



Joint News Release

September 11, 2019

Eramet, BASF and SUEZ partner to develop an innovative closed-loop process for the recycling of lithium-ion batteries, responding to the strong growth of the market in the coming years

- **The battery recycling project ReLieVe, led by Eramet, with BASF and SUEZ, has been selected by the European Union (EU)**
- **€4.7 million will be committed by the EU and the three members to develop the process and to structure a well-integrated recycling industry**
- **Growing market for electric vehicles will create a massive recycling need**
- **Chimie ParisTech and Norwegian University of Science and Technology will provide academic support**

Ludwigshafen, Germany; Paris, France – The “Recycling Li-ion batteries for electric Vehicle” (ReLieVe) project, founded by Eramet, BASF and SUEZ, will receive a substantial funding of €4.7 million by EIT Raw Materials, a consortium initiated and funded by the European Union, and the three members. The objective is to develop an innovative closed-loop process to recycle lithium-ion batteries from electric vehicles and to enable the production of new lithium-ion batteries in Europe.

As of January 2020, and over a two-year period, the project ReLieVe will carry out a series of activities for the large-scale development of this innovative process and the structuring of an integrated industrial sector: from the collection and dismantling of end-of-life batteries going into recycling all the way to the manufacturing of new electrode materials.

The collaboration along the value chain supports an efficient and integrated approach. The industrial members of the project are leaders in their sector and are ideally placed in the value chain: SUEZ for collection and dismantling of end-of-life batteries; Eramet for the development of the recycling process; and BASF for the manufacturing of cathode active materials. Academic researchers from Chimie ParisTech and the Norwegian University of Science and Technology will support the members to accelerate the search for innovative solutions. The industrial members will also be backed by the automotive sector that will be part of the advisory committee.

The development of new European lithium-ion battery recycling capabilities will make it possible to respond to the strong growth of this market in the coming years and to the issue of securing Europe's supply of raw materials required for its energy transition. Moreover, the virtuous recycling process meets the essential challenges of sustainable performance through its savings on raw materials.

The recovery of nickel, cobalt, manganese and lithium elements into battery-quality products is at the center of Eramet Group's current R&D developments. Laurent Joncourt, Chairman of Eramet Ideas, the Group's R&D Center, commented: "The ReLieVe project responds to the European Commission's appeal to unite European players to position itself in the fast-growing lithium-ion battery market. Thanks to this funding, the ReLieVe project will be able to accelerate its work and progress towards the construction of a lithium-ion battery recycling sector with an innovative and competitive process on a European scale."

"As a leading cathode active material supplier to battery producers for electrified vehicles, BASF is confident that recycling will play an increasingly important role in the roll-out of electromobility," said Daniel Schönfelder, Vice President of Business Management, BASF Battery Materials Europe. "We are committed to foster an innovative, sustainable and competitive battery value chain in Europe together with partners and will contribute our expertise in cathode material production to the project."

“We are proud to bring our expertise and contribute to the recovery of end-of-life battery components through this partnership. Around 50,000 tons of batteries are expected to be recycled by 2027 in Europe and it could be multiplied almost tenfold by 2035. With the ReLieVe project, SUEZ is supporting the development of alternatives approaches that blend circular solutions with sustainable urban mobility”, added Jean-Marc Boursier, SUEZ COO and Senior Executive VP Group in charge of Northern Europe and IWS Europe.

EIT Raw Materials, which is the largest consortium in the raw materials sector worldwide, co-finances the ReLieVe project. It was initiated and funded by the EIT (European Institute of Innovation and Technology), a body of the European Union. Its mission is to enable sustainable competitiveness of the European minerals, metals and materials sector along the value chain by driving innovation, education and entrepreneurship.

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About BASF's Catalysts Division

BASF's Catalysts division is the world's leading supplier of environmental and process catalysts. The group offers exceptional expertise in the development of technologies that protect the air we breathe, produce the fuels that power our world, and ensure efficient production of a wide variety of chemicals, plastics and other products, including advanced battery materials. By leveraging our industry-leading R&D platforms, passion for innovation and deep knowledge of precious and base metals, BASF's Catalysts division develops unique, proprietary solutions that drive customer success. Further information on BASF's Catalysts division is available on the Internet at www.catalysts.basf.com.

About BASF

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. The approximately 122,000 employees in the BASF Group work on contributing to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio is organized into six segments: Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions. BASF generated sales of around €63 billion in 2018. BASF shares are traded on the stock exchange in Frankfurt (BAS) and as American Depositary Receipts (BASFY) in the U.S. Further information at www.basf.com.

About Eramet

Eramet, a global mining and metallurgical group, is a key player in the extraction and valorisation of metals (manganese, nickel, mineral sands) and the elaboration and transformation of alloys with a high added value (high-speed steels, high-performance steels, superalloys, aluminium and titanium alloys). The Group supports the energy transition by developing activities with high growth potential. These include lithium extraction and refining, and recycling. Eramet positions itself as the privileged partner of its customers in sectors that include carbon and stainless steel, aerospace, pigments, energy, and new battery generations. Building on its operating excellence, the quality of its investments and the expertise of its employees, the Group leverages an industrial, managerial and societal model that is virtuous and value-accretive.

As a contributive corporate citizen, Eramet strives for a sustainable and responsible industry. Eramet employs around 13,000 people in 20 countries with sales of approximately €4 billion in 2018.

For further information, go to www.eramet.com

About SUEZ

With 90 000 people on the five continents, SUEZ is a world leader in smart and sustainable resource management. We provide water and waste management solutions that enable cities and industries optimize their resource management and strengthen their environmental and economic performances, in line with regulatory standards. To meet increasing demands to overcome resource quality and scarcity challenges, SUEZ is fully engaged in the resource revolution. With the full potential of digital technologies and innovative solutions, the Group treats over 45 million tons of waste a year, produces 4.4 million tons of secondary raw materials and 7.7 TWh of local renewable energy. It also secures water resources, delivering wastewater treatment services to 66 million people and reusing 1.1 billion m³ of

wastewater. SUEZ generated total revenues of 17.3 billion euros in 2018.

www.suez.com

About EIT RawMaterials

EIT RawMaterials, initiated and funded by the EIT (European Institute of Innovation and Technology), a body of the European Union, is the largest consortium in the raw materials sector worldwide. Its vision is to develop raw materials into a major strength for Europe. Its mission is to enable sustainable competitiveness of the European minerals, metals and materials sector along the value chain by driving innovation, education and entrepreneurship. EIT RawMaterials unites more than 120 core and associate partners and over 180 project partners from leading industries, universities, research and technology organisations from more than 20 EU countries. Partners of EIT RawMaterials are active across the entire raw materials value chain: from exploration, mining and mineral processing to substitution, recycling and circular economy. They collaborate on finding innovative solutions to secure supplies and strengthen the raw materials sector in Europe, processes and services, as well as talented people who will deliver increased economic, environmental and socially sustainable impact to the European society.

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