

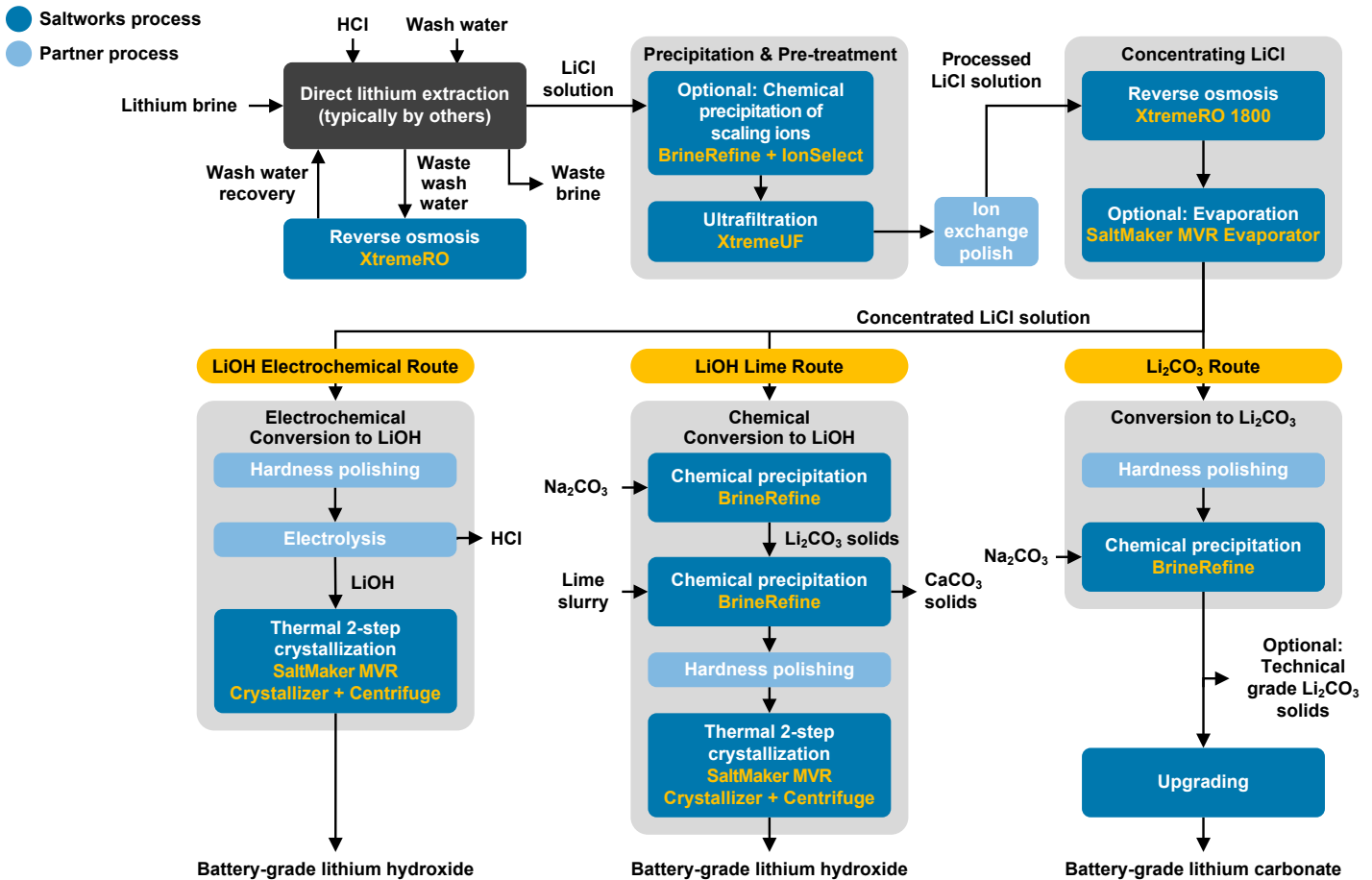
# Lithium: Processing

Expertise, pilots, and full-scale plants

## Step 1: Direct Lithium Extraction (DLE)\* by Others

\*or other lithium brine producing process

## Step 2: Concentrate, Refine, Convert (CRC) by Saltworks



### Lithium Extraction From Brines

Direct lithium extraction (DLE) systems are increasingly being deployed in extraction projects. Most produce a 1,000–2,000 mg/L lithium chloride solution containing impurities. Saltworks integrates CRC systems downstream of DLE and other systems.

### Concentrating, Refining, Converting (CRC)

Saltworks focuses on concentrating, refining, and converting lithium chloride solutions to battery- or technical-grade lithium carbonate or lithium hydroxide solids. We offer robust, modular, well-automated, high-performing CRC unit operations & complete plants.

### Process, Technologies, and Economics

Our experts help you achieve your project goals. We help clients from concept to full-scale plants. We provide flexible options from engineering services, to pilots, to single unit operations or a complete lithium processing system.

## Lithium Concentration and Processing Technologies



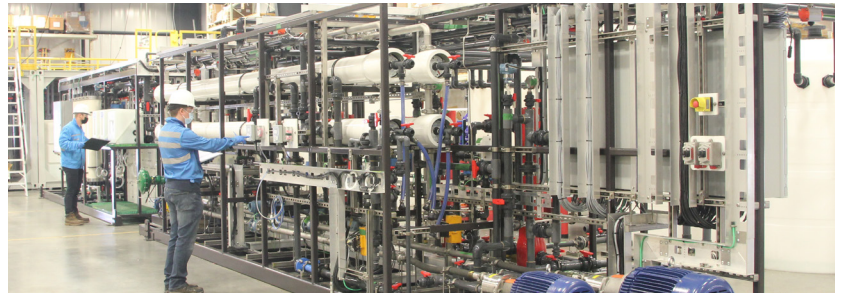
### BrineRefine & XtremeUF: Refine & Convert

Ensure the highest lithium quality and yield by precisely targeting impurities. We pair smart chemical conversion processes (BrineRefine) with robust ceramic ultrafiltration (XtremeUF) to consistently produce high purity outputs. BrineRefine is also used to produce battery- or technical-grade lithium carbonate.

### XtremeRO: Concentrate

Next-generation ultra-high-pressure reverse osmosis (UHP-RO) concentrates LiCl up to 50% higher than conventional RO.

Our 1800 psi RO systems reduce downstream evaporator size and cost, or negate their need entirely. UHP-RO increases water recovery and enhances downstream economics.



### SaltMaker MVR Evaporators & Crystallizers: Concentrate and/or Crystallize

Economical, reliable evaporation maximizes yield in downstream processes. Concentrate lithium chloride to optimal levels with a SaltMaker evaporator — beyond what membrane systems can do. Go one step further to produce lithium hydroxide crystals with a SaltMaker crystallizer, delivered with built-in self-cleaning and solids management systems to ensure reliability at optimal capacity.

SaltMaker MVR is our fully automated forced-circulation crystallizer system. A modular SaltMaker MVR with a capacity of 50–200 m<sup>3</sup> per day concentrates and crystallizes 5,000–20,000 tonnes per year of lithium carbonate equivalent (LCE) as lithium hydroxide.

With a compact footprint, low lead time, and low installation costs, more units can be added for easy capacity expansion.



## Saltworks and Your Lithium Project

Begin today and contact us. Client confidentiality, deep technical focus, and responsiveness are critical at Saltworks.



**1**  
Process Flow  
Optimization

**2**  
Pilot Studies

**3**  
Full-Scale  
Projects: Skids  
or Complete  
Plants

**4**  
Operational  
Support &  
Expansion

- Process flow optimization to put you on the best pathway
- Front-end engineering evaluation to refine costs
- Lab and bench-scale analysis to derisk & optimize
- Pilot projects at our site or yours to prove performance
- Full-scale skidded unit operations to integrate with others
- Full-scale complete lithium systems from start to finish