



LINK

BATTERY TECHNOLOGY

Linking Global Electrolyte technology
with 100 % US Owned Production



Timothy Madden



Optimist

Possibilist

Pessimist



Is there a need?



Market Survey

- **Demand:** Total installed electrolyte capacity is less than battery build
- **Domestic:** Customers prefer US-blended for supply security and easier logistics
- **Advanced:** Emerging battery technology companies in the US are looking for electrolyte development partnerships
- **Supply:** A bridge is needed between electrochemistry and the US chemical supply base

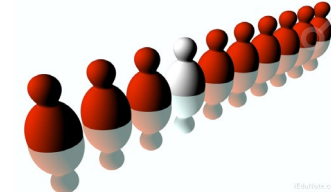
Is it doable?



Capital and Know How

- **Specialized:** Air free process is uncommon in the US
- **Equipment:** Readily available in China, Korea, and Japan
- **Capital:** Requirement to scale an electrolyte plant is small compared to a typical chemical project
- **Possible:** Once the equipment is set up, process is relatively simple

Is it sustainable?



Differentiation long term

- **For now:** Manufacturing capability alone is not enough long term
- **Upgrade:** Process technology must improve to fit US capital costs and automation needs
- **Innovate:** Electrolyte Technology development is needed to fill the performance gap in battery cell

WHAT DRIVES US – Filling the Gap!

The needs of today, the demands of tomorrow. There is a significant gap between local electrolyte supply and demand, and current technology needs to grow to meet the needs of the customer.

The technology gap is an opportunity for a U.S. electrolyte to find a foothold and grow.

Measure	Current	Target	Issues	Electrolyte role in the solution
Lower Cost	\$90-125/kWh	<\$90/kWh	Expensive components are major cost driver	Enable lower cost materials, lower electrolyte cost (salt primary driver)
Higher Energy (Cell)	100-300 Wh/kg	>300 Wh/kg	Storage capacity of active materials	Enable higher energy cathodes/anodes
Fast Charge (Pack)	50-350 kW, 15-45 min. to 80%	500+ kW, <10 min. to 100%	Rapid charging causes heat-related and chemical degradation; material limitations	Advanced formulations stabilize systems to withstand heat and faster charge transfer
Power (Pack)	3 kW/kg	12 kW/kg	Limited conductivity prevents ionic movement	Higher conductivity, lower viscosity electrolytes moves ions faster
Temperature Range	-20 to +60 °C	-40 to +80 °C	Cold slows or freezes electrolyte, limiting function; heat drives degradation and gas release	Low freezing point solvents, stabilizing additives
Fire Safety	Flammable	Non-flammable, puncture proof	Shorting, damage, overheating, or overcharge drive thermal runaway, flammable ignite	Non-flammable solvents, suppressing additives
Lifetime	8 Years	15 Years	Battery life is less than car life	Advanced electrolyte formulations stabilize active materials, prevent degradation

Offering Technology in Liquid Electrolytes: 3 Prong Approach

Supply Chain

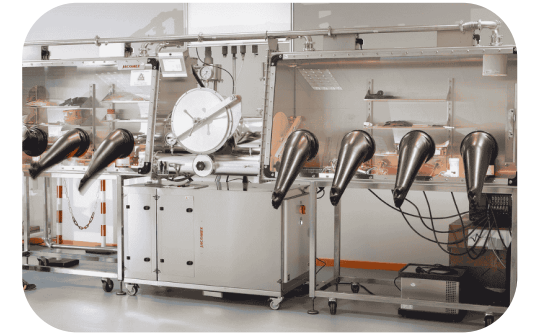
- Champion customer needs. Identify and qualify global and local supply options. Import and distribute when needed.
- Invest in upstream manufacturing upgrades to lower component cost.
- Partner with chemical industry to adopt existing capabilities to battery industry.

Manufacture

- Rethink electrolyte production process. *Theromoflux* promises 10x throughput upgrade.
- Serve as logistics partner to solve an array of customer pain points.
- Import blended electrolyte from overseas partners when appropriate.

Innovate

- Formulate advanced electrolytes with state-of-the-art components.
- Whole-application focus, optimizing all aspects of cell production.
- Advanced additive development through partnership with companies in the US, IRA compliant countries, and globally.
- Cost-conscious. Molecular discovery eyeing replacement of high-cost components.
- Technology partner for industry partners looking to enter the battery space.



Electrolyte Lab: Houston, TX



Bottle Service and Customer Support

- Custom electrolyte bottle sampling and sales
- Customer-driven product development
- Contract R&D services

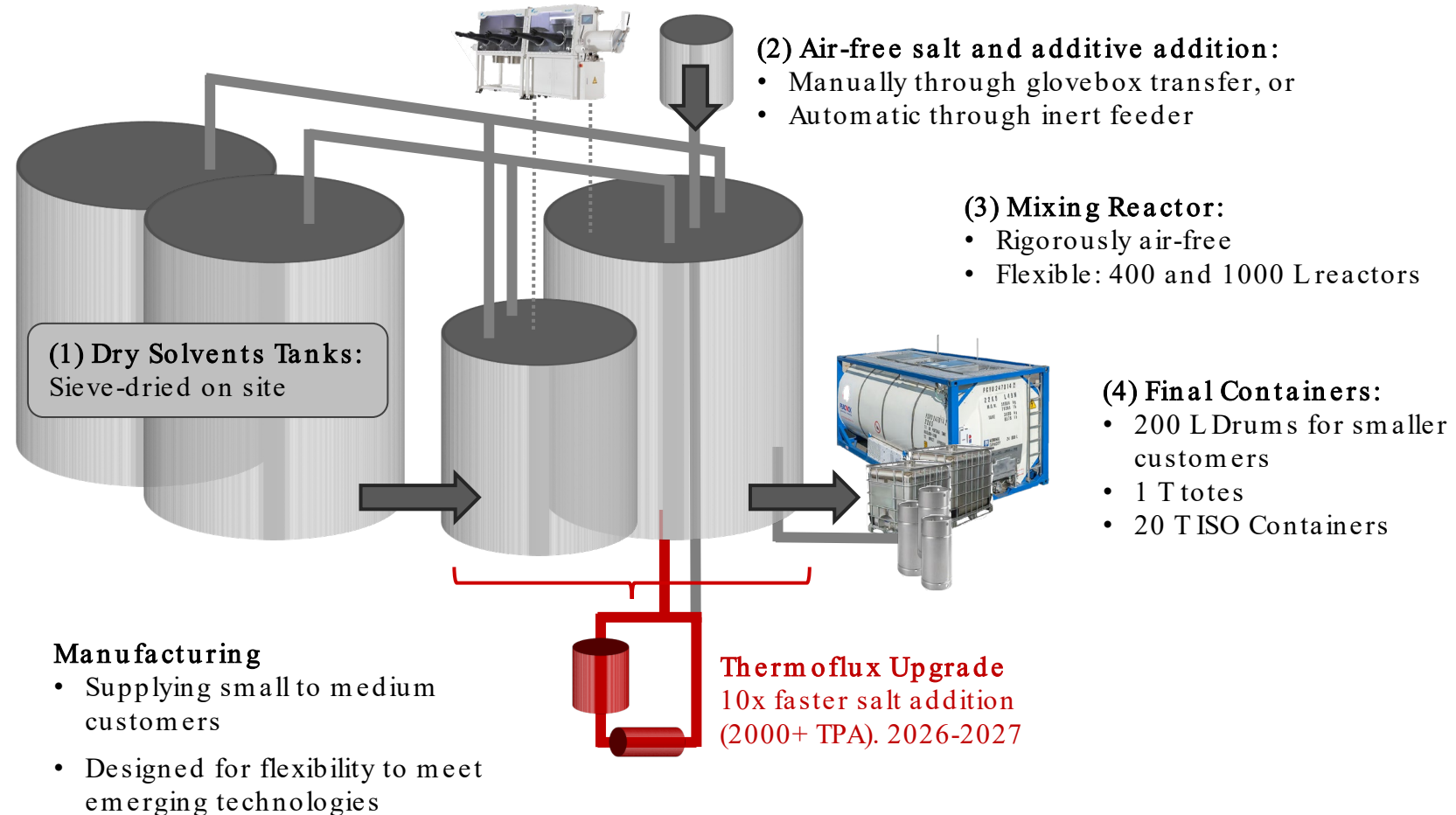
Driving Innovation

- Lab-scale process studies supporting scale up
- Liquid electrolyte formula development
- Polymer electrolyte research

Logistics and Quality

- QC testing, supporting manufacturing
- Qualify components and suppliers

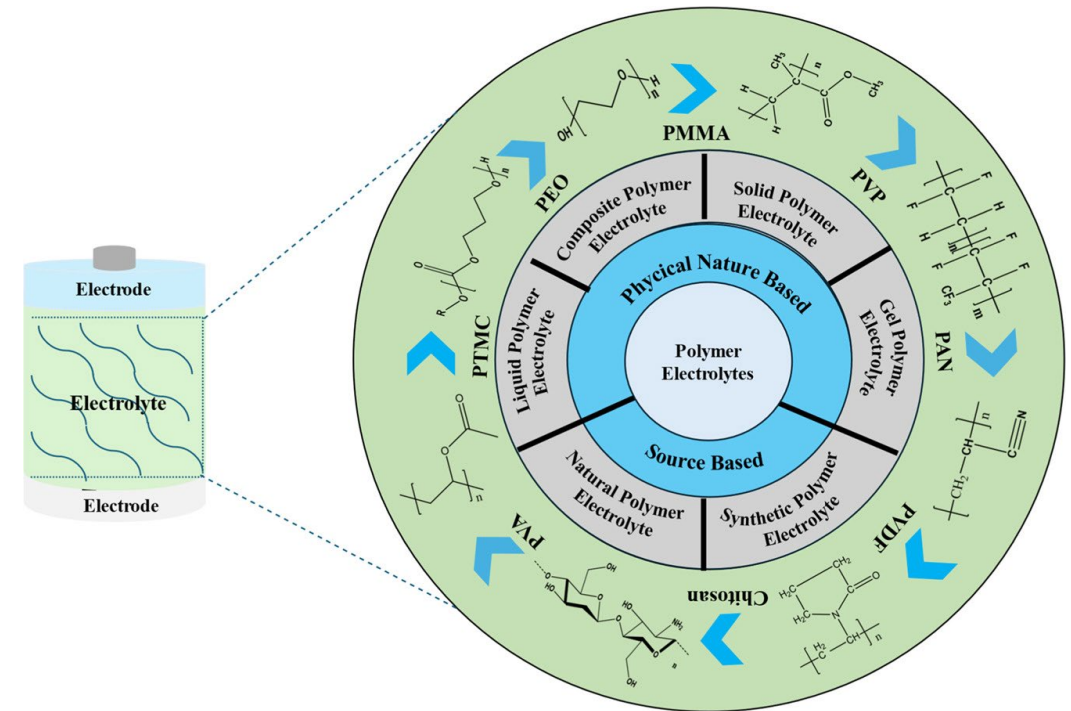
Semiworks Production (2025-2026): 200-500 TPA



Solidifying: Polymer Electrolytes

Liquid electrolyte are a critical piece of battery technologies, but solid electrolytes will gain market share in the coming years. Polymer science is in our DNA and **LiNK-BT will be ready.**

- Liquid electrolytes are injected into cells before sealing. **Polymer electrolytes can be applied by a variety of processes:** solution casting, immersion polymerization, hot pressing, solvent evaporation or in-situ polymerization.
- **Solid electrolytes overcome challenges** liquids cannot: **reduced flammability**, zero leakage, and greater temperature working range while maintaining **greater electrochemical stability**.
- **Ionic conductivity** through the solid: hop from one coordination site to another, formed from ionic or molecular components with an affinity for the ions.
- Enabling emerging technologies: **Li-metal anodes** or **Li-S**.
- **Gels** (solid/liquid hybrid) are also under development with properties of both.



OUR Path Forward



Founding 2023

100% US-owned
by Timothy Madden,
a highly experienced American
specialty chemical CEO

kg-Scale Sampling 2024

Sampling through established
specialty chemical relationships

US Sampling & R&D Lab Houston, TX 2025

Initial lab at UofH expanded
to a stand-alone location in
Houston with lab and office

Strengthening the LiNK 2024-2026

Solidifying partnerships
with and between North American suppliers
while developing Thermo flux process technology

Semiworks Scale in US Early 2026

Capacity imported from Asian partners,
building sales to justify
North American production

10 kMT Production Saltillo, MX 2026

Rapid production scale
to supply the demand gap

50 kMT Production Franklin, KY 2028

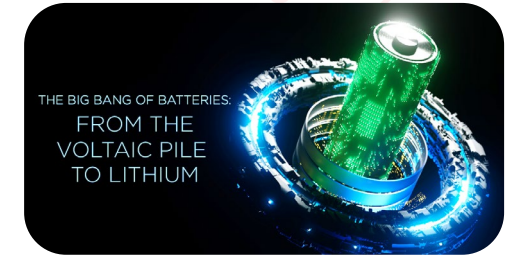
Using support from
US gov't & private funding
to ramp up supply for independent
US cell manufacturers

Establish electrolyte manufacturing in North America

Will the **US LIB** effort thrive?

Yes, if we can...

- Create a **cost-effective ecosystem**, from raw materials to recycling at end of life.
- Evolve together using the rich **innovative** ingenuity in the DNA of the US.
- Develop the break-through **technologies** that bridge the gap between what is available and what is needed.
- **Persevere** while we catch up, then surpass the existing state of the art.





THANK YOU!

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