ENZINC

Market-ready zinc micro-sponge

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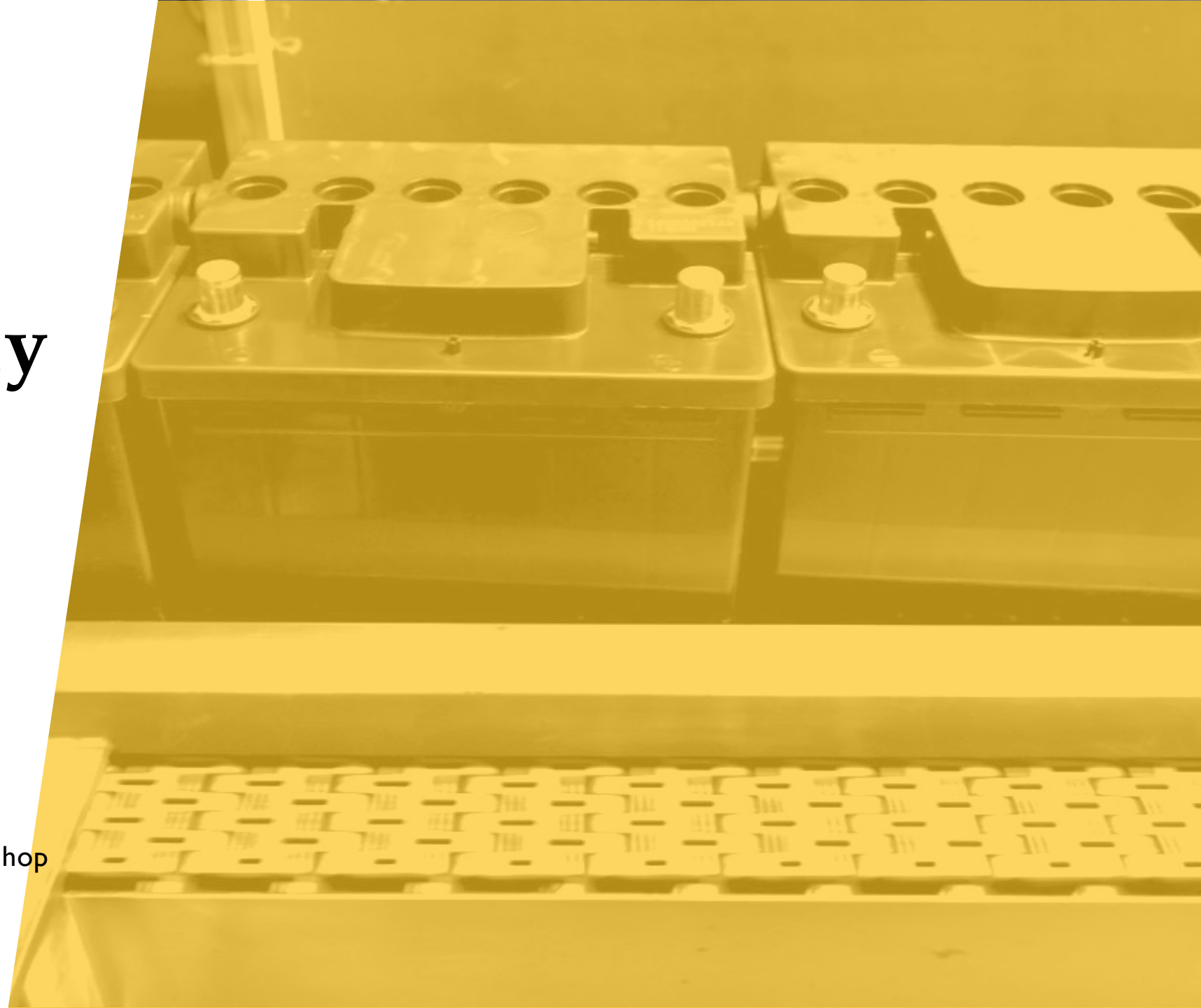
NAATBatt Sodium-Zinc Battery Workshop
November 19th, 2025



The opportunity for high performance zinc batteries.

- **Strong growth in demand for energy storage**
- **Push for domestic manufacturing**
- **Market acknowledgement that lithium can't solve everything**
- **Existing players are looking to keep their edge**

Enzinc is leveraging these market factors to bring our zinc micro-sponge to market, quickly.

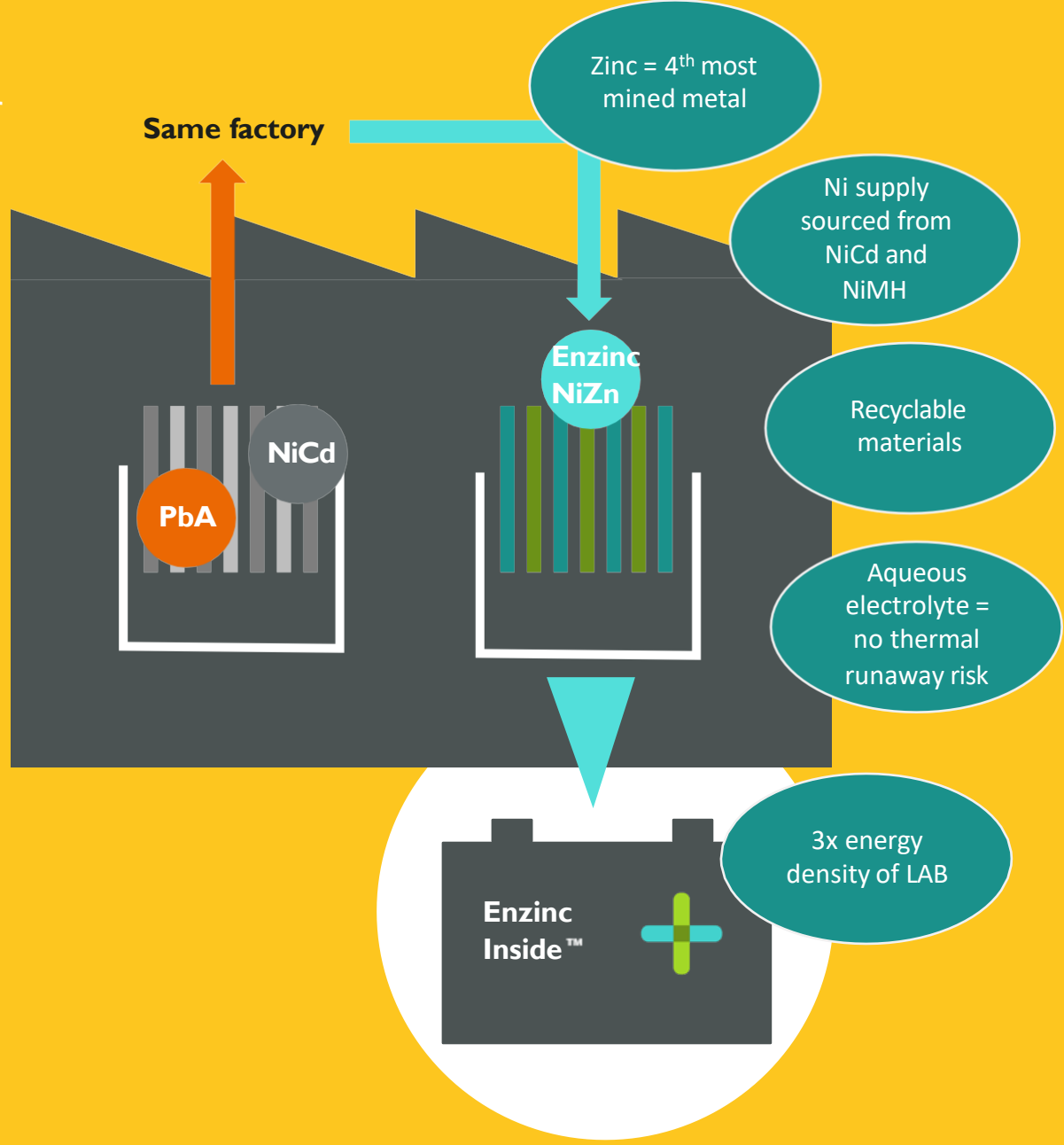
Business model built for speed to market.

Lithium-ion batteries are flooding the market **despite**:

- Thermal runaway and fire events
- Supply chain risks
- Performance limitations

Enzinc's technology is competing for mobility and stationary markets by delivering **aqueous zinc batteries** with:

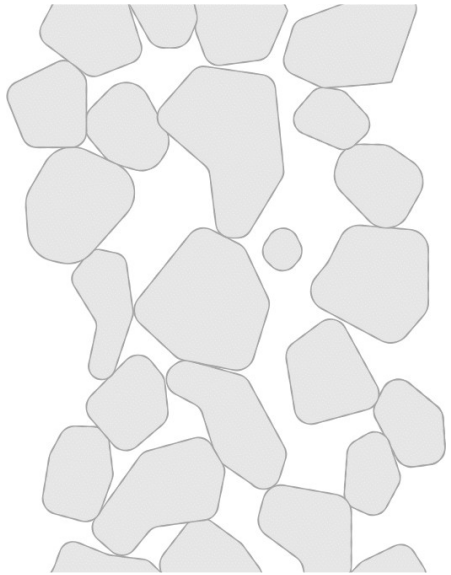
- Low cost, stable supply chain
- High performance
- Local manufacturing
- Inherent safety



Why are LAB and NiCd players partnering with Enzinc?

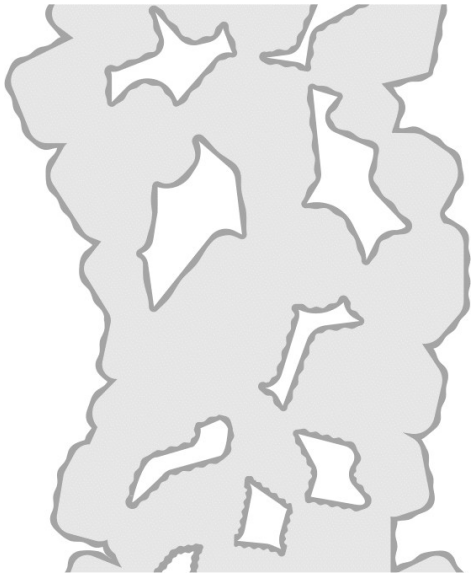
- ✓ **Differentiated zinc technology**
- ✓ **Product designed for their manufacturing plant**
- ✓ **Strong track record**
- ✓ **Demonstrated performance**
- ✓ **Proven manufacturing process**
- ✓ **Clear value propositions for markets they play in**
- ✓ **Skilled and experienced team**

Dendrite failure mode



- Oxide buildup limits electron flow
- Hotspots form and grow dendrites

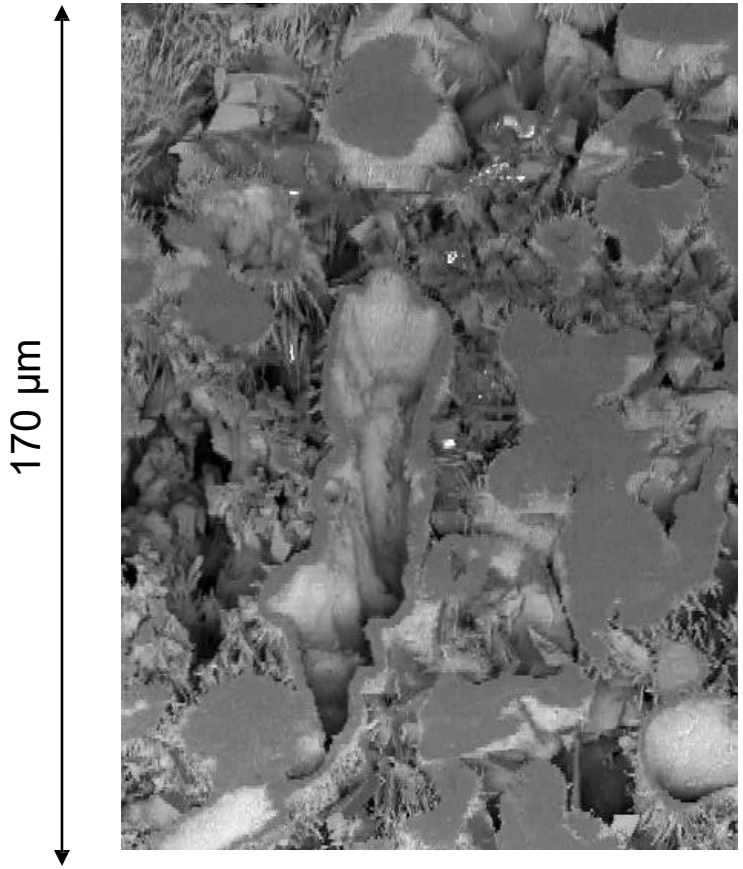
How Enzinc eliminates dendrites



- Monolithic zinc structure maintains electrical conductivity
- No dendrite growth

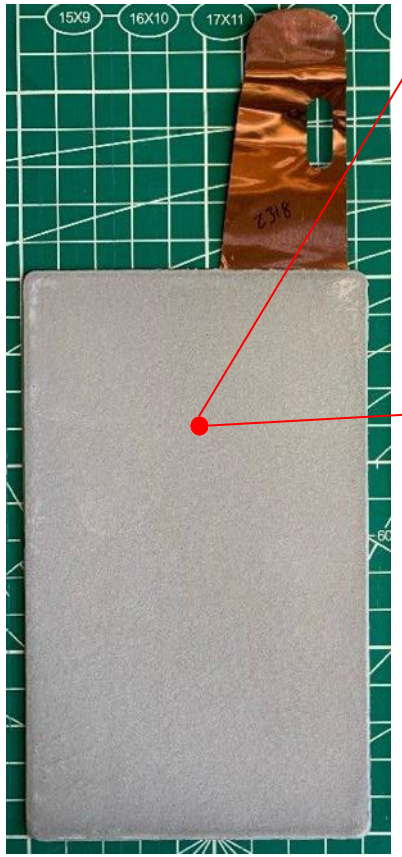
Enzinc Anode 3-D Reconstruction

Scan depth: 130 µm

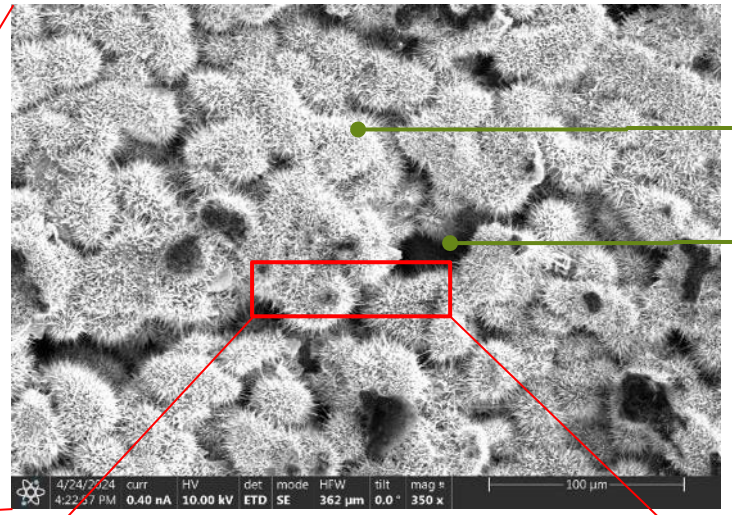


PFIB-SEM 'Slice and View' reconstruction
CAMCOR facility, University of Oregon

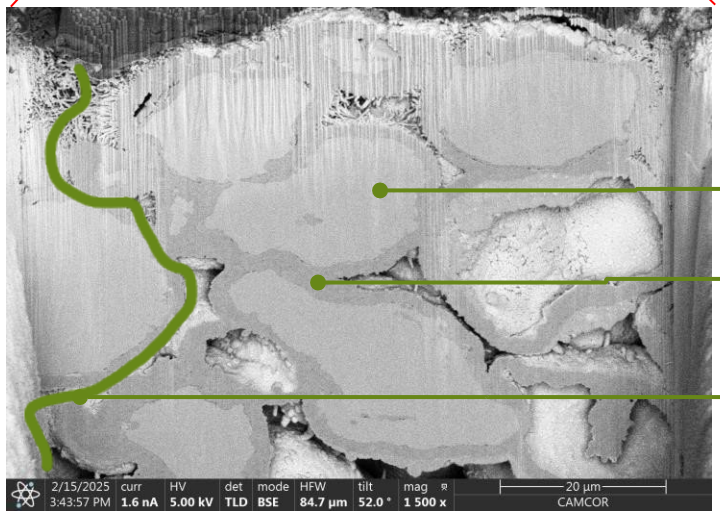
Performance unlocked



Top-down SEM



Cross-section



- **High surface area** (~2 m^2/g) enables higher Zn utilization
- **No binders** present in finished electrode (only metallic Zn and ZnO), increases specific energy

- **Monolithic Zn network** acts as current collector
- **ZnO exoskeleton** provides mechanical strength for handleability and is the active material
- **Tortuosity slows shape change**, pores supersaturate with zincate rapidly

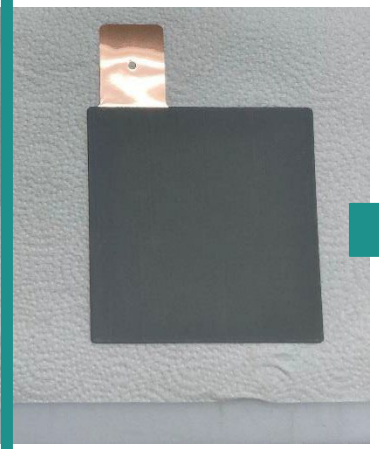
Same design + better chemistry = no compromises

Lead acid

Lead acid pasted electrode

- ✓ Water based electrolyte
- ✓ Simple manufacturing
- ✓ Recyclable
- ✓ Safe chemistry
- x 30 Wh/kg
- x 60 Wh/L
- x Toxic lead

Enzinc Inside

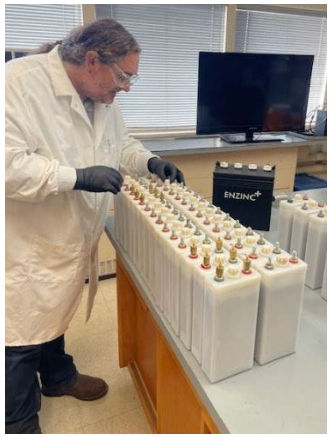


Enzinc zinc sponge electrode

- ✓ Water based electrolyte
- ✓ Simple manufacturing
- ✓ Recyclable
- ✓ Safe chemistry
- ✓ 130 Wh/kg
- ✓ 200 Wh/L
- ✓ No toxic metals

Proven technology, scaled

2019 to 2022 | 2021 to 2023 | 2024 and on



Split cell
2 cm dia anodes

Pouch cell
5 x13.5 cm anodes

Prismatic cell
9 x 15 cm anodes (left)
80-130Ah
16 x 16 cm anodes (right)
100-340 Ah

Mobility and stationary battery development
120Ah cells for 12V string testing (left)
Monoblock in LAB case at 1/3 weight (right)

Proven technology, in the field

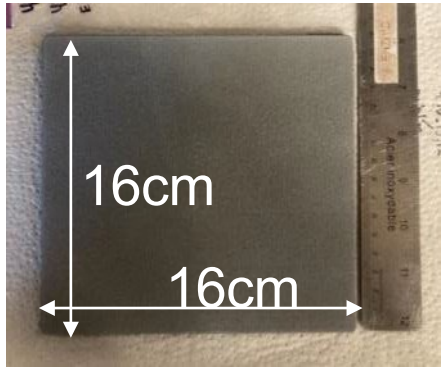
36V, 100 Ah Golf Cart Demonstration

24V, 100 Ah Scissor Lift Demonstration

Enzinc's prototypes match the energy of the lead acid product at 1/3 weight.
No modification to equipment electronics were required.

Scalable manufacturing unit

- Current production rate: 1.2 kWh/hr
- Capabilities to run multiple form factors simultaneously
- Roadmap to increase throughput by 3x with current equipment
- Space to add 2 additional lines at current site



Enzinc Manufacturing Technology Center (MTC)

10,000 ft^2

Oakland, CA

Markets primed for "Enzinc Inside"

Advantage of having "Enzinc Inside"

Market	Lithium-ion	Enzinc NiZn
Telecommunications	x Auxiliary electronics not tolerated	✓ No or minimal BMS required
Golf cart *(segment of Urban EVs)*	x Fleet operators have limited tolerance for retrofit	✓ Enzinc drops in – no system mods required
Military	x Fire risk unacceptable	✓ No fire risk
Data centers	x High-rate cells are expensive, subsystems add cost	✓ Superior safety, high power density
Industrial	x Variable form factors means expensive custom cells	✓ Multiple form factors run simultaneously on the same line
Aviation	x Fire risk unacceptable	✓ High power density, safe
Urban EVs *(includes golf carts)*	x Required subsystems add cost and reduce energy density	✓ Minimal subsystems required
Residential backup	x Failure is catastrophic	✓ Safer, cleaner, recyclable
EVs	x Established players dominating, OEM acceptance for new technologies takes 5+ years with narrow/non-existent margins.	← Let them have it

Enzinc Leadership

Our leaders have led winning teams in batteries, zinc, energy and mobility

Award winning

World Materials Forum

Keeling Curve Prize Laureate

Clean Tech Open 2020 National Finalist

CalSEED

arpa·e

Experienced senior advisors

Stefan Seiberth
Former President, Bosch Powertrain
Hugh Wyman Howard III
RADM(Ret.), McKinsey & Co, RAND
Tim Stanley
Former CPC, Sandia National Labs
Dr. Steven Kaye
Former CTO, Our Next Energy

Michael Burz
CEO

Dr. Mike Galluzzo
Chief Scientist

Lyn Schlueter
Director of Manufacturing

Mike Coleman
Chief Engineer

Andrew Camp
CFO

Deborah Knuckey
CMO

Jenna Lynch
Chief People Person

From prototype to market-ready system

- **Scaled from R&D to application ready prototype in 4 - years**
- **Zinc anode assembly designed for LAB and NiCd manufacturing equipment**
- **Real-world application testing completed and planned**
- **Market entry points identified with clear value proposition**
- **Strong team with track record of bringing technology to market**

ENZINC

THANK YOU

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"When innovations can simply plug-in, screw-in, or drop-in, adoption rates soar."

—John Doerr
Speed and Scale