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## PRESS RELEASE

### THE UNIQUE AND SUSTAINABLE SOLUTION FOR DIRECT LITHIUM EXTRACTION

Paris, May 2023 – ADIONICS has succeeded in extracting lithium from Argentina brine during two pilot-scale tests conducted in the pilot test center of K-UTEC. It is a major advance in the field of Direct Lithium Extraction by producing a purified lithium chloride concentrate with brines coming from LITICA RESOURCES, a major player in Mining & Metals sector. Based on its proprietary technology for carbonation, K-UTEC was able to produce battery-grade lithium carbonate directly from the re-extracted concentrate, requiring only minor brine polishing steps.

### MAXIMISE THE VALUE OF THE LITHIUM RICH BRINE

Lithium is a fundamental raw material for the renewable energy transition owing to its widespread use in rechargeable batteries and the deployment of electric vehicles. ADIONICS' technology is revolutionary: Direct Lithium Extraction (DLE) is a great level to reduce the environmental footprint along energy, water, production time. ADIONICS' technology makes it possible to achieve lithium extraction yields up to 99% with a high Lithium Chloride brine purity up to 99%, therefore obtaining Premium Battery Grade in Lithium Hydroxide or Carbonate. This innovative process will create **new market opportunities for lithium extraction and battery manufacturing economy and maximize the value of the lithium-rich brine with cutting-edge extraction technology.**

### ROBUSTNESS AND REPEATIBILITY

ADIONICS successfully completed two continuous and stable test operations of Lithium extraction from brines with industrial plant CL15\* that were embedded in a production process to produce battery grade lithium carbonate in the pilot test center of K-UTEC. Each brine had different characteristics with a lithium concentration of 1g/l of lithium (brine 1) and 7g/l of lithium (brine 2). The test campaign with the two brines have been witnessed and controlled by K-UTEC with open data/open book on operational parameters and real time analysis of quality and performance. This **success of Lithium extraction, purification and concentration under steady state operation conditions** using ADIONICS' Temperature Swing Salt Absorption Technology have been performed, demonstrating high lithium yield (93% for Brine 1 and 92% for brine 2), high lithium purity (86,5% for Brine 1 & 97% for Brine 2) and highly concentrated lithium chloride production (6 g/L of Lithium for Brine 1 and 10,3 g/L of Lithium for Brine 2). The overall approach of K-UTEC to producing battery-grade lithium carbonate from the re-extracted concentrate was optimized for lithium yield, water recovery, and reagent consumption. The applied process steps included minor brine polishing, carbonation in a proprietary loop reactor setup using a sodium carbonate solution, the recycling of acidified lithium carbonate mother liquor, and fractional evaporative crystallization to remove sodium chloride formed during carbonation. To minimize water consumption the thereby obtained condensate can be used for re-extraction of lithium. After solid-liquid separation, washing, and drying of the product, battery-grade products with a purity of >99.85%  $\text{Li}_2\text{CO}_3$  were obtained. These groundbreaking results demonstrate once again the **performance, process robustness and repeatability of Adionics' Direct Lithium Extraction Technology in combination with optimized lithium carbonate precipitation.**

The success of these test campaign is a huge step in our objective to support the Energy Transition and to meet the demand for high-quality lithium and support the electric vehicle market. **ADIONICS' technology can make a huge contribution to this acceleration.**

*« We hereby confirm our technological leadership in the DLE market and our will to industrialize our process in 2023. The continuous tests are operating with a capacity of 15 ton per year LCE and has repeatedly demonstrated the announced performance on lithium extraction. These tests confirm the technical potential of our process, which could ultimately be instrumental in the crucial task of securing the raw materials essential to World's energy transition. I want to congratulate ADIONICS' team and our partner K-UTEC who helped make this success. Thank you to LITICA RESOURCES for trusting us with your brine samples!»,* stated Gabriel Toffani ADIONICS' CEO.

**\*15tpy LiCl production capacity**

## ABOUT LITICA RESOURCES

LITICA RESOURCES is a Pluspetrol company, a leading private oil and gas company. LITICA RESOURCES is a strategic player in the future of energy. LITICA RESOURCES has a portfolio of high-prospectivity salt pans and creates value through the exploration, analysis, and study of high potential salt pans, and connecting key elements like lithium, to optimize the sustainable development of the energy the world needs. With more than 300.000 hectares in the region called "The Lithium Triangle" of Argentina, added to our strong teams, LITICA RESOURCES drives the strategic development of this element that will be key for the growth of the country.

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## ABOUT ADIONICS

ADIONICS is a company bringing a technology breakthrough in selective lithium salt extraction from continental, geothermal or produced water brines. Adionics offers a unique, disruptive, efficient and sustainable closed loop liquid-liquid extraction and stripping solution for lithium chloride valorization. Its brine mining solution is based upon unique cation selectivity, using "lock and key model," by applying a highly customized proprietary salt extracting liquid formulation named Flionex®. Using Flionex within a now patented thermal swing liquid-liquid salt absorption process, you get a remarkable and unique solution to selectively extract Lithium salts from brines with remarkably high lithium recovery using a reagent free sustainable technology with very limited water usage. The Adionics' process requires no chemical reagents to extract or strip lithium and has an extremely limited environmental impact.

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## ABOUT K-UTEC

K-UTEC is a renowned industrial service provider for the raw material and chemical industry with particular expertise in extraction and production processes for inorganic salts and hydroxides of lithium, potassium, magnesium, boron, and other alkali, alkaline earth, rare earth, and so-called energy metals. K-UTEC offers its customers a comprehensive range of services that cover the entire value chain of a raw material project. From exploration to operation, K-UTEC provides expert guidance and support, including tailor-made process development and engineering, laboratory and pilot-scale testing of complete production processes, the supply of key equipment, commissioning, and operational optimization. The combination of innovation and tradition, along with over 70 years of experience in the mineral salt industry and numerous successful projects around the world, have made K-UTEC one of the leading companies in the extraction and processing of lithium-containing raw materials.

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