

# Advancing Low-Cost Manufacturing of Sulfide Solid Electrolytes for High Energy Density ASSBs



The Energy & Clean Tech Showcase

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# Ampcera is empowering lives with material solutions for next-generation energy storage



Established  
**2017**

Location

HQ: Milpitas, CA 

Tech & Mfg: Tuscon, AZ 

Strategic Partners



U.S. DEPARTMENT OF  
**ENERGY**



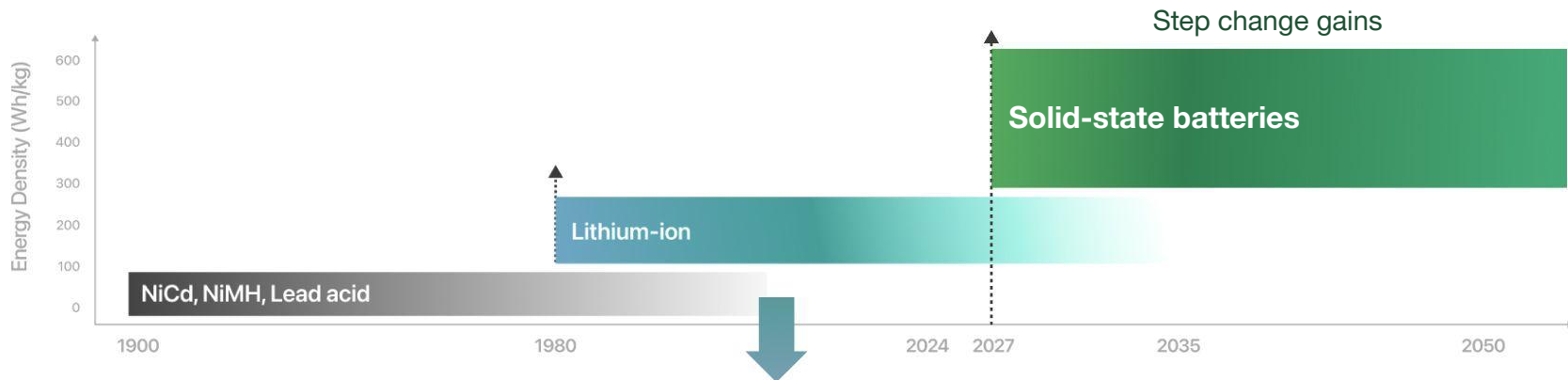
Hanwha  
Solutions



ARPAE

Funding  
**\$18 million**  
**Series A**

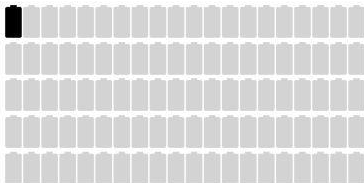
# Build the future of energy storage



## Supply chain problem

1%

Share of global lithium output that is mined and processed in the U.S.



+

## Technology problem

EVs still have range anxiety



AI draining consumer electronics



Current Li-ion batteries limit electric aviation



# Overview of Ampcera solutions

Ampcera's robust electrolyte technology platform is driving commercialization

## Solid electrolytes

("component")



ENGINEERED ARCHITECTURE

## Cell integration

("tailor-made")



CELL ECOSYSTEM DESIGN

## Battery cell

("system")



HIGH ENERGY DENSITY & FAST CHARGING

## Process technologies

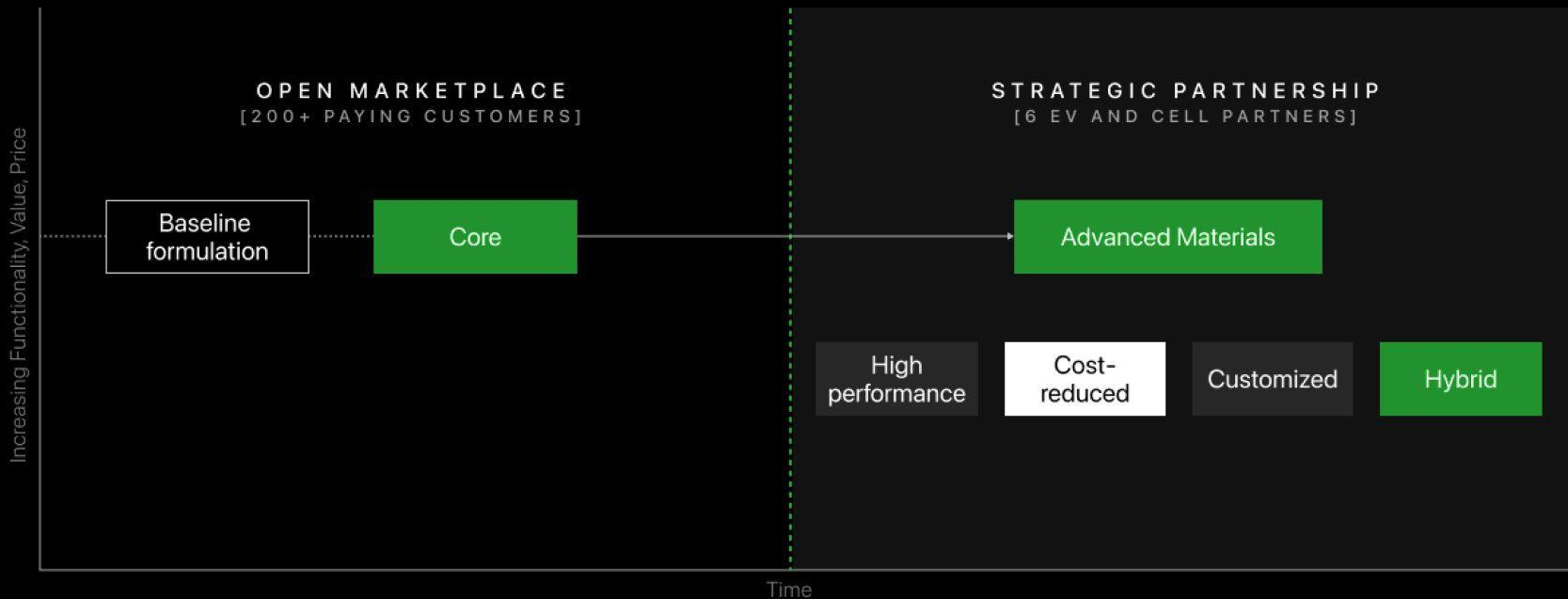
("manufacturing")



SCALABILITY AND REPRODUCIBILITY

**50+ patents** and **90+ trade secrets** covering materials, manufacturing, and cell designs

# Product development and commercial traction



# Realizing <\$100/kWh for ASSB cells

In partnership with



Precursor

Lithium Sulfide  
( $\text{Li}_2\text{S}$ )

<\$45/kg

Electrolyte

Sulfide Solid  
Electrolyte

<\$50/kg  
<\$25/kWh

Battery

All-Solid-State-  
Battery

<\$100/kWh

Cost target will be achieved by 2028, through vertical integration, low-cost manufacturing technologies, and scale.



# Business model for the commercialization of safe, all-climate, fast-charging ASSB

Sale of engineered materials to battery and OEM manufacturers and licensing of battery design and process technology



# Full-stack cell solution that integrates Ampcera's electrolyte technology

## Strategic Benefits

Ability to scale-up the development with the understanding of mass-production requirements and limitations

Enjoy the economy of scale and EV-grade manufacturing know-how learning curve

Provides validation and comfort to battery gigafactories and EV OEMs to embrace solid electrolytes



### ELECTRIC VEHICLES

#### UPSTREAM: RAW MATERIAL SOURCING

Confidential

Confidential

Confidential

Confidential

Securing raw materials supply chain for  $\text{Li}_2\text{S}$ ,  $\text{P}_2\text{S}_5$  and other critical materials

#### MIDSTREAM: EQUIPMENT AND PROCESS DEVELOPMENT CELL AND MANUFACTURING PARTNERS

Confidential

Confidential

Equipment and process development and scale-up  
Sulfide solid electrolyte manufacturing  
Establishing strong capabilities in building battery cells via partners

#### DOWNSTREAM: JOINT DEVELOPMENT PARTNER AND CUSTOMER

Confidential

Confidential

Confidential



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EV-grade mass production manufacturing partner helps in swift validation, qualification, and commercialization

\* EVs4ALL ARPA-E program

\*\* DOE Grant, VTO in collaboration with Shirley Meng

#### MIDSTREAM: CELL PARTNERS

Confidential

Strong capabilities in building pouch cells for CE

### CONSUMER ELECTRONICS

#### DOWNSTREAM: JOINT DEVELOPMENT PARTNER AND CUSTOMER

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Helps Ampcera achieve premium pricing for its SSE-based products



# Ampcera's commitment to commercializing ASSB through innovation, cost reduction, and strategic partnerships

Seeking \$10 million pre-Series B to accelerate commercial partnerships



# Let's connect for building a sustainable future

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