

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 8-K  
CURRENT REPORT

Pursuant to Section 13 or 15(d)  
of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): May 25, 2023

Microvast Holdings, Inc.  
(Exact name of registrant as specified in its charter)

Delaware  
(State or other jurisdiction  
of incorporation)

001-38826  
(Commission File Number)

83-2530757  
(IRS. Employer  
Identification No.)

12603 Southwest Freeway, Suite 300  
Stafford, Texas 77477  
(Address of principal executive offices, including zip code)

281-491-9505  
(Registrant's telephone number, including area code)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Securities registered pursuant to Section 12(b) of the Act:

| Title of each class   | Trading Symbol(s) | Name of each exchange on which registered |
|---|-------------------|---|
| Common stock, par value \$0.0001 per share  | MVST              | The NASDAQ Stock Market LLC               |
| Redeemable warrants, exercisable for shares of common stock at an exercise price of \$11.50 per share | MVSTW             | The NASDAQ Stock Market LLC               |

**Item 7.01 Regulation FD Disclosure**

Microvast Holdings, Inc. will meet with investors on May 25, 2023. A copy of the slide presentation from the meeting is furnished as Exhibit 99.1 to this Current Report and will be available on Microvast Holdings, Inc.'s website, [www.microvast.com](http://www.microvast.com), on May 25, 2023.

In accordance with General Instruction B.2 of Form 8-K, the information in this Current Report on Form 8-K, including Exhibit 99.1 shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, regardless of any general incorporation language in such filing, unless expressly incorporated by reference in such a filing.

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: May 25, 2023

**MICROVAST HOLDINGS, INC.**

By: /s/ Craig Webster  
Name: Craig Webster  
Title: Chief Financial Officer

**Item 9.01 Financial Statements and Exhibits.**

**(d) Exhibits**

| <b>Exhibit No.</b> | <b>Description</b>   |
|--------------------|--|
| 99.1               | <a href="#">Investor Presentation of Microvast Holdings, Inc. dated May 25, 2023</a> |
| 104                | Cover Page Interactive Data File (embedded within the Inline XBRL document)          |



microvast<sup>®</sup>

Forward Thinking. Powering Now.™

2023  
INVESTOR  
DAY



## Disclaimer

### Forward-Looking Statements

This communication contains “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements include, but are not limited to, statements about future financial and operating results, our plans, objectives, expectations and intentions with respect to future operations, products and services; and other statements identified by words such as “will likely result,” “are expected to,” “will continue,” “is anticipated,” “estimated,” “believe,” “intend,” “plan,” “projection,” “guidance,” “outlook” or words of similar meaning. Such forward-looking statements are based upon the current beliefs and expectations of our management and are inherently subject to significant business, economic and competitive uncertainties and contingencies, many of which are difficult to predict and generally beyond our control.

Actual results, performance or achievements may differ materially, and potentially adversely, from any projections and forward-looking statements and the assumptions on which those forward-looking statements are based. All information set forth herein speaks only as of the date hereof and we disclaim any intention or obligation to update any forward-looking statements as a result of developments occurring after the date of this communication. Forecasts and estimates regarding Microvast’s industry and end markets are based on sources we believe to be reliable, however there can be no assurance these forecasts and estimates will prove accurate in whole or in part.

Microvast’s annual, quarterly and other filings with the U.S. Securities and Exchange Commission identify, address and discuss these and other factors in the sections entitled “Risk Factors.”



2023  
INVESTOR  
DAY

# Today's Agenda

## 01 Company Overview



**YANG WU**  
*Founder, CEO, President*

## 02 Commercial Vehicle



**SASCHA KELTERBORN**  
*Chief Revenue Officer*

## 03 Energy Storage



**ZACH WARD**  
*President, Energy Division*

## 04 Technology



**WENJUAN MATTIS, Ph.D.**  
*Chief Technology Officer*

## 05 Manufacturing



**SHANE SMITH**  
*Chief Operating Officer*

**BREAK**

## 06 Financials



**CRAIG WEBSTER**  
*Chief Financial Officer*

## 07 Closing Remarks



**YANG WU**  
*Founder, CEO, President*

# — Strategic Overview



**Yang Wu**

FOUNDER, CHIEF EXECUTIVE OFFICER, PRESIDENT

# — Today's Objectives



Show that Microvast is in a multi-year high-growth phase



Demonstrate the technological innovation and leadership of the new HpCO 53.5Ah cell



Provide a clearly defined expansion plan & route to profitability





## How It Started

### Microvast began with an idea.

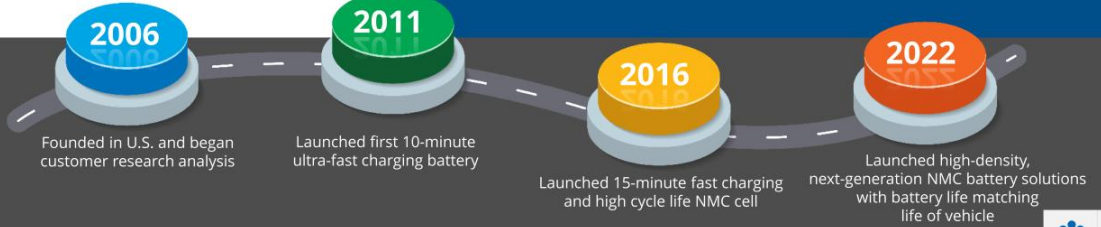
We invested heavily in research to identify customer needs, as well as the R&D to create the battery the industry **really** needed.



“  
We can create a better battery for EVs.”

- ✔ Ultra-fast charging capability
- ✔ Sync battery life with vehicle life
- ✔ Superior safety
- ✔ High energy density

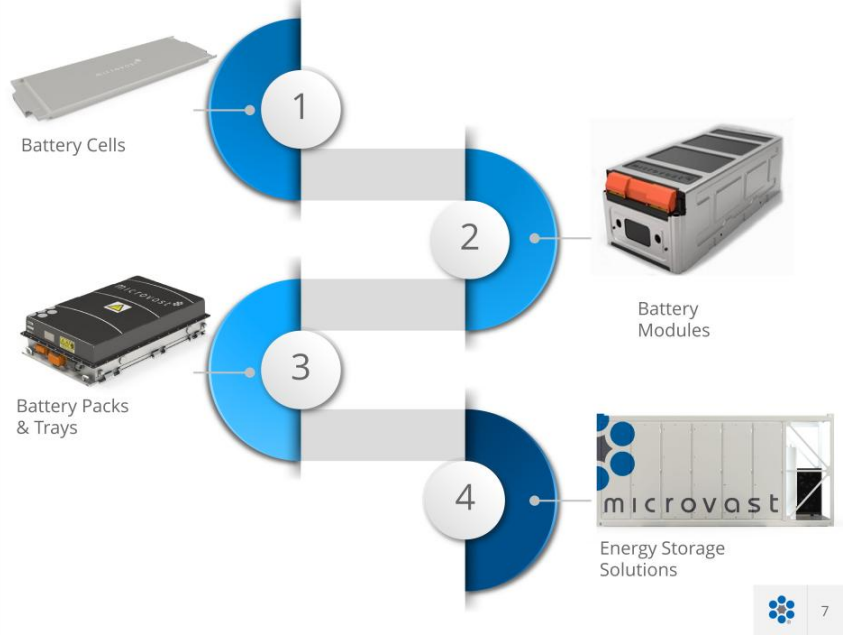
HIGHLIGHTS



# Our Innovation Requires Vertical Integration

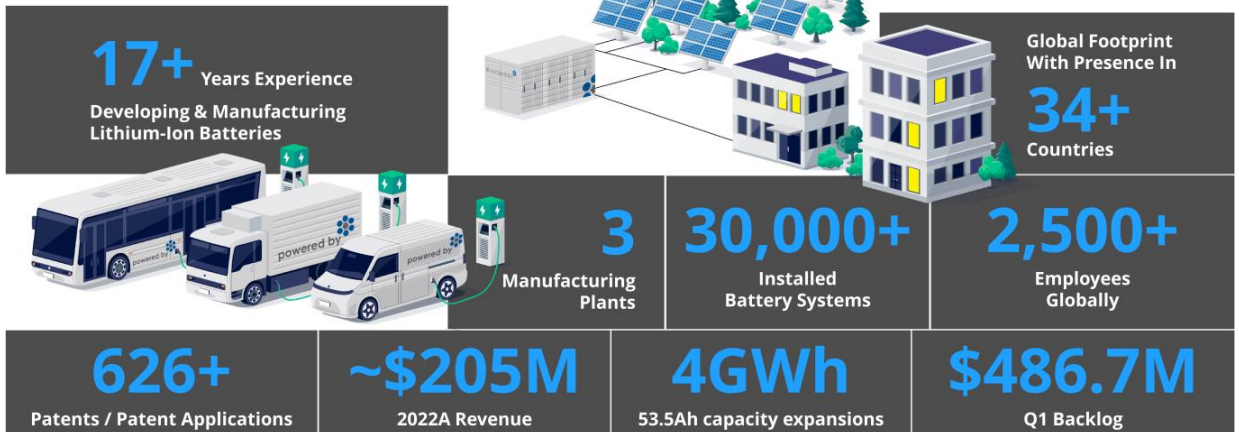
We're vertically integrated and maintain control of every aspect of our development process from research to manufacturing, including BMS and controls.

We can create custom battery solutions quickly, with industry-leading energy density, superior safety, ultra-fast charging capabilities, and long lifespans.



# Microvast By The Numbers

Where We Are Today



# — Our 2021 Merger Raising >\$700M Net Proceeds

Let's Look Back & See How We Did

## July 2021

### What we said we would do...

- 2GWh of cell and module capacity in the U.S.
- Expand production capacity in China from 3GWh to 7GWh
- High energy 53.5Ah cell would be launched to the market
- Enter ESS market and start to see revenues in 2023
- Commercialize battery materials technologies
- U.S. and Europe would be high growth markets
- 53.5Ah revenues starting in 2022 and having significant momentum going into 2023

### What we got done...

- Clarksville, TN is in full construction mode and 2GWh expected to be in production in Q4 this year
- Huzhou phase 3.1 is in ramp-up on its initial 2GWh cell, module and pack production
- 53.5Ah cell deliveries will be made from the phase 3.1 line and over 75% of our backlog is for this cell
- We launched the ME-4300 ESS and it already has contracts for 2023 and 2024 deliveries
- We believe U.S. and Europe will account for about 1/3 of total revenues going forward

### What's still a work in progress...

- Commercialization plan for battery materials technologies is underway, investing in expanding polyaramid separator capacity to 10M SQM in 2023
- 53.5Ah revenues will ramp up along with our production, and the SOP schedules for new vehicle launches by our customers, during 2023

### What happened?

**We are about 1 year behind on the 2021 revenue plan.**

1. Closing of business combination took longer than anticipated.
2. COVID hit our customers and supply chain hard and delayed their projects



# Seizing The Market Opportunity With Our Industry-Leading Technologies

## Global Growth for Our Core Business Segments

### Grow commercial vehicle

Our batteries are designed specifically for the CV market.



Source: BNEF + Sales Estimate

### Grow ESS business in U.S.

Further expand our presence in the U.S. market before expanding overseas.



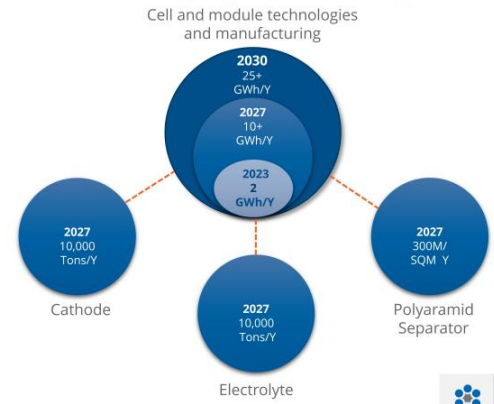
Source: BNEF: 1H 2023 Energy Storage Market Outlook U.S. March 2023

### KEY TAKEAWAY

✓ We have an ongoing commitment to innovation, and we expect to be able to launch new products in 2025-2026.

## What We Plan To Do

Unique opportunity to become U.S.'s home-grown champion in strategically important battery sector



# — Strategic Overview – Commercial Vehicles



**SASCHA KELTERBORN**

CHIEF REVENUE OFFICER



# Commercial Vehicle Numbers



**34**

Countries with CV in operation

**24M**

Est. e-CV TAM in vehicle unit accumulated over 2022-2030

**510 GWh**

Est. CV TAM in 2030

**12+**

Years vehicle operating history

**30,000+**

Installed battery systems deployed since 2011

**10+**

Market applications being served

Source: BNEF, June 2022 + Sales Estimate





# Commercial Vehicle TAM

Microvast Is Well-Positioned To Capture The Surging Demand In The Global Commercial Vehicle Sector

LCV



E-Bus



MD/HD TRUCK



SPECIALTY CV



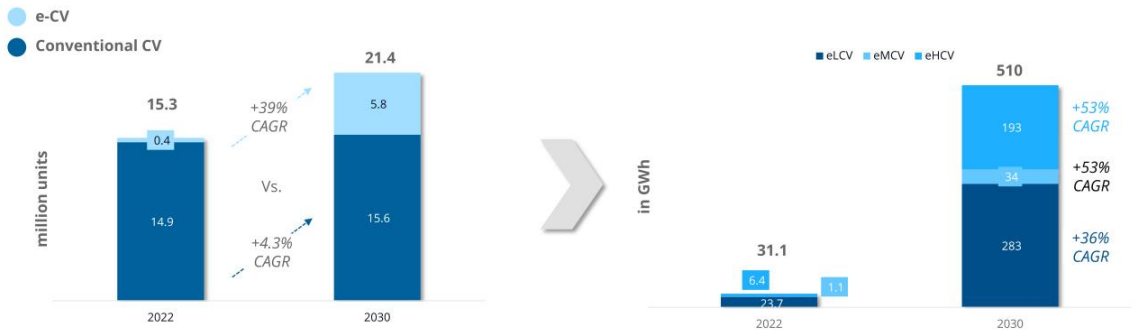
Image pictures from existing customers



# Commercial Vehicle TAM

EV Adoption Rate In The Commercial Vehicle Market Is Projected To Increase From 2% In 2022 To 30% In 2030

GLOBAL CV SALES IN UNIT PER YEAR      GLOBAL VOLUME GROWTH IN GWh

























Source: BNEF, June 2022



2023 INVESTOR DAY

# Microvast's High Energy Cell HpCO-53.5Ah

| High Energy Density and Long Range   | Applications  | Key Accounts   |
|--|---|--|
| <ul style="list-style-type: none"> <li> High Energy Density of &gt;235 Wh/kg<br/>+7% vs MpCO-21Ah</li> <li> Long Cycle Life<br/>Over 5,000 cycles at 25°C</li> <li> Fast Charging<br/>Charge to 80% capacity in just 48 minutes at room temperature</li> <li> Outstanding Safety and Thermal Management<br/>Superior safety features with high tolerance for abuse.<br/>Excellent low temperature performance (@-20°C with around 80% usable energy).</li> <li> Lower TCO<br/>-25% vs MpCO-21Ah</li> <li> Great Balance Between<br/>High Energy Density and Long Cycle Life<br/>Perfect solution for BEV commercial vehicle applications (LD, MD, HD)</li> </ul> | <ul style="list-style-type: none"> <li> E-Bus</li> <li> LCV Class 1-2</li> <li> MD HD Truck Class 3-8</li> <li> Specialty Vehicles, Off-road</li> </ul> | <ul style="list-style-type: none"> <li style="width: 50%;"></li> <li style="width: 50%;"></li> <li style="width: 50%;"></li> <li style="width: 50%;"></li> <li style="width: 50%;"></li> <li style="width: 50%;"></li> <li style="width: 50%;"></li> <li style="width: 50%;"></li> <li style="width: 50%;"></li> <li style="width: 50%;"></li> <li style="width: 50%;"></li> <li style="width: 50%;"></li> </ul> |

# — HpCO 53.5Ah Competitive Advantages

Microvast's Industry-Leading Technology



## MICROVAST<sup>1</sup> HpCO 53.5Ah I-Pack

>175 Wh/kg

MINUTES TO  
80% CHARGE

FAST  
CHARGING

30 minutes<sup>2</sup>

CYCLES TO  
80% RETENTION

LONG  
CYCLE  
LIFE

>5,000 cycles<sup>3</sup>

LIFETIME  
THROUGHPUT  
MILEAGE

LONG  
LIFETIME  
MILEAGE

>1,000,000 miles<sup>4</sup>



### KEY TAKEAWAY

We're delivering a battery cell for buses superior cycle life, operating range, charge time, and energy density.

<sup>1</sup> Representative performance of a Microvast battery if fitted in the same platform, based on Microvast management estimates

<sup>2</sup> Represents time taken to increase State of Charge (SOC) by a given percentage; given variance in measurement by provider, miles per minute of charge is the standardized metric used for comparison

<sup>3</sup> Cycle life is at system level 0-80% SOC

<sup>4</sup> Range calculated with average 175 miles/cycle



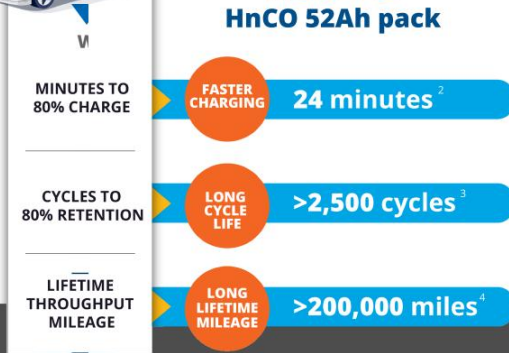
Our total system performance gives significant TCO savings to our customers.

# 52Ah Pack Competitive Advantages

Microvast's Industry-Leading Technology



## MICROVAST<sup>1</sup> HnCO 52Ah pack



### KEY TAKEAWAY

We're delivering a battery cell for light duty CV with superior cycle life, charge time, and energy density.

<sup>1</sup> Representative performance of a Microvast battery if fitted in the same platform, based on Microvast management estimates  
<sup>2</sup> Represents time taken to increase State of Charge (SOC) by a given percentage; given variance in measurement by provider, miles per minute of charge is the standardized metric used for comparison  
<sup>3</sup> Cycle life is at system level 0-80% SOC  
<sup>4</sup> Range calculated with average 95 miles/cycle

**Our total system performance gives significant TCO savings to our customers.**

# — Microvast Global Presence

Multi-year Customer Projects Driving Revenue Growth in EMEA and U.S.

## IVECO



E-Daily (LCV)  
**200+** units ordered  
for 2023

Iveco Bus  
**3,500+** units ordered  
in 2023

249 miles per  
urban cycle

## GAUSSIN



Transport vehicle for  
logistics centers

**300+** units ordered  
and in delivery  
to U.S. & EMEA

## TREPEL MAFI



Airport terminal tractor

**100+** units ordered  
and in delivery  
to U.S. & EMEA

## TBA/Q2 2023



High-performance  
HD truck & trailer

**20+** units ordered  
and in delivery  
in U.S.

Above projects are either at prototype phase, or just kicked off SOP.

# — Microvast Global Presence

Operational Proof Points - Long Service History, 24/7 Operation, Challenging Operating Environment



London, UK  
**1000+** units

Hybrid diesel bus fleet  
since 2014  
62M miles annually  
24/7 operation



The Netherlands  
**100** units

Largest 18m full electric  
bus in Amsterdam  
region since 2018  
24/7 operation  
19M miles annually



India\*  
**800+** units

Various e-buses since  
2019  
38M  
estimated miles over  
project lifetime so far



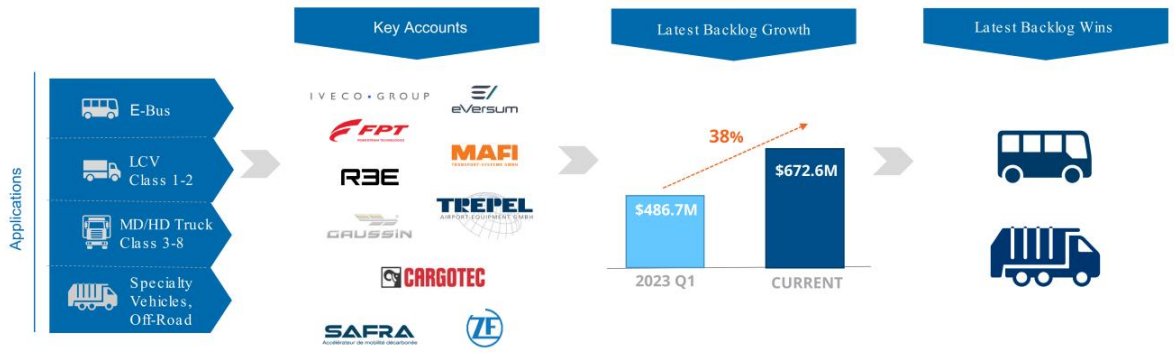
India\*  
**700+** units

Subsidiary of Indian  
Hinduja Group  
Various kinds of  
e-buses since 2019  
33M  
estimated miles over  
project lifetime so far

\*In India, for the 1000 sets deployed since 2019, a total of around 48+ million miles accumulated so far.

# Backlog – Latest Position

EMEA Continues Exponential Growth And U.S. Commercial Vehicle Business Receives First P.O. For Clarksville Deliveries



- Expect multi-year engagements with key clients such as Iveco/ FPT, REE, Gaussin, etc., to drive EMEA to represent approximately 1/3 of total 2023 revenue
- EMEA has a robust business clientele and has established long-term partnerships to capture the momentum in the fast-growing commercial vehicle sector
- Many of our European customers will also be adopting our 53.5Ah technology for their vehicle offerings in the U.S. market (Made in the U.S.A.)

# — Strategic Overview – Energy Storage



**ZACH WARD**

PRESIDENT, ENERGY DIVISION



# The Energy Numbers




YoY Growth  
**68%** global energy storage capacity

Global Energy Storage Capacity added in 2022 **35GWh+**

TAM  
**1,432GWh**  
Est. global, cumulative ESS in 2030

**#1** Energy Shifting  
remains primary use for energy storage

Americas' are forecasted to represent **21%** of annual storage capacity by 2030

 Annual Storage Projects  
utilizing energy shifting expected increase to **73%** by 2024

IRA ENERGY STORAGE ITC  
**40%**

Source: BNEF; 1H 2023 Energy Storage Market Outlook, March 2023

# — Microvast Energy

## Energy Storage System (ESS) for Utility-Scale Energy Shifting Applications

- ✓ Launched in 2022 to provide a battery energy storage system
- ✓ Incorporates the proven, high-energy, lithium-ion 53.5Ah NMC cell technology
- ✓ Battery cells and modules are manufactured in Clarksville, TN & Huzhou, China

### FEATURES

- ✓ Higher energy retention than leading competitors
- ✓ Industry-leading energy density at 4.3 MWh
- ✓ BMS developed in U.S. for grid security
- ✓ Easy transportation, installation & maintenance
- ✓ Long battery life, more than 10,000 cycles



### ✓ KEY TAKEAWAY

- Superior energy retention
- High energy density
- Utilizing U.S. owned technology

# Industry-Leading Energy Density



Fewer Containers



Lower Construction Cost

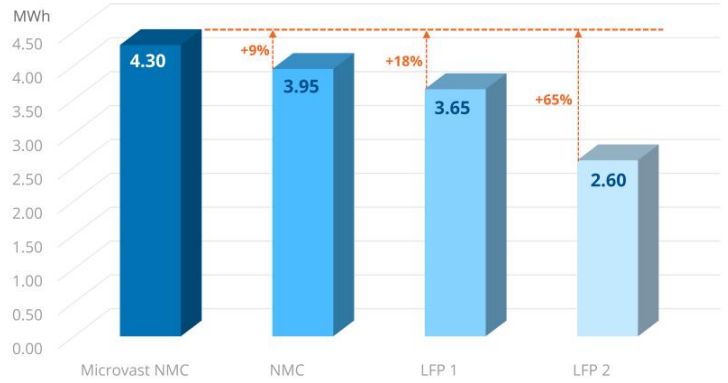


Lower Operations & Maintenance

## Energy Density



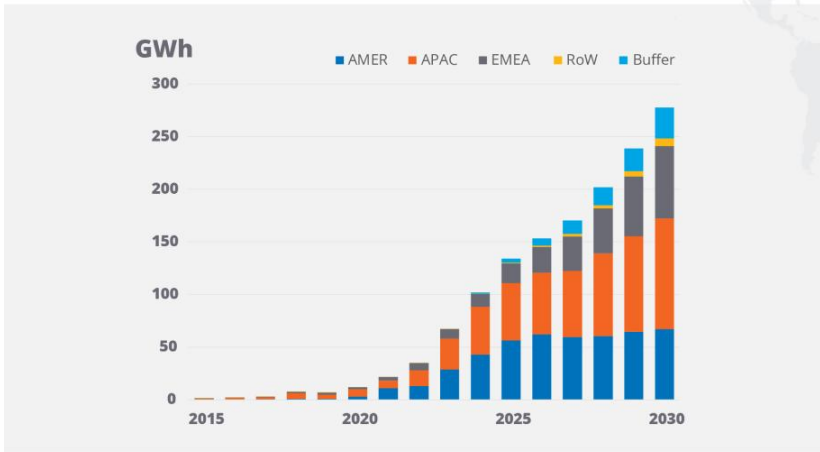
Usable DC Energy of Typical 20 FT ESS Container Design



0.25CP/4HR Duration, 1 cycle per day, 100% DOD

# Global Energy Storage TAM

Global Annual Storage Installations By Region Based On Energy Capacity



Source: BNEF: 1H 2023 Energy Storage Market Outlook, March 2023

## KEY TAKEAWAYS

We believe U.S. and China are leading markets globally

2023 will be an inflection year for the U.S.

Microvast will be expected to add 1.2GWh with its first project

# Energy Storage Total Available Market

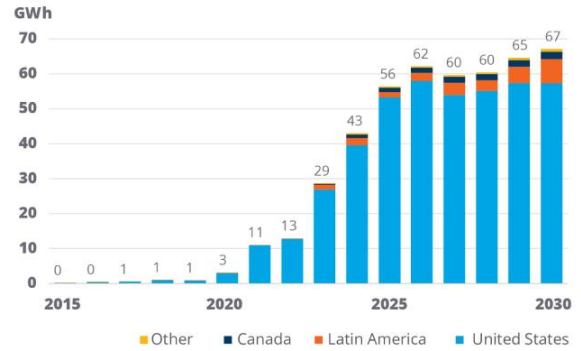
## ✓ KEY TAKEAWAYS

U.S. market in rapid growth phase on its way to adding ~50GWh annually

~70% of this market is for energy shifting applications

The dominant ESS battery solution to meet this demand is Li-ion cell technologies

## THE AMERICAS' ANNUAL ENERGY CAPACITY BY MARKET (EXPECTED)



Source: BNEF: 1H 2023 Energy Storage Market Outlook, March 2023

# Energy Storage Growth Strategy









# ESS Deployments



|                |            | Size         | Location          | Description                   | Delivery     |
|----------------|------------|--------------|-------------------|-------------------------------|--------------|
| Under Contract | PROJECT #1 | 300MW/1.2GWh | <br>United States | <br>ML-4300<br>Energy Storage | 2023<br>2024 |
| Awarded        | PROJECT #2 | 100MW/400MWh | <br>United States | <br>Energy Storage            | 2024         |

NEW

# — Why ESS Is A Huge Growth Opportunity...

|   |  |   |
|---|--|---|
|  <p><b>Technology</b></p> <p>Our ESS solution provides a high density rate, energy retention rate, and round-trip efficiency</p> |  <p><b>Execution</b></p> <p>We already have a full project pipeline through 2025</p>                                  |  <p><b>U.S. Presence</b></p> <p>Manufactured battery cells and modules, a clear financial value to our customers</p>       |
|  <p><b>Govt. Demand Push</b></p> <p>Tremendous government incentives lasting until 2032</p>                                      |  <p><b>Innovation</b></p> <p>New products in development<br/>17-years experience in development and manufacturing</p> |  <p><b>The Right Team</b></p> <p>We have one of the most experienced teams in the industry, with a proven track record</p> |



# — Strategic Overview – Technology



**WENJUAN MATTIS, Ph.D.**

CHIEF TECHNOLOGY OFFICER

# Technology Highlights

What Sets Us Apart



**3**

Continents to maximize the talent pool

**VERTICAL INTEGRATION**

Materials to Pack IP ownership

**626/463**

Patent Applications/ Granted Patents

**780+**

Researchers and engineers

**\$10M**

Awarded since 2017 research funding from U.S. and German Government

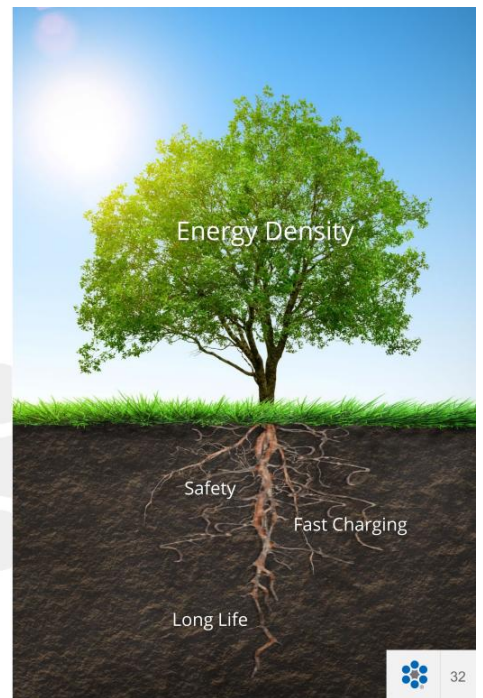
**17+**

Years of experience in the research and development of key materials, cells, module, pack, BMS, etc.

# — FORWARD THINKING. POWERING NOW.™

**Innovating Superior Lithium-ion Battery  
Solutions To Power A More Sustainable Future**

- ✓ Delivering advanced battery technology for high performance
- ✓ Delivering distinct competitive advantages to customers
- ✓ Accelerating the adoption of clean energy in transportation and energy storage markets




# Technology Portfolio



**Proprietary Technology Across All Battery Components**


**Gradient Cathode**

Enables the precise distribution of elements (e.g. Cobalt) across the cathode particles—boosts energy density and reduces cost




**Non-Flammable Electrolyte**

Virtually eliminates the risk of battery fires, addressing a major industry challenge



**Aramid Separator**

Higher thermal stability than charged cathode material; 2x the temperature resistance of traditional poly-ethylene separators, enhancing safety and charging time



**Broad Portfolio of Cell Chemistries Suited to Specific Applications**

**LTO**

Lithium Titanate ( $\text{Li}_4\text{Ti}_5\text{O}_{12}$ ) | Ultra-fast charging, Ultra long cycle life, Safest LIB chemistry

**LFP**

Lithium Ferrophosphate ( $\text{LiFePO}_4$ ) | Lowest cost, Good cycle life

**NMC-1**

Lithium Nickel-Manganese-Cobalt Oxide ( $\text{LiNi}_x\text{Mn}_y\text{Co}_z\text{O}_2$ ) | Ultra-fast charging, Long cycle life

**NMC-2**

Lithium Nickel-Manganese-Cobalt Oxide ( $\text{LiNi}_x\text{Mn}_y\text{Co}_z\text{O}_2$ ) | Highest energy density, Fast charging, Long cycle life

**Unique Capabilities Down to the Cell Level Enables Tailored Solutions**

**Cells**



**Modules**



**Packs**



**Proven Technology Supported by Extensive 3<sup>rd</sup> Party Testing and Validation**

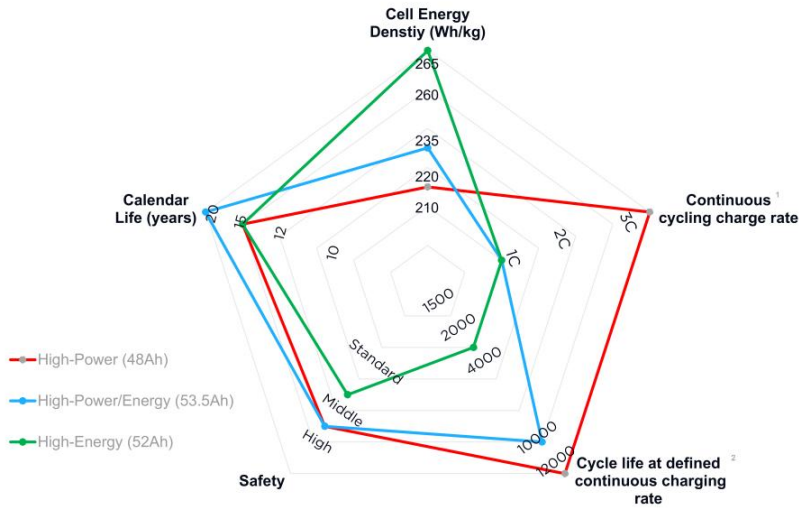
|  |   |                        |                         |  |
|--|---|------------------------|-------------------------|--|
|  |   |                        |                         |  |
| <p>220-240 Wh/kg Extreme Fast Charge (XFC) Cells</p> | <p>220 Wh/kg High Power Cells 270 Wh/kg High Energy Density Cells</p> | <p>HnCO-52Ah cells</p> | <p>18 kWh LpTO Pack</p> | <p>200 Wh/kg Power Cells &amp; 270 Wh/kg High Energy Density cells</p> |

# Industry-Leading Technology

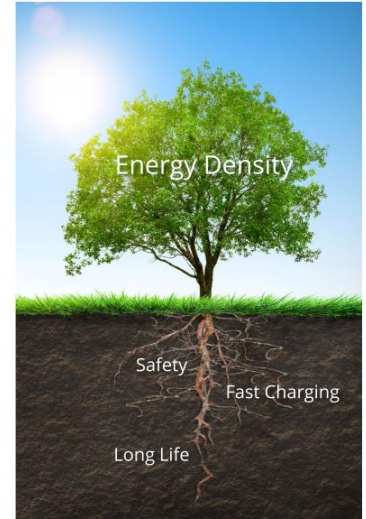


|                         | Representative Applications   | Energy Density | Life Cycles | Charging Time (full charge) |
|-------------------------|---|----------------|-------------|-----------------------------|
| Currently in Production | <b>Ultra Fast Charge (LTO)</b><br>Introduced in 2011<br>Buses<br>Mining Trucks                        | 95 Wh/kg       | 20,000      | 10 min                      |
|                         | <b>High Power (NMC-1)</b><br>Introduced in 2016<br>Commercial Vehicles<br>Buses                       | 210 Wh/kg      | 4,000       | 15 min                      |
|                         | <b>High Energy Density (NMC-2)</b><br>Introduced in 2019<br>Commercial Vehicles<br>Passenger Vehicles | 265 Wh/kg      | 3,300       | 30 min                      |
| Upcoming                | <b>HPHE Density (NMC-3)</b><br>Introduced in 2019<br>Commercial Vehicles<br>Passenger Vehicles<br>ESS | 235 Wh/kg      | 5,000       | 30 min                      |
|                         | <b>High Energy Density Target Cell (B Sample)</b><br>Commercial Vehicles<br>Passenger Vehicles<br>ESS | 300+ Wh/kg     | 4,000       | 45 min                      |

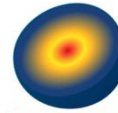
# Technical Analysis of HP, HPHE and HE NMC Cell Products



1. Measured at 0-100% SoC, 25°C  
 2. Charging and discharging at 1C, 25°C until max battery capacity is 80%  
 Source: MV datapoints provided by MV Technology team.



# Innovate With Focus On Energy Density & Safety Gradient Cathode



## Impact on performance

■ At par with industry    
 ■ Among best in class    
 ■ Industry leader

|                       |  |   |
|-----------------------|--|---|
| <b>Energy density</b> |  | Increases Usable Lithium percentage in Cathode, directly increasing energy density  |
| <b>Cycle life</b>     |  | Negligible effect (longer cycle life due to the lower surface Ni content)<br>Higher Nickel bulk content in the cathode  |
| <b>Charge rate</b>    |  | Negligible effect   |
| <b>Safety</b>         |  | Increases risk of thermal instability; gradient cathode technology aims to increase Nickel content at the vicinity of core of the particle to maximize safety |

### Our safety track record

First applications of high-nickel cathodes have led to safety incidences (e.g., 3 spontaneous combustions of the GAC Aion S). So far, MV's has recorded no similar safety incidences with their gradient cathode technology

**KEY TAKEAWAY**

Our gradient cathode helps achieve "best in class" energy density while maintaining safety (ANL – NMC □ FCG).



Source: Expert interviews, academic research, press search



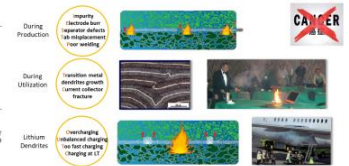
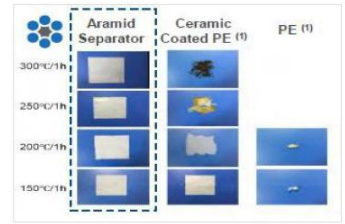
# Aramid separator enables superior safety performance compared to other separators

The separator **prevents short circuits** during battery charge-discharging. Improving battery performance, as it enables **lower inner resistance, higher robustness against thermal runaway (safety) and higher volume-share of cathode and anode materials** (to a limited extent)

## Impact on performance

|                       |   |  | <span style="color: #0070C0;">■</span> At par with industry <span style="color: #0070C0;">■</span> Among best in class <span style="color: #000000;">■</span> Industry leader |
|-----------------------|---|--|---|
| <b>Energy density</b> | <i>Enabler</i>  | An aramid separator enables usage of less inactive material, resulting in a <b>thinner, lighter component</b> for potentially slightly <b>higher energy density</b> <sup>1</sup> | <span style="color: #0070C0;">■</span>  |
| <b>Cycle life</b>     | N/A   | A stronger separator can <b>keep a battery safe throughout life cycle</b> (however, negligible direct effect)  |   |
| <b>Charge rate</b>    |  | A thinner separator <b>may decrease internal resistance</b> , improving charging speed   | <span style="color: #0070C0;">■</span>  |
| <b>Safety</b>         |  | Higher thermal stability of separator <b>prevents short circuits at higher temperatures</b> , even with increased energy density   | <span style="color: #000000;">■</span>  |

<sup>1</sup> Based on scientific literature and expert interviews, increase of energy density in negligible range possible (i.e. 1-10%)  
Source: Expert interviews, academic research, press search





# — Strategic Overview – Manufacturing



**SHANE SMITH**

CHIEF OPERATING OFFICER

# — Operation Numbers



**3**

Continents to be close to our customers



**3**

Manufacturing plants

**2,500+**

Employees globally

**>70%**

New production line expected utilization

**7GWh**

Anticipated total available capacity by Q4 2023

**17+**

Years of experience in the development & manufacturing of lithium-ion batteries

# Our Locations



# — Production Capacity Expansions



## Completed Huzhou plant expansion

- ✔ Added 2.0 GWh per annum of battery cells, modules, and pack manufacturing capacity – **ramping up now!**
- ✔ New building supports up to 12 GWh per annum (additional utility infrastructure required)
- ✔ New capacity is being filled by growing backlog in 2023
- ✔ Long-term supply agreements for key materials are in place; excellent, long-standing supplier relationships



## Clarksville, TN under renovation; production Q4 2023

- ✔ Adding 2.0 GWh per annum of battery cells and modules manufacturing capacity (utility infrastructure will support some of the 4 GWh per year capacity)
- ✔ Expected production begins late Q4 2023 using the same equipment
- ✔ Expected new capacity will have high levels of utilization in 2024

Leveraging our global supply chain for raw materials

**Huzhou, China**  
Battery Manufacturing  
Plant Expansion







**Clarksville, TN**

Mixing Building

# — Strategic Overview – Financials



**CRAIG WEBSTER**

CHIEF FINANCIAL OFFICER

# Financial Highlights

2023 Inflection Year – Foundations In Place For Our Fast Growth Phase



**50+%**  
Revenue CAGR  
2022A to 2027E

GM Expansion  
**20%+**  
2027 Target

**13-15%** ↓  
Adj. OPEX (% of revenue)  
2027 Target

Q1 Backlog  
**\$486.7M**

**>70%**  
Utilization  
Clarksville Phase 1A  
2024 anticipated

IRA credit potential  
**\$80M**  
on each 2GWh capacity in U.S.



**\$0** Leverage  
on U.S. asset base



# Our Capacity Expansions

Fully Funded Expansions Get Us To \$1BN+ Top Line Potential

## Huzhou 3.1



**2GWh**

Fully automated cell, module and pack production for 53.5Ah cell

## Clarksville 1A



**2GWh**

Fully automated cell and module production for the 53.5Ah cell - using same production equipment as Huzhou 3.1



**\$1BN**  
REVENUE POTENTIAL

Huzhou ramping up production

**NO CAPEX**

until we need to add more capacity

Phase 1A capacity in Clarksville has potential

of **\$80M**<sup>PA</sup>  
**\$45X IRA credits**

# 53.5Ah Expansions – Huzhou 3.1

Capacity Expansion Unlocks Significant Incremental Revenue

Double-digit margin potential, de-risked by contracted pipeline with entrenched OEM and ESS customers.

**\$**  
**500M**

New Revenue Potential

Gross Margin & EBITDA Positive

Gross Margin Expansion

EBITDA Margin Expansion

2023

2024 & Beyond

**2GWh**

of additional cell, module and pack capacity trial production in Q1 2023

✓

CapEx investment complete

**53.5 Ah**

Cell technology adoption underway

**Contracted Capacity**

75% of 2023 available capacity is under contract

**Key Customers**

GALUSSIN

IVECO

propel

MAFI

KALMAR

SHENYANG

KING LONG

JBM

PROTON

ASHOK LEYLAND

**Note:** Financials presented above reflect plant level only and assume (i) full 2GWh capacity is available, (ii) market ASP for CV and ESS battery solutions (iii) Opex from China operations.

# 53.5Ah Expansions – Clarksville 1A

Capacity Expansion Unlocks Significant Incremental Revenue

Double-digit margin potential, de-risked by contracted pipeline with entrenched OEM and ESS customers.

**\$**  
**500M**

New Revenue Potential

Gross Margin & EBITDA Positive

2024

Gross Margin Expansion

2025 & Beyond

EBITDA Margin Expansion

**2GWh**  
of additional cell, module and pack capacity trial production in Q1 2023

✓  
CapEx investment funded

**53.5 Ah**  
Cell Technology Adoption Underway

Pipeline as a % of Anticipated 2024 Revenues (Phase 1A)

70% of 2024 available capacity is under contract

Key Customers

**Note:** Financials presented above reflect plant level only and assume (i) full 2GWh is available, (ii) market ASP for CV and ESS battery solutions and (iii) Opex from Clarksville operations

# Inflation Reduction Act

53.5Ah Backlog For ESS And CV In U.S. Means Potential High Utilization For IRA Credits



**\$35KWh** CELLS + **\$10KWh** MODULES = **\$45kWh**



TAX CREDIT FOR EVERY CELL & MODULE KWh

Battery production tax credit for cells and modules produced in Clarksville, TN

Clarksville, TN Phase 1A benefits from IRA at \$45/KWh on its domestic battery cell and module production

**Phase 1A=\$80M**

IRA POTENTIAL P.A.

**53.5Ah**

ESS & CV CUSTOMERS

**Phase 1A**

**+1B = \$160M**

IRA POTENTIAL P.A.



IRA DURATION **10** YEARS UNTIL 2032



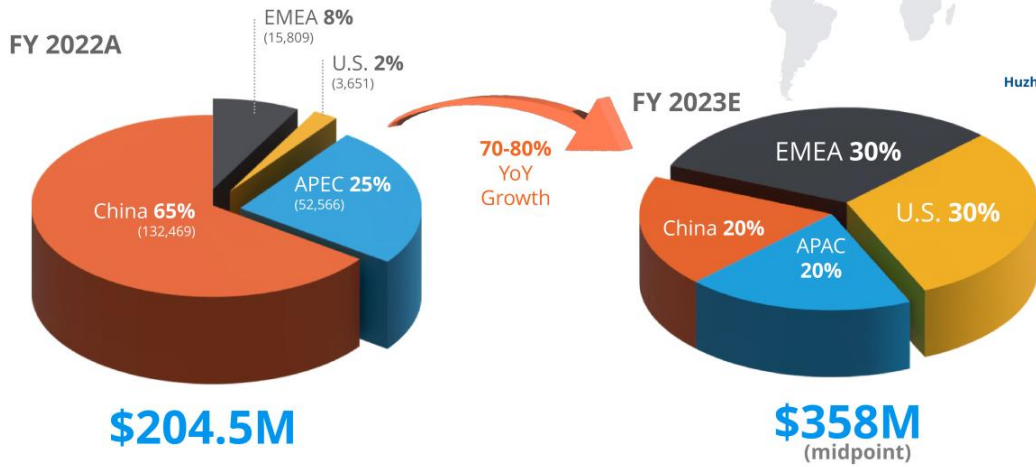
**\$1.5-\$2BN**  
TAX CREDIT POTENTIAL TO 2032  
**8GWh Capacity**



# Geographic Diversification

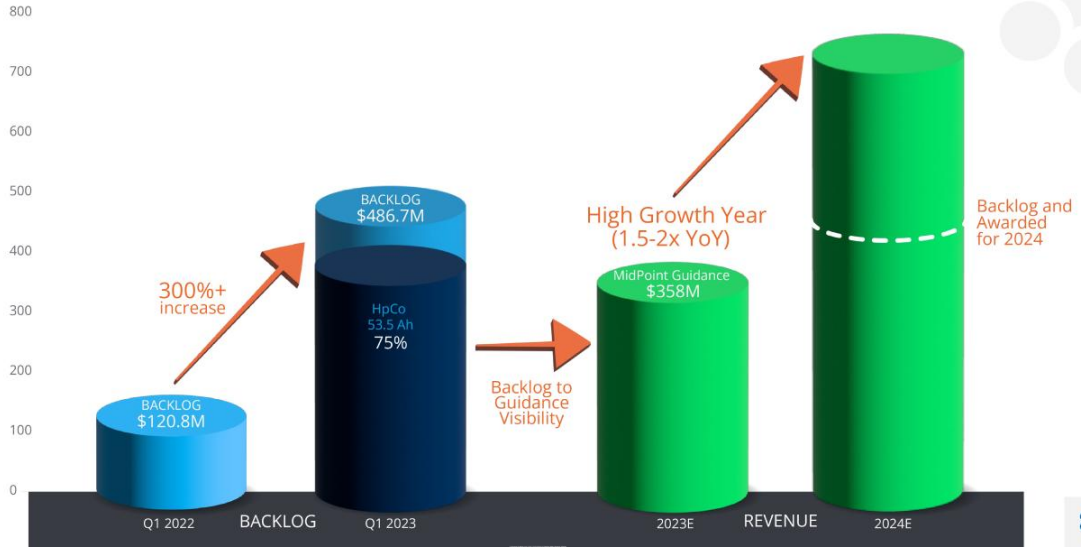
U.S. And Europe Becoming Dominant Markets

Clarksville, TN



# Revenue Visibility

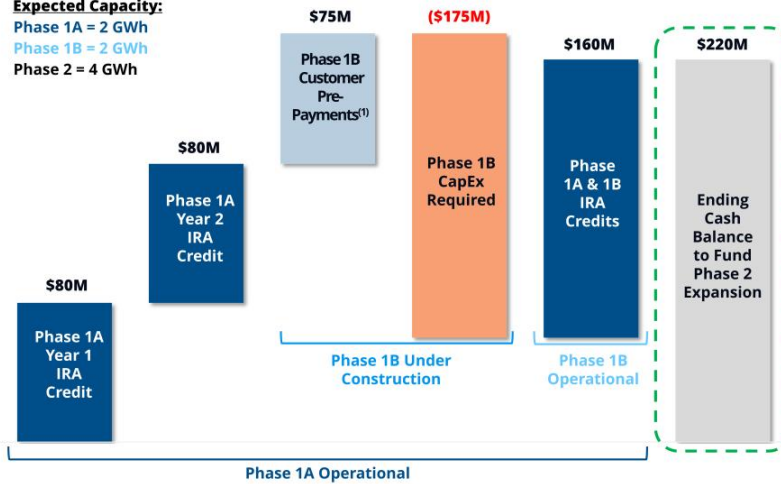
Backlog Makes Potential A Reality



# Funding More Capacity

## Clarksville Expansions Are Self-Funding

**Expected Capacity:**  
 Phase 1A = 2 GWh  
 Phase 1B = 2 GWh  
 Phase 2 = 4 GWh

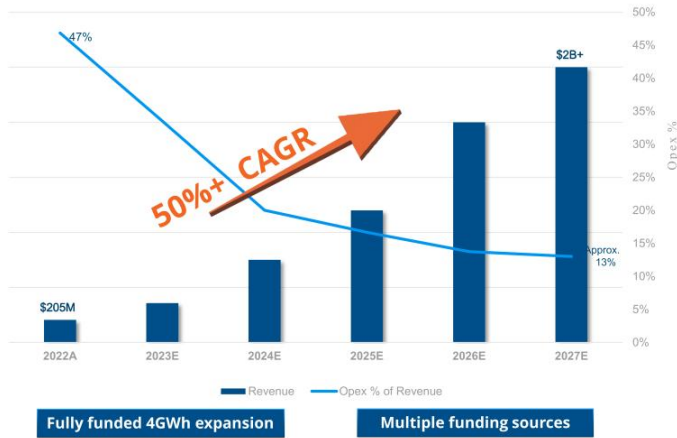


**Note:** Funding bridge does not reflect additional positive cash flows generated from Clarksville facility.  
 (1) Management estimates 40-50% manufacturing capacity would generate prepayments from customers.

- ✓ **Golden Rule:** We only add more capacity when we have customer orders in place
- ✓ Based on backlog, we expect 2024 utilization for Phase 1A to be high
- ✓ **Clarksville (up to 8GWh)** is self-funding due to IRA credits
- ✓ We have the **option to monetize the IRA early** which provides funding for future expansions
- ✓ Customer down payments provide **access to cash**

# Operating Leverage & Margins

Multi-year Fast Growth From An Operating Base That Is Already At Scale



## KEY TAKEAWAYS

Scalable business model

Backlog growth is underpinning fast growth phase

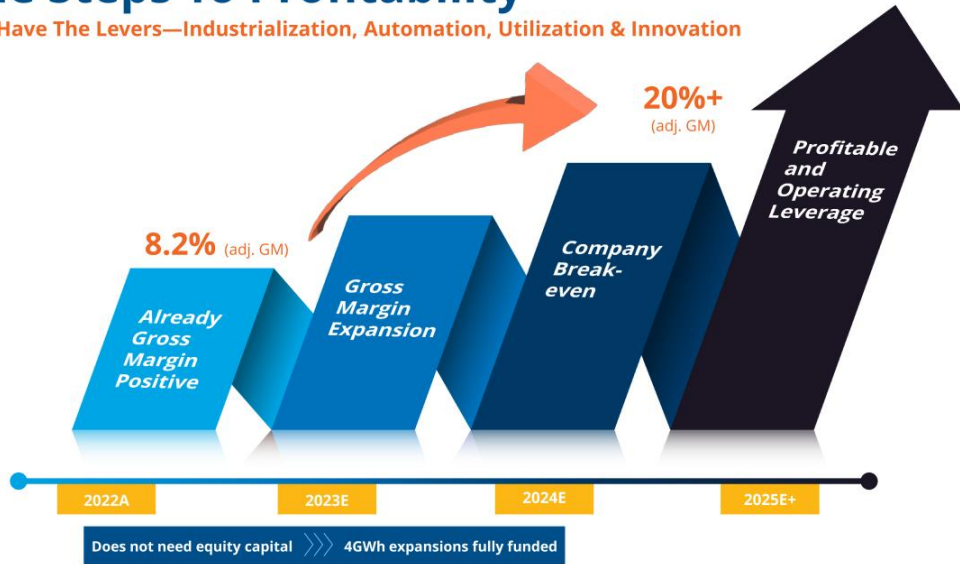
Our R&D spend today is for our future product innovation

**PROOF POINT:** We expect to add 4GWh capacity in 2023, revenue growth est. 70-80%, and adj. OPEX est. to increase approx. 20-30%



# The Steps To Profitability

We Have The Levers—Industrialization, Automation, Utilization & Innovation



# Financials – Summing it Up...



### Growth

The fast revenue growth is kicking in, and growing backlog tells you the 53.5Ah is a winner



### Capex

We got Huzhou done, bringing 2GWh online and Clarksville is targeted for Q4



### Funding

We don't need any equity to bring this capacity online and have plenty of financing options



### Diversification

The backlog, which is mostly from U.S. and European customers, is giving us a solid base on which to expand our business in these regions



### Scale

We can scale the business as we have a global foundation in place and can add capacity at pace, which improves margins

# — Key Takeaways



**Yang Wu**

FOUNDER, CHIEF EXECUTIVE OFFICER, PRESIDENT

# Business Strategy Alignment



## ✓ KEY TAKEAWAY

We're entering a **multi-year, high growth phase supported by the sought-after HpCO 53.5Ah cell**, new technology, increased capacity, and new markets.

## ✓ KEY TAKEAWAY

We're **industrializing at scale, with improved automation and utilization** to improve financial performance.

## ✓ KEY TAKEAWAY

The **HpCO 53.5Ah cell provides many competitive advantages**, with its cycle life, fast charge capabilities and energy density providing TCO benefits to our customers.

## ✓ KEY TAKEAWAY

2023 is a critical execution year as it creates the **foundations to add significantly higher scale** and which supports expansion plans for our battery component technologies.

## ✓ KEY TAKEAWAY

We're **focusing our capital in the U.S.** as our technologies can help build-up a domestic battery industry.



# microvast<sup>®</sup>

Forward Thinking. Powering Now.™

2023  
INVESTOR  
DAY  
**Q&A**

