



Rugged DLE: De-Risked and Deployed

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The Elements of Viable DLE

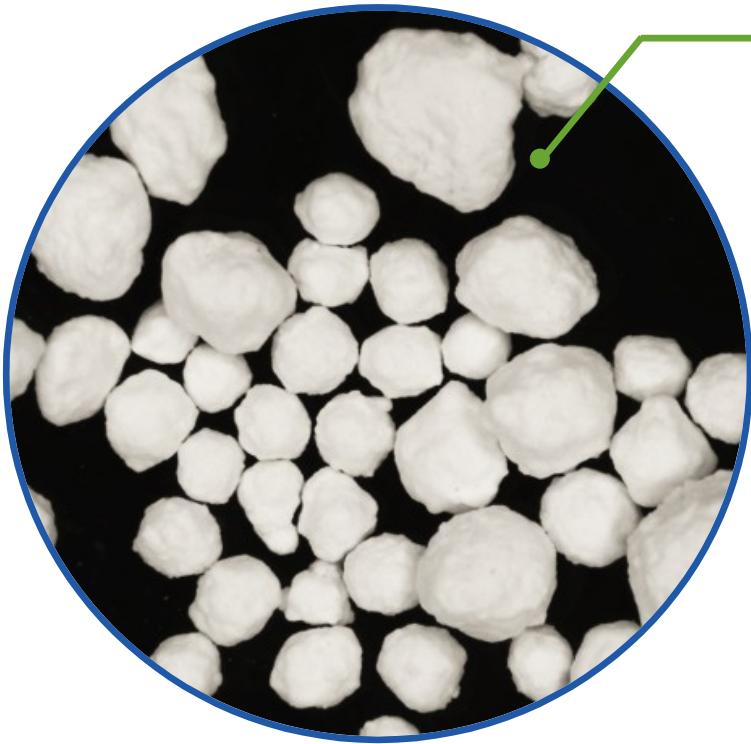


Durable Adsorbents

High Throughput DLE Modules

Derisked Scale-Up

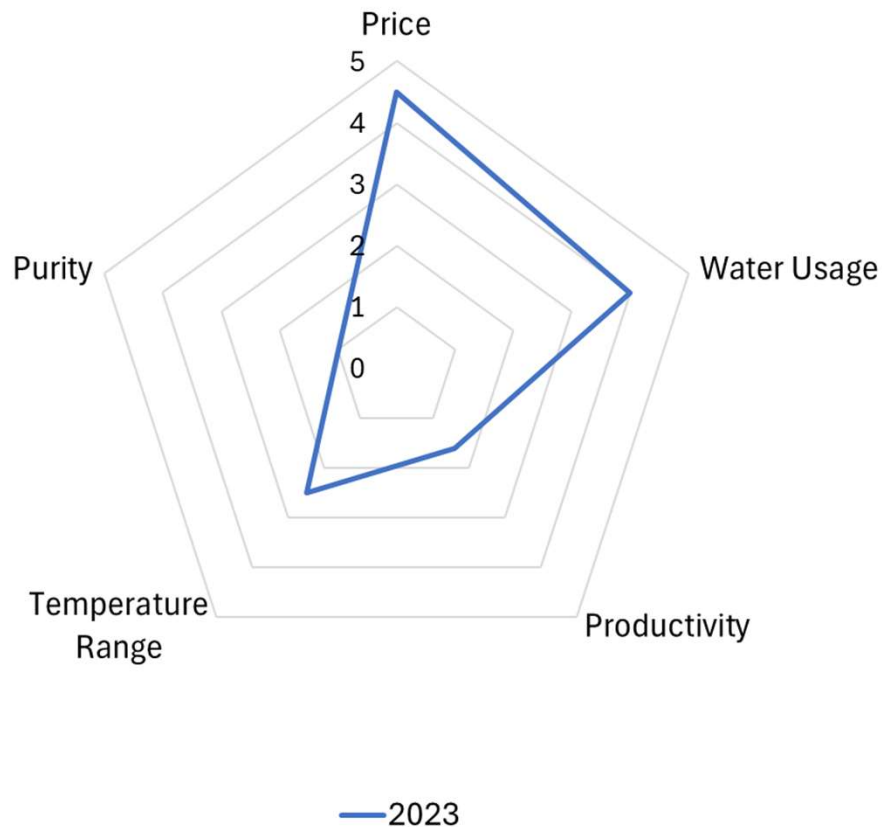
Even More Than Meets the Eye



ARI uses adsorbents that satisfy the following:

- Fast lithium binding
- Low pressure drop
- Low water requirement
- Robust to low and high temperature brines
- Maintains ability to bind lithium over thousands of cycles
- Low cost for first adsorbent fill in the plant

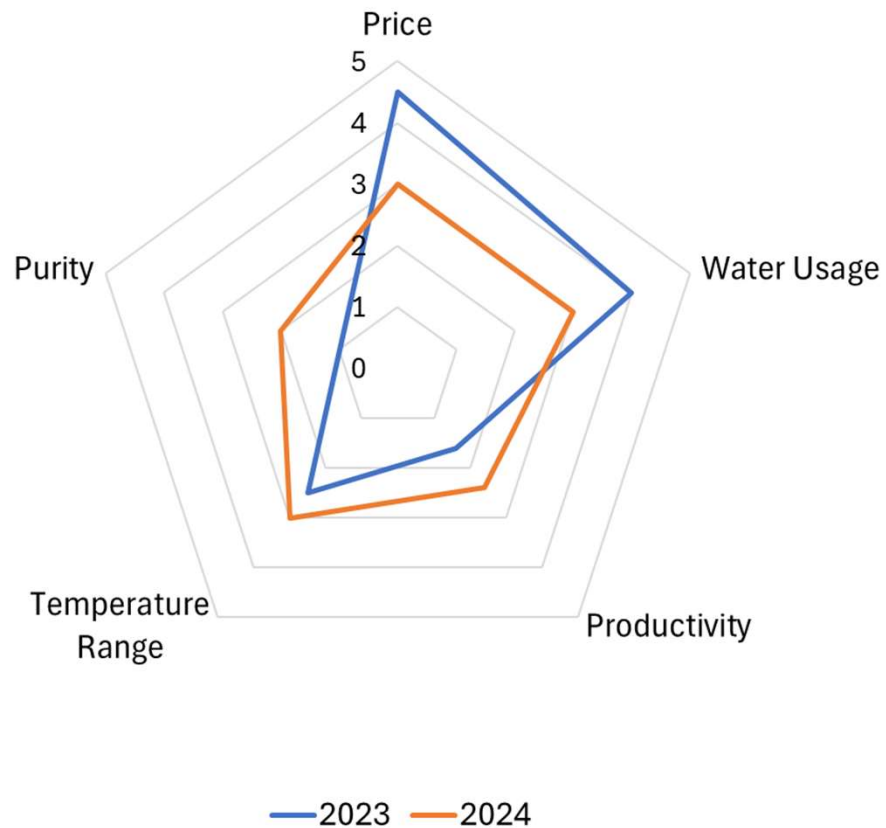
Breaking New Ground with Adsorbents



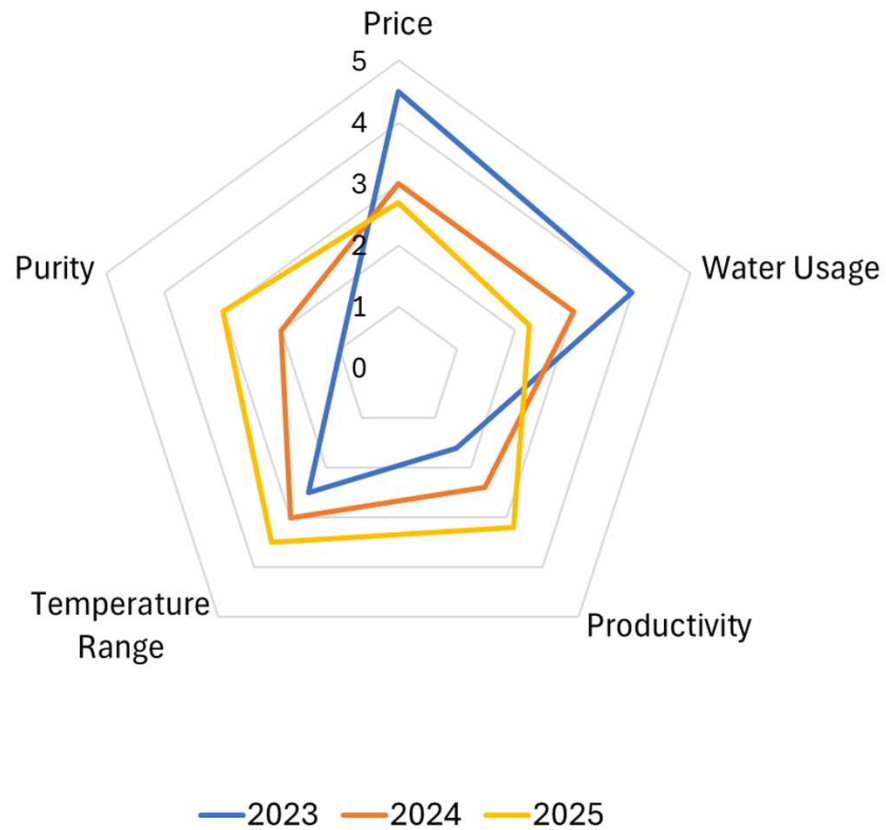
North American adsorbents in 2023 were:

- Expensive
- Fragile/Brittle
- Slow to fully bind lithium
- Large particle size
- Operated in a narrow temperature range

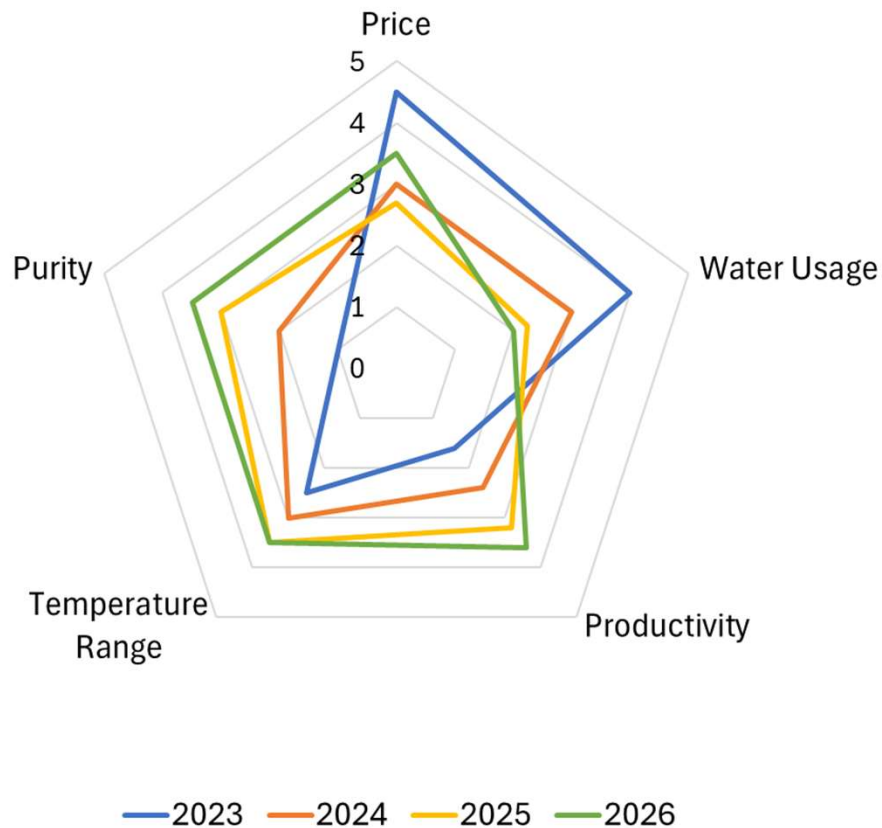
Breaking New Ground with Adsorbents



Breaking New Ground with Adsorbents



Breaking New Ground with Adsorbents



North American adsorbents in 2026 are:

- Slightly lower cost, but rising
- More durable, enabling higher productivity
- Fast lithium binding
- Optimized for lower water usage and improved lithium product purity
- More robust over a wide temperature range

More Throughput. Less Equipment.

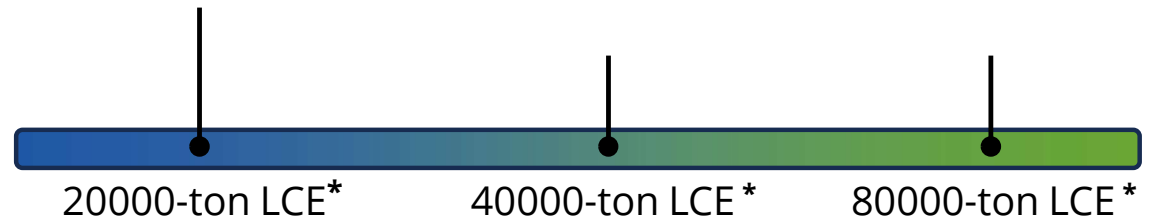


High Throughput DLE Modules: Operations are more robust with less equipment to maintain. Better CAPEX efficiency in the market.

ARi – 1 module

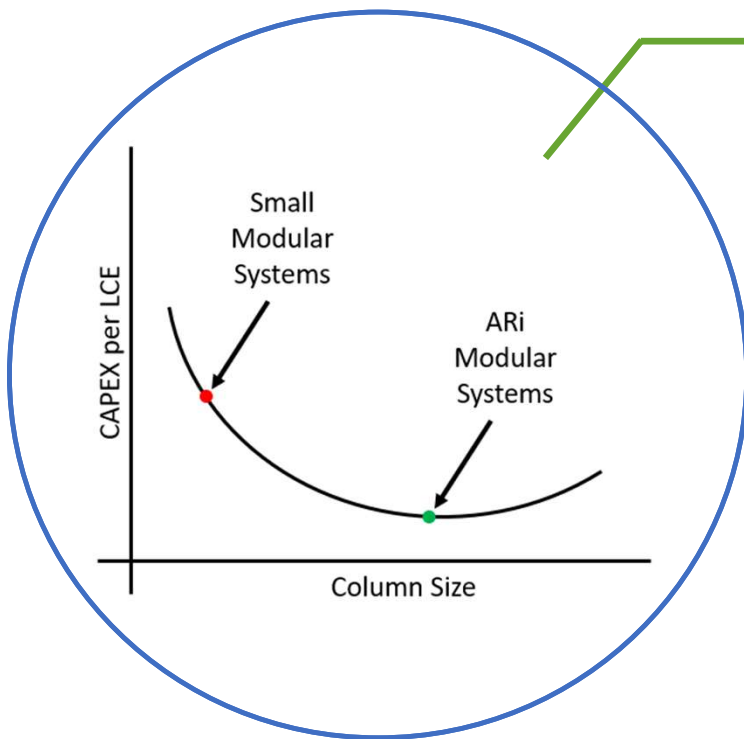
ARi – 2 modules

ARi – 4 modules



* Depending on the intrinsic characteristics of the brine and process conditions

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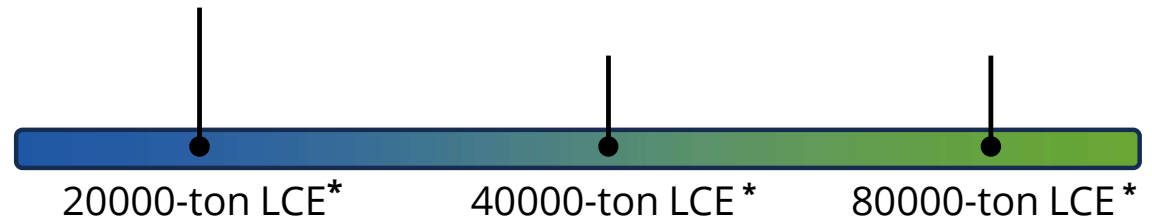


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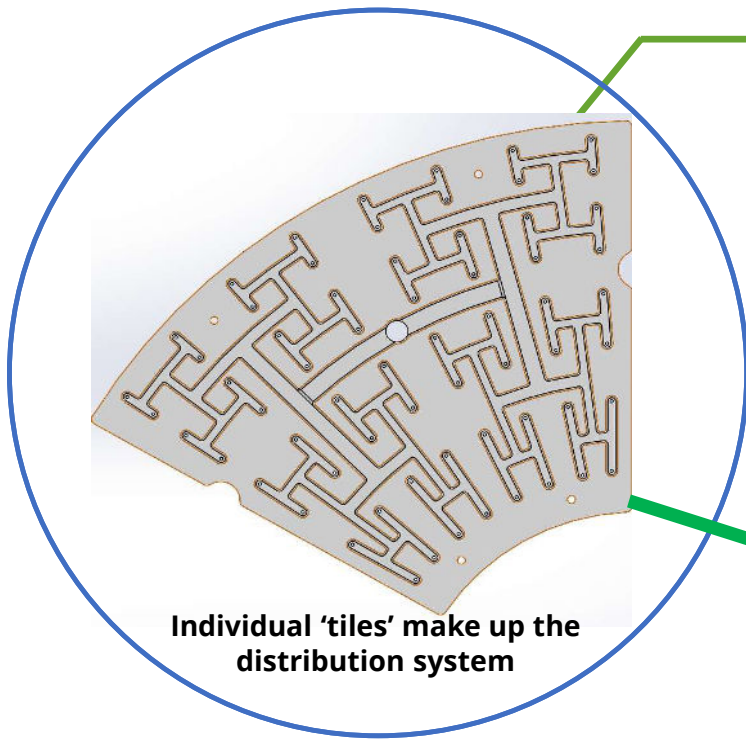
ARi - 2 modules

ARi - 4 modules



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The Root of a Scalable Guarantee



Individual 'tiles' make up the distribution system

Derisked Scale-Up: Preserve DLE performance to largest economic modular DLE system.



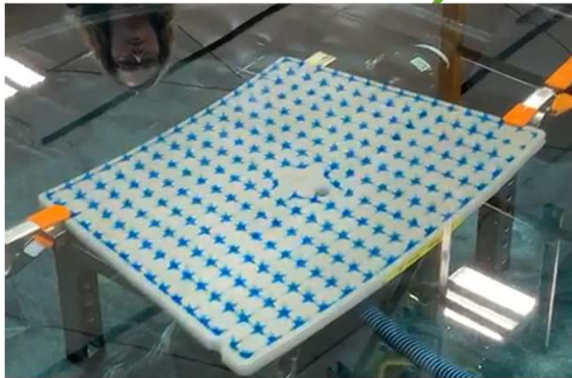
Interior of the adsorption column

Individual 'tiles' make up the distribution system

2-in pilot scale to up to 21-ft at industrial scale

The Root of a Scalable Guarantee

Derisked Scale-Up: Preserve DLE performance to largest economic modular DLE system.



Individual 'tiles' make up the distribution system



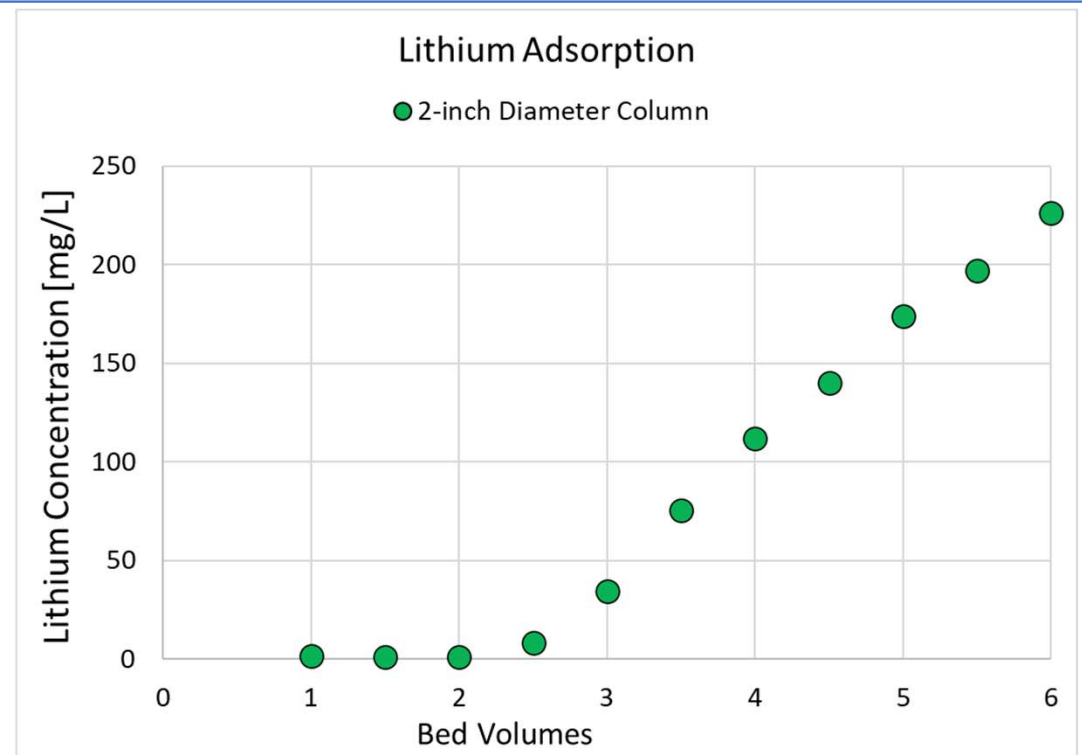
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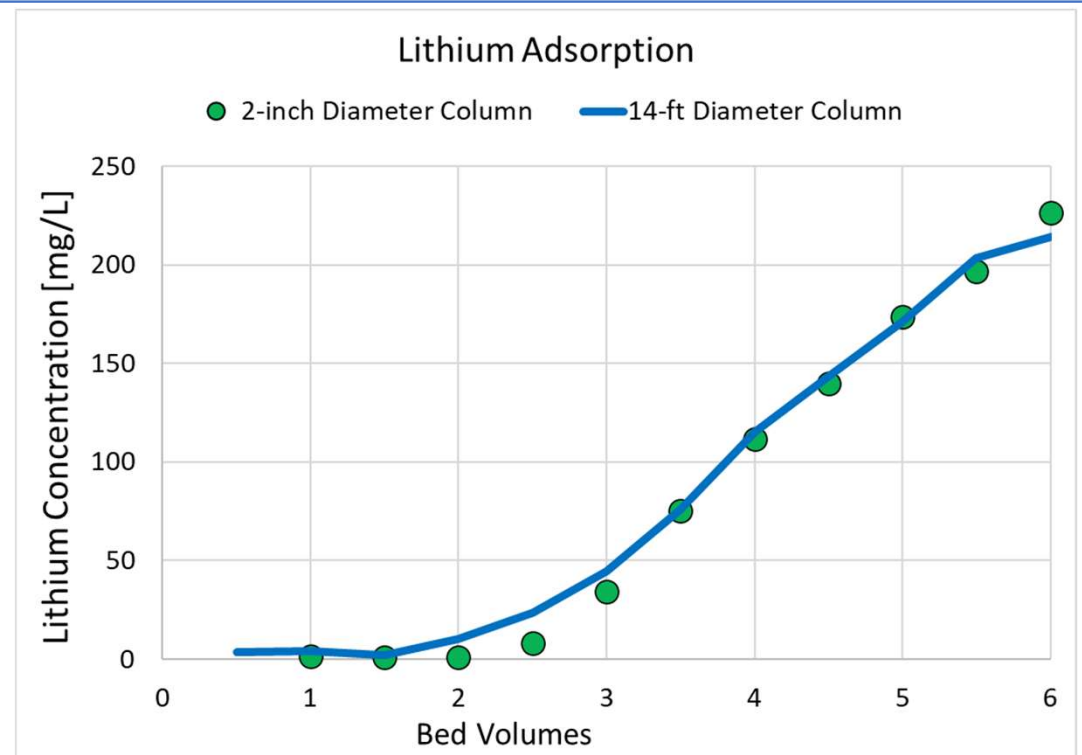
Derisked Scale-Up



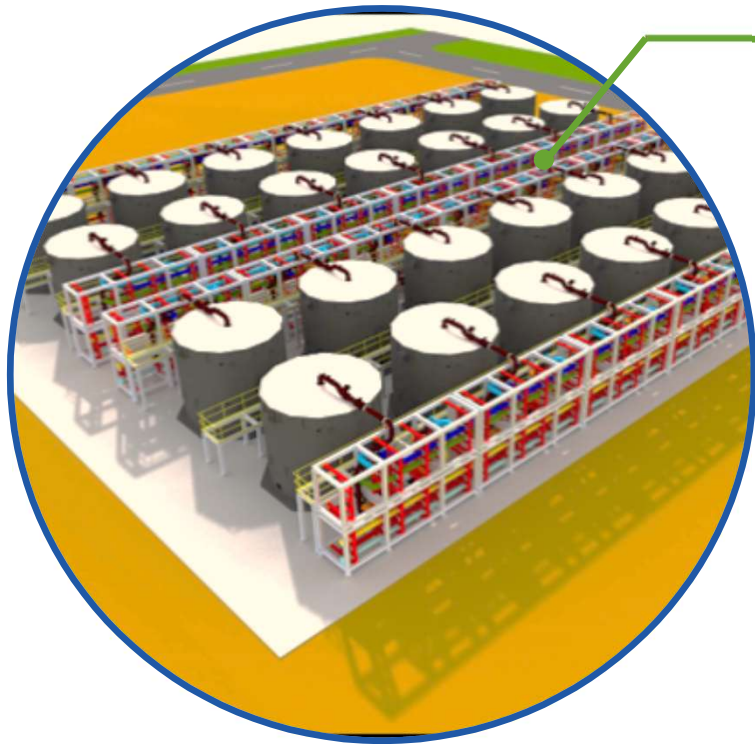
The Root of a Scalable Guarantee

- Preserved lithium binding performance from pilot scale to commercial scale system
- Full utilization of installed adsorbent capacity
- Derisked DLE scale-up

Derisked Scale-Up



The ARi DLE System.



Simple and Scalable

- Simple components and operation for maximum uptime
- Five to nine columns per module
- Minimal on-site installation requirements
- Full utilization of installed adsorbent capacity
- No added chemicals or heating required
- Suitable for 100–3000 ppm lithium brines

The ARI DLE System.



- Modules consisting of 5–9 fixed-bed columns (depending on throughput)
- Total adsorbent inventory per module – 500-700 cubic meters
- Automation, valving, system piping, engineering, I/O, monitoring instrumentation, etc.
- Met or exceeded performance guarantees for each commissioned system

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- Met or exceeded performance guarantees for each commissioned system
- **Recently commissioned a system producing 3,000 t/y of lithium carbonate using ARI's column design**

The Elements of ARI DLE



New Ground with New Adsorbents.

More Throughput. Less DLE Modules.

A Scalable Guarantee.

CONTACT INFORMATION



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