BEACONS

Batteries and Energy to Advance Commercialization and National Security

Testing Batteries for National Security

Batteries are both crucial drivers of the clean energy transition and critical for national defense, providing power on demand for Unmanned Aerial Vehicles (UAVs), wearable technology and thousands of distinct warfighter applications. AUI is a leading partner in the BEACONS Energy Systems Storage Campus, a $30 million Department of Defense project to develop the future battery workforce, advance battery manufacturing, develop new battery chemistries, and provide flexible, state-of-the-art pilot manufacturing facilities to bring such new technologies to market.

Analyzing the Critical Materials Supply Chain

AUI leads BEACONS' efforts in supporting the future availability of critical raw materials such as lithium, nickel, cobalt and graphite—the building blocks of batteries required for creating cathodes, anodes, separators and electrolyte. Currently, markets for batteries and their raw materials are largely controlled by China and other peer competitor nations, whose state-backed investment strategies have distorted markets and pose the risk of supply disruptions.

To develop secure domestic and allied battery supply chains, U.S. capital markets and battery manufacturers require a clear, comprehensive view of critical materials markets. Likewise, policymakers need accurate information regarding emerging sources of supply to calibrate appropriate and effective policies to promote the domestic battery industry, such as tariffs, upstream sourcing requirements, tax credits and premium price mechanisms.

Developing a Decision-making Tool

To support battery supply chain decision-making and risk analysis for both public and private sector actors, AUI has developed a prototype analytical dashboard and geospatial mapping interface—called 'Brokkr'—which maps, aggregates and validates source data on critical materials at the global scale. The Brokkr system will also provide market forecasting capabilities using unique models trained on real-time data, as well as social network mapping tools to identify sourcing relationships throughout the battery supply chain.

Contact Us

Associated Universities Inc.
2650 Park Tower Drive
Suite 700
Vienna, VA 22180

(202) 462-1676

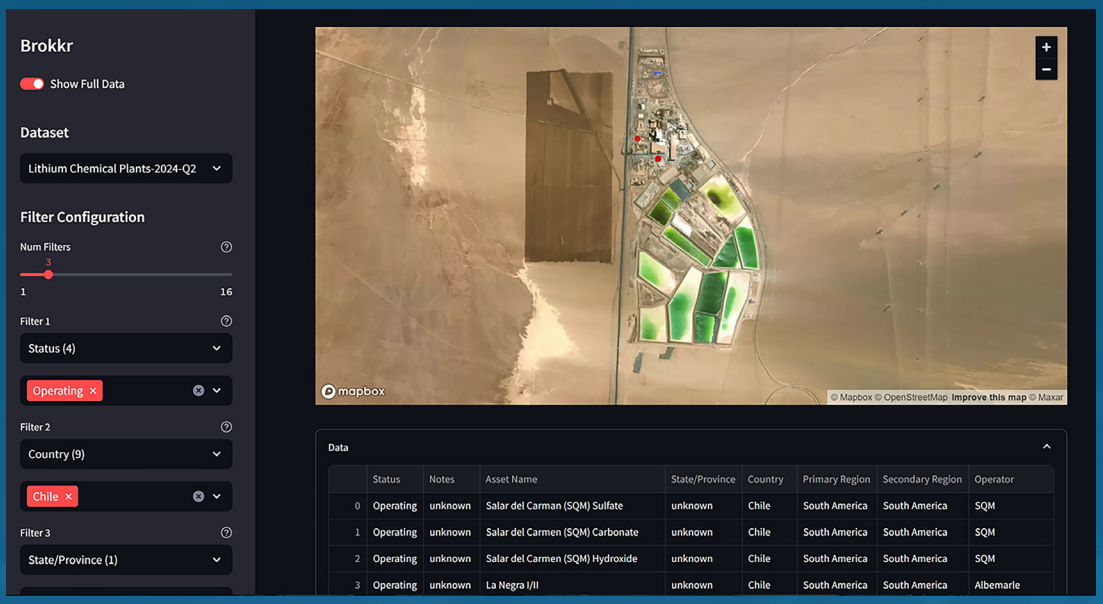
www.aui.edu

Turn over to view samples of the Brokkr dashboard.

LEAP MANUFACTURING

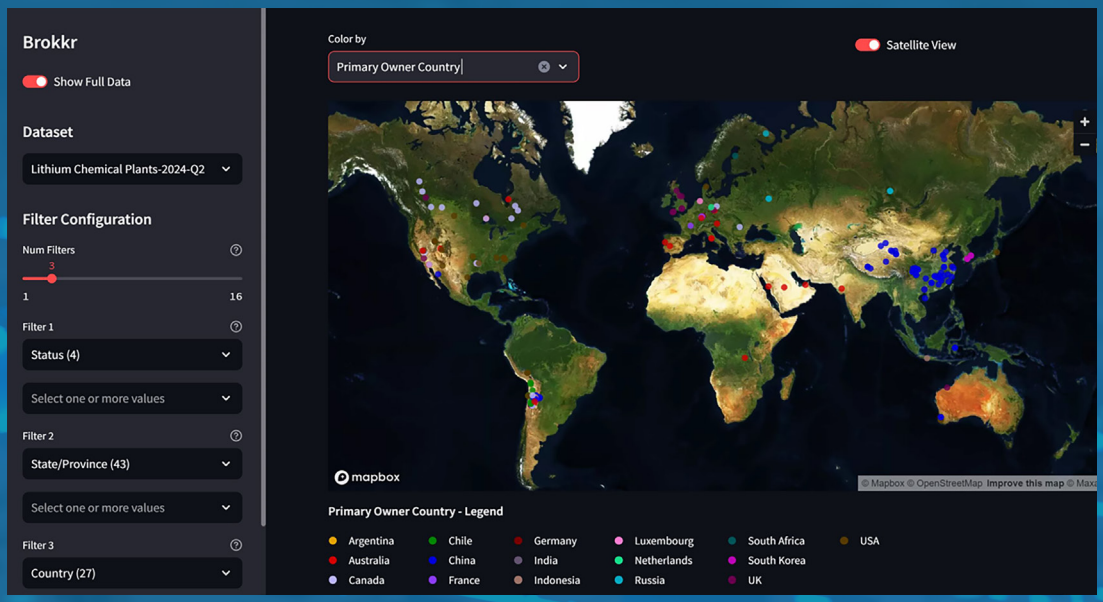
THE UNIVERSITY OF TEXAS AT DALLAS EST. 1969

Brokkr Dashboard



A satellite image of SQM-owned lithium carbonate and lithium hydroxide chemical plants—and adjacent lithium brine separation pools—in the Atacama Desert of Northern Chile. This site is 14km due West of the Port of Antofagasta. Tianqi Lithium, a Chinese firm, holds a 22% stake in SQM, and is its second-largest shareholder.

A global-scale map of existing and planned lithium chemical plants. This map has been configured to color the site dots according to the nationality of the plant's primary owner.



The Market Analysis function, displaying time-series data for lithium mine counts by quarter for the years 2020-2024. The charts separate lithium mines that are primarily or partially owned by Chinese companies (right side) from mines with no Chinese ownership stake (left side).