

A new European player perspective on Li-ion cell production: the “E-Lithium” project

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As important as they are, evolutionary technology improvements achieved through European R&D activities are not sufficient to drive EU competitiveness in the battery sector, without a stable and secure battery manufacturing base. The lack of a domestic cell manufacturing base makes the EU dependent on the supply of foreign battery technology, and, over time, the current EU capabilities in high-quality R&I at worldwide level will decline, compromising the ability for EU to compete for and catch the market of the next generation of batteries.

Within this context, Lithops and its holding company FIB (owner of the FAAM brand) are developing a manufacturing plant for Li-ion cells and batteries (based in South Italy) for ESS and industrial traction markets. Lithops plans to exploit the know-how gained during several years of R&D activities within its pilot plant for the production of Li-ion pouch cells (based in Turin), covering from active material treatments to cell testing. Together with the Seri Group (of which Lithops is part) and FAAM, Lithops aims to set a vertically integrated production, from raw materials to second-life battery re-usage and material recycling. The manufacturing plant is designed to mainly produce (ramping up in Q2 2019) 40 Ah Li-ion pouch cells and complete battery systems for Energy Storage Systems (ESS) and industrial traction applications, with an initial capacity of about 200 MWh/y.

The Group has recently subscribed an agreement with Jemse, the Argentinean mining company of Jujuy region. This partnership will grant strategic access to raw materials at competitive prices, enabling strong saving in the cell production costs, and access to the South American market.

Great effort is made also on R&D activities, particularly on materials and recycling. The Group's plan is to produce the cathodic active material (LFP), by exploiting a cost-competitive synthesis method. Moreover, working together with Politecnico di Torino, Lithops is developing solid-polymer-electrolyte membranes (replacing liquid electrolyte) with interesting performances, through a promising process that could be easily up-scaled in the production line.

The Group also aims to exploit the know-how present in Seri on lead-acid battery recycle, to develop a mechanical-chemical process capable to recover almost 85% of the materials of Li-ion batteries.

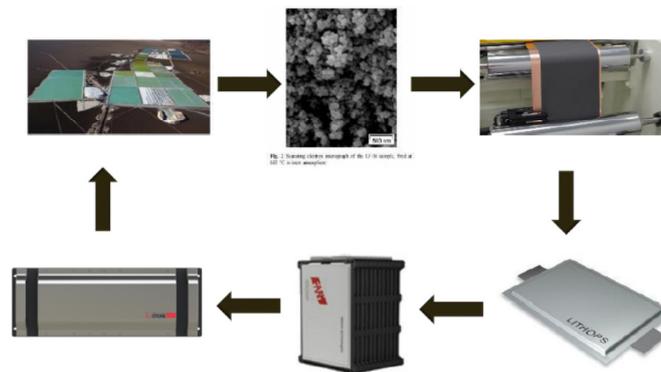


Figure 1: E-Lithium project overview