raw Materials and Circular Economy: A New Way Forward for Europe?” This event brought together experts from political, industrial, academic, and financial sectors to discuss how Europe can improve its capacity to access and manage critical materials like silicon while ensuring competitiveness within a sustainability and environmental protection framework. The discussion highlighted how SisAl Pilot’s achievements exemplify advancing circular, carbon-free technologies for silicon production and how these advances could guide the next phase of EU policy.

With its official end on October 31, 2024, SisAl Pilot has reached numerous milestones over four years, notably producing SisAl metal in the rotary furnace at Fundiciones Rey in Vilagarcía de Arousa.



As the current coordinator, Dolores Gómez express her deepest gratitude to all CITMaga researchers and staff whose dedication and professionalism made this project possible. She also extends her thanks to each consortium partner, particularly NTNU (in the centre of the picture, Gabriella and Maria, *thanks a lot!*), ELKEM, and SIMTEC, and especially to Fundiciones Rey, led by Luis and Susana, along with Jacobo Otero and Javier Bullón, for their invaluable collaboration and support on this extraordinary journey. Working with such a committed team and sharing our achievements together has been a privilege.