

## **Bolivia chooses ACI Systems as strategic partner to industrialize lithium deposits**

**Salar de Uyuni in the Andes in southwestern Bolivia is currently the world's largest known deposit of lithium. The Bolivian state is creating a value chain to use the deposits of this raw material for industrial purposes. After a long and intensive decision-making process, the state-owned company Yacimientos de Litio Bolivianos (YLB) selected the German company ACI Systems as a strategic partner for this project.**

As an elementary component of lithium-ion batteries, currently the most promising alternative for implementing the electric vehicle offensive, lithium is one of the most sought-after raw materials. It is also needed for mobile phone and laptop batteries, as well as for solar energy storage systems. So far largely untouched, the world's largest known deposit of this light metal, known as 'white gold', is in Salar de Uyuni in Bolivia. For the benefit of the Bolivian people, this situation is now going to change. The state enterprise Yacimientos de Litio Bolivianos (YLB), which is responsible for extracting, utilizing and marketing the raw material, was founded specially for this purpose. The project was divided into three phases. Phase three involves establishing a value chain from extraction of the raw material to the finished product, in which Bolivia has a majority stake.

### **Industrialization partner**

The industrialization phase involves extracting and producing raw materials from residual brine, developing production capacities, as well as manufacturing and marketing cathode material and battery systems in Bolivia. YLB invited eight international consortia to submit proposals to realize this step. One of them was the German company ACI Systems GmbH. The concepts submitted were intensively examined, evaluated and analyzed by YLB according to their specified criteria. After numerous iteration and discussion phases, on the 20th of April 2018 the state-owned company selected ACI Systems as a strategic industrialization partner. The company is a member of the ACI Group. The group specializes in developing and constructing innovative and sustainable production solutions for

photovoltaics and battery system manufacture, as well as in extracting and utilizing raw materials and materials for these branches of industry.

By entering into this Bolivian-German partnership, Germany will also gain access to the coveted raw material lithium. The decision in favor of ACI Systems is therefore also of strategic importance to Germany and Europe.

### **Professional competence and integrated concept conclusive**

The decisive factor was, on the one hand, the combined high level of technical expertise of the experts in the ACI System team, reinforced by the cooperation with K-UTECH AG Salt Technologies from Sondershausen. On the other hand, integrated approach of the concept and project content were also convincing. Potassium sulphate, magnesium hydroxide and sodium sulphate are extracted from the residual brine in addition to lithium hydroxide, and subsequently processed or marketed. Among other things, potential partners and customers were identified for this purpose. Another important point is the transfer of knowledge through training and enhancing the skills of Bolivian employees. Environmental aspects were also pivotal. These include the environmentally compatible extraction of the raw materials, the use of renewable energies and the establishment of a decentralized power supply which, for the first time, will enable batteries and cathodes to be produced ecologically.

### **What happens next**

The next step, which is to be completed by the middle of this year, is to form a public-private joint venture between YLB and ACI Systems in Bolivia, in which the Bolivian state-owned company will hold a 51 percent majority stake. The tasks of this company, which will be solved jointly, are to clearly define the areas of activity, as well as to draw up detailed business and environmental plans for the subsequently-founded project companies for extracting and processing lithium. The differentiated conception of the technical and economic implementation of the project also falls within the company's common field of activity. As project manager, ACI Systems will be responsible for the final selection of technology and implementation partners, right up to the construction of the necessary production lines to ensure innovative, efficient and sustainable production.

## **About ACI Systems**

ACI Systems is a member of the ACI Group based in Zimmern ob Rottweil in southern Germany. The group of companies develops innovative and sustainable production solutions for the photovoltaic, battery and automotive industries. These include applications for manufacturing battery systems, energy storage systems and generators for electromobility, solar power plants, as well as the extraction of raw materials and materials for these sectors. The group's core skills lie in process and plant engineering for production lines, as well as turnkey solutions. In addition, the ACI Group develops automation solutions and CO2 snow jet systems for industrial parts cleaning.

Within the group, ACI Systems is responsible for technology and project management. Among other things, this includes identifying and evaluating innovative technologies and corresponding application sectors. ACI Systems is also concerned with sales, as well as project development and management

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