



Press release  
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## Umicore and Prayon join forces to develop and produce phosphate-based cathode materials for lithium-ion batteries

Materials technology leader Umicore is joining forces with phosphate producer Prayon to develop and produce phosphate-based cathode materials for use in lithium-ion (Li-ion) rechargeable batteries. The collaboration will be in the form of a joint venture, named beLife, which is set up on a 51 (Prayon): 49 (Umicore) ownership basis.

beLife will initially focus on developing advanced, cost-competitive products and production processes for lithium iron phosphate cathode materials used in lithium-ion rechargeable batteries. The joint venture is establishing an industrial pilot plant in Engis<sup>1</sup>, Belgium, that will be operational in the coming months with all materials produced being exclusively marketed by Umicore. The materials are dedicated to batteries for energy storage applications as well as batteries for hybrid and electric vehicles.

Umicore and Prayon have been developing Lithium Iron Phosphate (LFP) technology independently for a number of years and both companies will contribute strong intellectual property to the joint venture. This intellectual property includes Prayon's worldwide license for the production and sale of LFP materials granted by LiFePO<sub>4</sub>+C Licensing AG<sup>2</sup>.

Prayon is a leading global producer of phosphate materials for various industrial applications and its high-purity phosphates are one of the key intermediates for LFP battery materials. Umicore is a world leader in cathode materials for Li-ion batteries and is recognized for its product and application knowhow as well as its large-scale production competences.

Kurt Vandeputte, Senior Business Director for Umicore Rechargeable Battery Materials commented: "We are delighted to initiate this partnership with Prayon for phosphate-based cathode materials. The partnership is based on a unique combination of strengths and offers significant value for existing and future customers. We can offer customers the broadest range of cathode chemistries [including lithium cobaltite (LCO), nickel manganese cobalt (NMC) and lithium iron phosphate (LFP)] for the broadest range of applications."

Yves Caprara, CEO of Prayon SA, added: "As a worldwide leader in high purity phosphoric acid technology, the development of eco-friendly applications for our products is at the core of our strategy. Sourcing is secured by our strong link with OCP SA (Office Chérifien des Phosphates, Morocco), which owns 50 pc of our shares. Combined with Umicore's leadership position in battery materials, beLife is in a unique position to offer reliable sources of high-quality LFP materials."

<sup>1</sup> Prayon's headquarters and main production site.

<sup>2</sup> LiFePO<sub>4</sub>+C Licensing (an affiliate of Clariant AG) represents patent owners Hydro-Québec (Canada), Université de Montréal (Canada) and the Centre National de la Recherche Scientifique (France). The LFP patent rights associated with the license include worldwide protection for LFP technology, patents on the invention of basic LFP materials, carbon-coating patents usable with LFP materials and carbon coating process patents.

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## Notes to editors:

About LFP: lithium iron phosphate ( $\text{LiFePO}_4$ ) is a type of cathode material used to store energy in lithium ion rechargeable batteries, The cathode material is one of the most important and differentiating components of lithium ion batteries and a major determinant of the final performance and cost of a rechargeable battery. The global drive behind the electrification of transport has put rechargeable batteries, particularly lithium ion batteries, at the forefront.

## Prayon profile

Prayon is a fully integrated global phosphate producer headquartered in Belgium, with manufacturing operations in Belgium, France and the United States. Jointly owned by OCP (Morocco) and SRIW (Belgium), Prayon manufactures and markets an extensive range of purified phosphoric acids, phosphate salts and fluorine products that are used in food, fertilisers and a range of industrial applications. Prayon also manufactures lithium boron iron phosphate, a cathode material used in hybrid and electric vehicle batteries as well as stationary applications. Prayon is constantly exploring new products designed to serve emerging market trends.

## Umicore profile

Umicore is a global materials technology group. It focuses on application areas where its expertise in materials science, chemistry and metallurgy makes a real difference. Its activities are centred on four business areas: Catalysis, Energy Materials, Performance Materials and Recycling. Each business area is divided into market-focused business units offering materials and solutions that are at the cutting edge of new technological developments and essential to everyday life. Umicore generates the majority of its revenues and dedicates most of its R&D efforts to clean technologies, such as emission control catalysts, materials for rechargeable batteries and photovoltaics, fuel cells, and recycling. Umicore's overriding goal of sustainable value creation is based on an ambition to develop, produce and recycle materials in a way that fulfils its mission: materials for a better life.

## For more information

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