



# **Lilac Solutions: sustainable extraction for today's world**

September 2023



# ELECTRIC VEHICLES REQUIRE 20X GROWTH IN LITHIUM SUPPLY

## Automakers Are Going 100% Electric

- \$1.2 trillion to be invested in the EV transition this decade<sup>1</sup>

## Lithium is a Primary Bottleneck to the Energy Transition

- Lithium supply needs to grow 20x for 100% EV future

## Conventional Lithium Production is Failing

- Hard rock resources are small and will be exhausted quickly
- Brine resources are large but can't scale fast with current tech

## Lilac is Uniquely Positioned to Scale Lithium Production

- Our ion exchange technology unlocks and upsizes new production
- World-class team in project development and operations

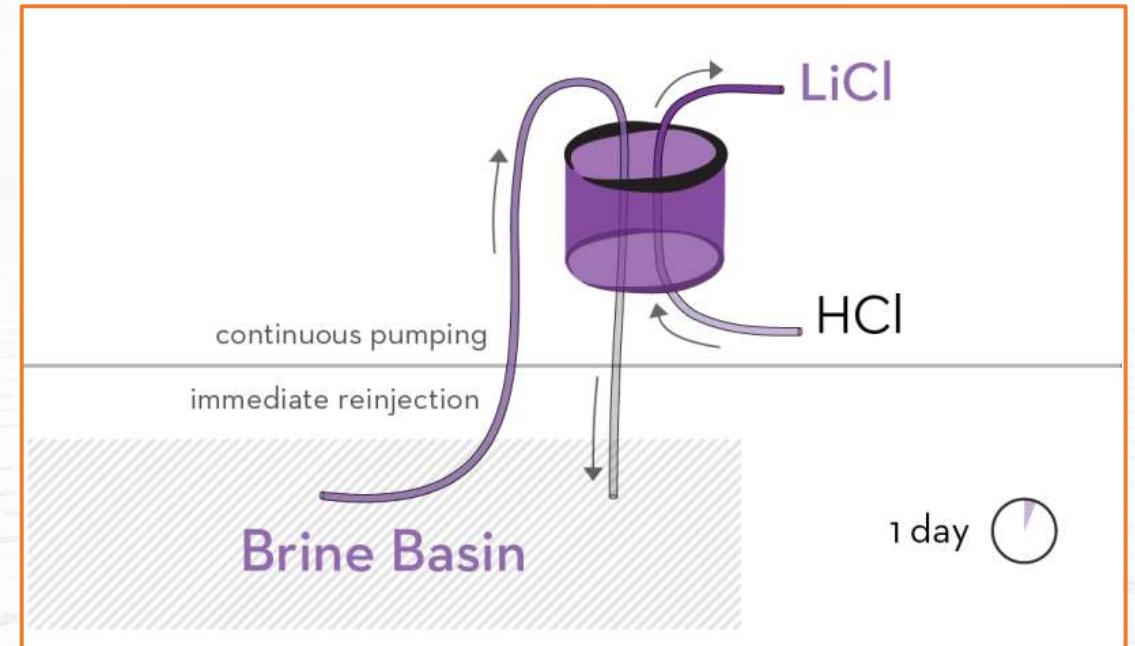


(1) Reuters, 25 Oct 2022, "Automakers to double spending on EVs, batteries to \$1.2 trillion by 2030"



# HOW DOES LILAC'S PROCESS WORK?

- Lilac manufactures our patented IX beads and loads them into IX modules
- Brine (salt water) is pumped from a natural aquifer and through the IX modules where it contacts the IX beads
- IX beads absorb lithium from the brine in minutes, then the brine is returned to the aquifer
- IX beads are treated with acid to produce lithium chloride
- Lithium chloride is processed through conventional "downstream" methods to produce finished lithium carbonate or lithium hydroxide products for battery manufacturers





# LILAC SOLVES THE LITHIUM INDUSTRY'S CRITICAL PROBLEMS

## Unlock New Sites

- South America has only 4 brine projects in production; all these projects feature brines with high lithium grades, yet they struggle to expand due to problems with technology and environmental impact
- South America has dozens of large, undeveloped project sites, but most of these sites have lithium concentrations that are 2-10x lower than existing production; US and EU also have dozens of potential project sites, but lithium concentrations are 4-20x lower than existing production
- For low grade brines, Lilac is uniquely capable of bringing these projects into production; for medium and high-grade brines, Lilac is uniquely capable of realizing the full potential of these project sites with large production rates

## Accelerate Development Time

- Battery factories are built in 2 years while conventional brine projects take 10 years due to sprawling footprint and slow commissioning
- Lilac can bring a brine project fully online in 4 years due to faster commissioning and processing than conventional projects

## Increase Production Rate

- Conventional brine projects produce just 0.1% of their resource per year due to constraints on land and water
- Lilac needs less land and less water, enabling up to 10x higher production rate





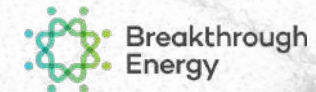
# LILAC SOLUTIONS: SUSTAINABLE EXTRACTION FOR TODAY'S WORLD

## Proven Technology and Operations

- Rigorous testing with 200,000 hours of continuous operation on 60+ brines at bench, mini-pilot, and pilot scale
- Water consumption: 2-10 ton\_H2O/ton\_LCE
- Successful pilot plant at a remote project site in Catamarca, Argentina, achieved 24/7 continuous operations within one month, and delivered first truckload of lithium chloride ahead of schedule
- Completed mechanical testing of commercial scale IX vessel, validating FEL-3 engineering, ready for FID and FEED
- Diversified project portfolio in partnership with the world's largest resource owners in different continents

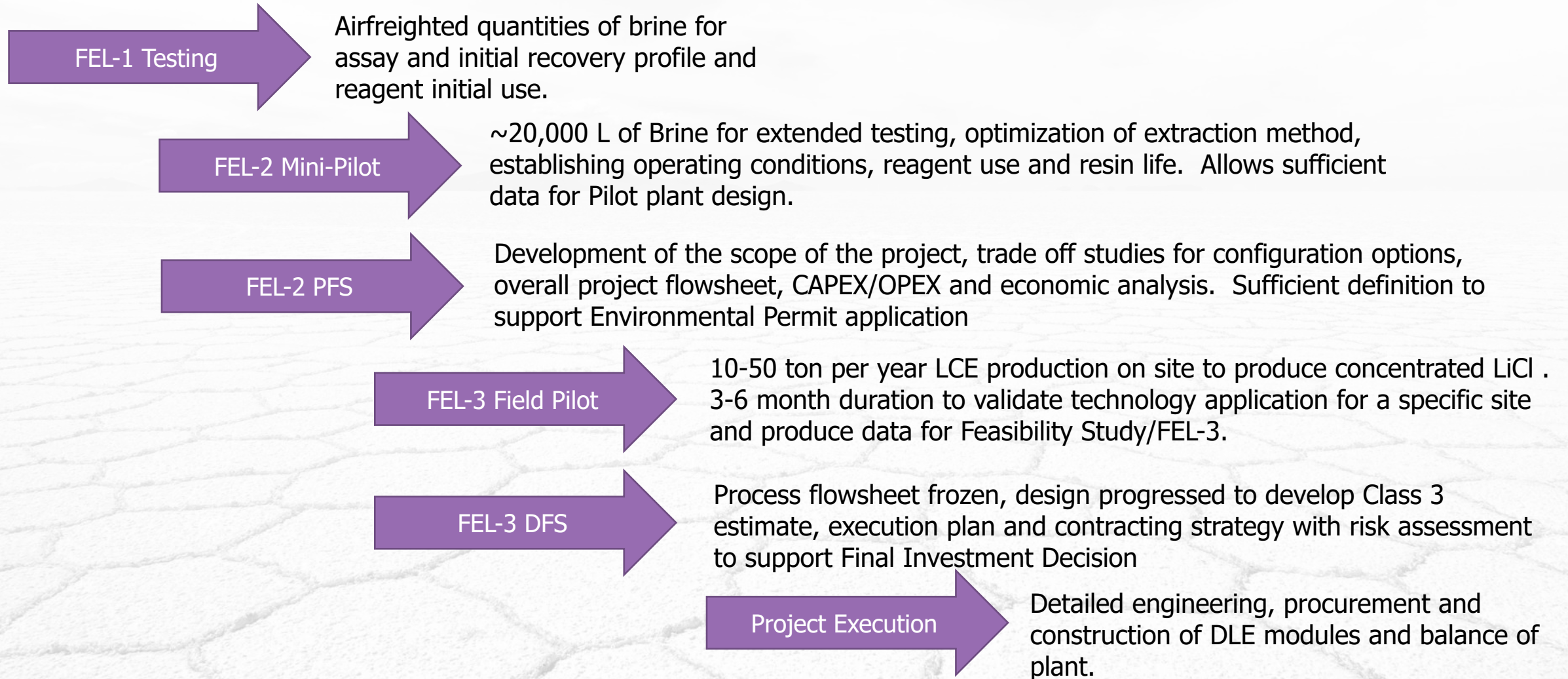
## Top Tier Global Investors + Federal Grant

- \$248 million private capital raised to date. Selected for \$50 million grant by U.S. Department of Energy
- 250+ employees. Offices in the US, Canada, Chile, Argentina, Bolivia and UK





# PROJECT DEVELOPMENT AND ASSESSMENT PROCESS





# CHALLENGES FOR CHILE AND DLE

- Lithium in Chile: We are in a race against time
- Chile needs a clear regulatory path with a wider agreement
- Clear rules for capital intensive projects
- Improvement of permitting management and approvals
- Licencia Social: demonstrating to the communities that sustainable projects with minimal negative impacts and significant positive impacts can be carried out through direct extraction
- Reinjection, as the method that will allow mitigating impacts and improve efficiency on the surface, in the water balance of the basins and the production



**Thank You!**

