



Trends in the Electrification Supply Chain

Next Generation Mobility 2025 - Torino

Marco Martins

9-10 December



Founded in 2009 in Silicon Valley, California USA

11 manufacturing & technical centers across US, China, and India

3,000+ employees: the largest independent battery pack company

Total 2025 production capacity– 30+ GWh

Battery system leader: #1 in India, 8% market share in China

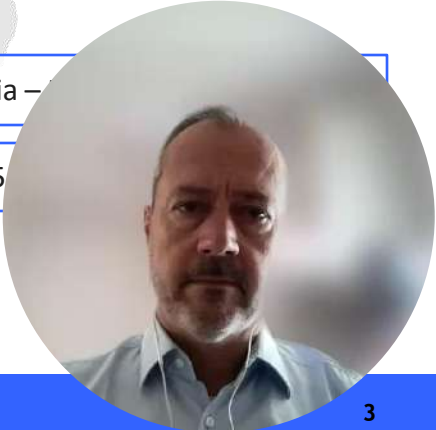
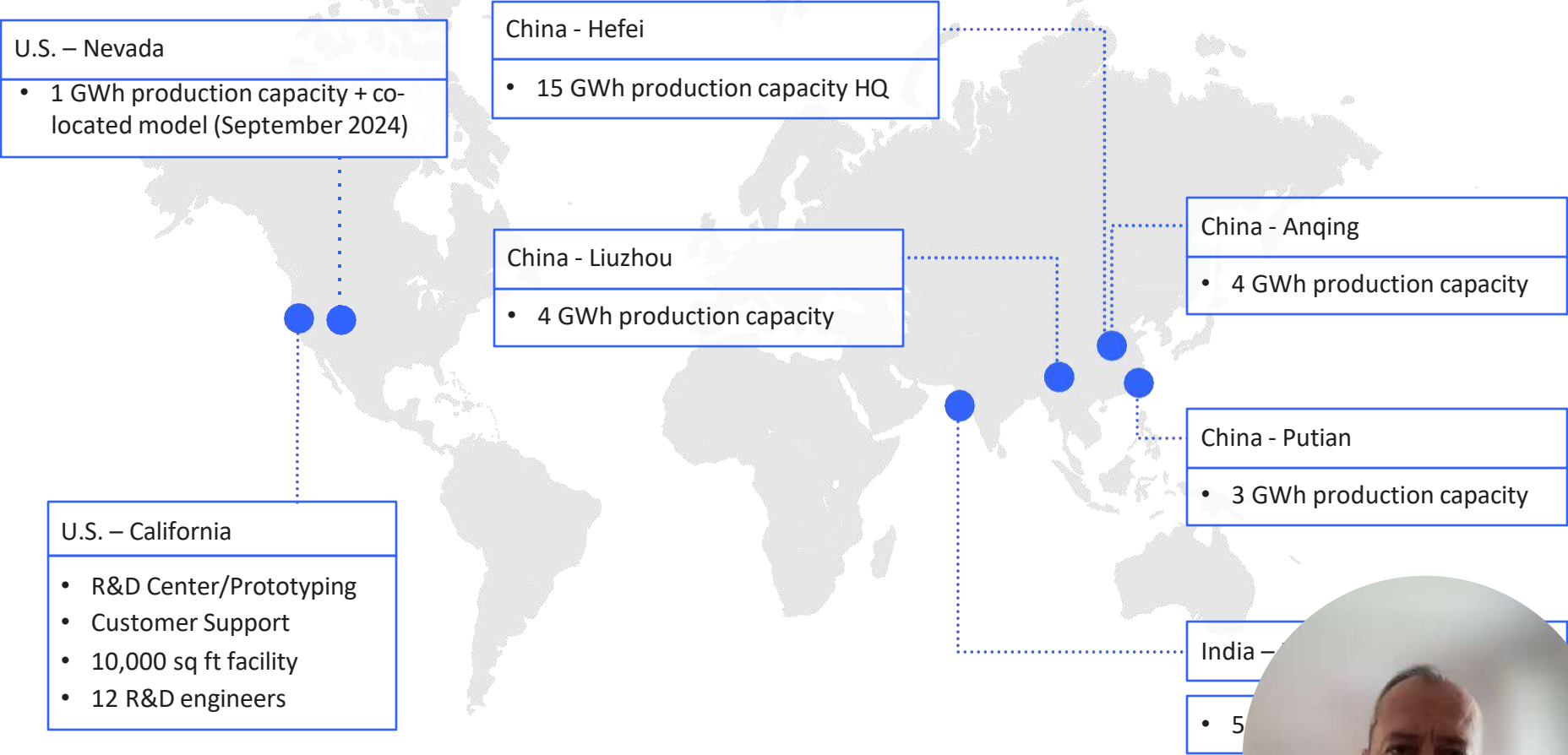
2,000,000+ EV batteries fielded on roads around the world

3,000 EV battery pack production per day (≈600,000 per year)

8 billion+ kilometers driven



Multi-functional global
engineering and
manufacturing team





SAMSUNG



SAIC



1. Vertical rebalancing: OEMs & majors bring more capabilities in-house while specialist suppliers focus on systems and integration.
2. Regionalization of manufacturing (near-market production).
3. Growing importance of system expertise (BMS, safety, lifetime, software).
4. Market segmentation beyond Passenger cars – commercial, marine and off-highway are rising.
5. Unit economics & scale vs. Agility tradeoff.



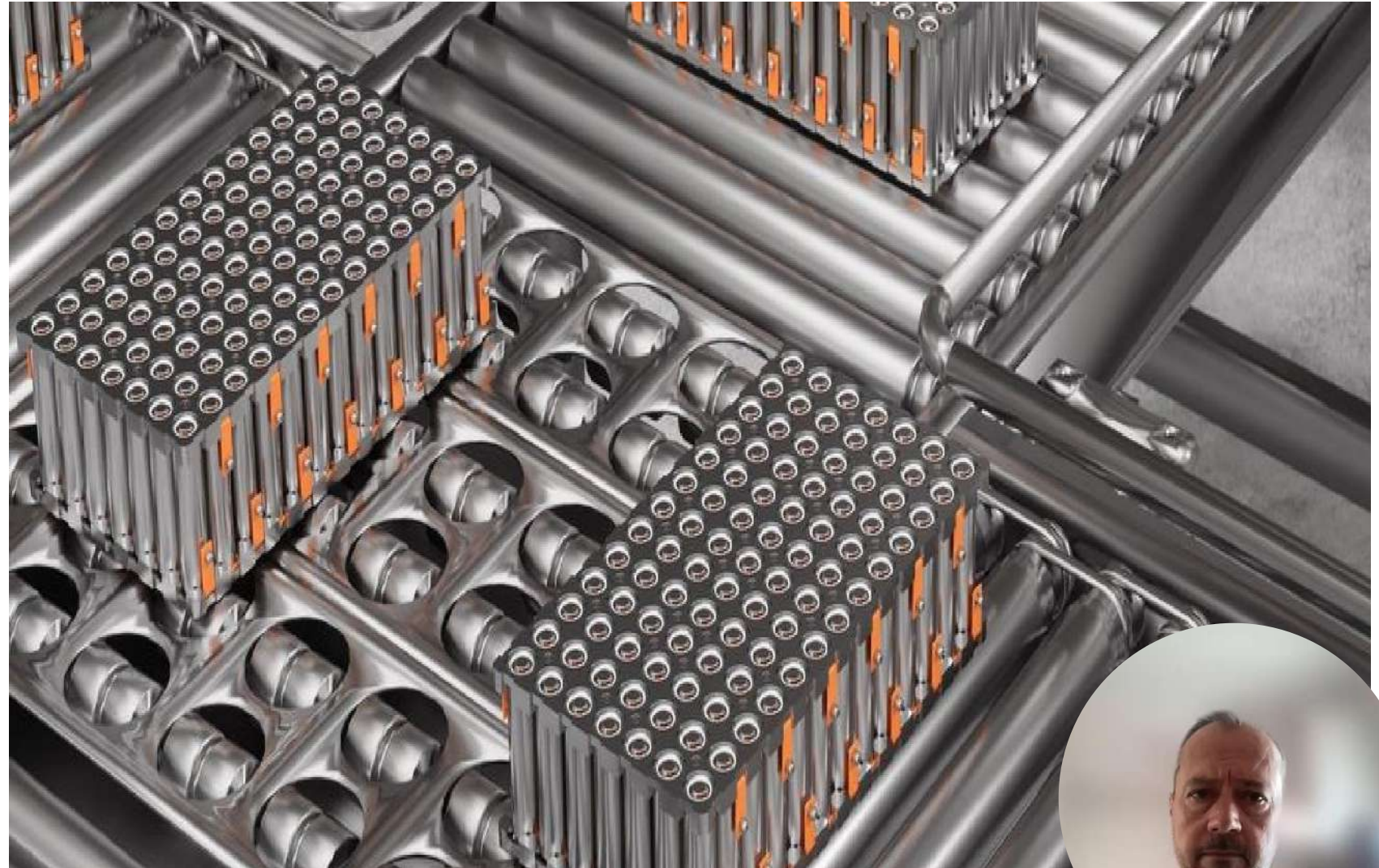
Precisely What You Need.

From Whom You Need it.

At the Best Possible Price.

With Cell Future Proofing.

To Make the Ultimate End Product.



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5 GWh total India production capacity

Production of 30 electric bus battery systems per day

Achievement to 1.2GWh in 9-month plant set-up

Cylindrical and prismatic cells

Local engineering, integration, and service support

Extensive service network in over 15 cities





50,000 SF building

600 Amps of power

Highly skilled labor force region

Multiple loading docks



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Sr. No	ITEM	PARAMETERS
1	Accuracy of SOC	≤5%
2	Accuracy of Cell Voltage Measurement (mV)	2mV@25°C +-5mV@-10~50°C
3	Accuracy for Current Measurement	0.2% (CAB500)
4	Temperature acquisition accuracy	+ -1°C (-20°C~85°C)
4	Insulation acquisition accuracy	10% (0~1M)
5	Supply voltage range	9~32V
6	CAN communication rate	500K (Can be adjusted according to customer needs)
7	CAN communication channels	3 (32-bit platform supports 4)
8	CAN communication network management	Support
9	Static sleep current	≤1mA
10	Equalize current	≤30mA
11	High and low voltage resistance	1500V
12	Relay drive	5
13	CC/CP Detect/awaken	Sup
14	Detect/awaken full load design life	10 y



BMS solutions available across applications

V-model standard development process employed

MATLAB/Simulink model to underlying platform

ASIL-C Function Safety design-hardware compliance



LV Vehicle Application

- CHN automotive grade MCU
- Highly integrated architecture
- Low cost



HV Passenger Vehicle

- 1st monolithic BMS in China
- 1st massive production for MAXIM AFE application
- Low cost daisy chain architecture



ASIL-C Function Safety BMS

- ASIL-D MCU and acquisition chip.
- AUTOSAR BSW
- Model based SWC
- V-shaped development process
- High performance, high reliability, high safety



Distributed BMS

10+ Years BMS development experience

100+ Approved Projects Development

150+ Engineering team

300+ Patents and software copyrights

7+ MCU Platform

10+ AFE Platform

2+ ISO26262 professional Institutions support

7+ Years ASIL-C BMS Development



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Electric Vehicles



Truck and Bus



Off-Highway



Marine

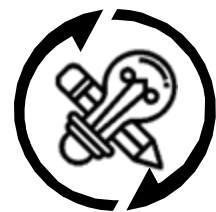


ESS: Grid and Telecom



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6-9 Months

Design-to-suit cycle



3-4 Months

Factory ramp-up cycle



- **For Octillion** → Regional plants + systems know-how = leverage.
- **For OEMs** → Work with partners like Octillion when speed-to-market, customization, or regional logistics trump lowest cell cost. Use Tier-1 integrators to pilot new vehicle programs or to serve niche product lines.
- **For fleets & marine OEMs** → Partnering with a specialized integrator reduces engineering time, certification overhead and supply chain complexity. Octillion's marine partnerships illustrate this model.



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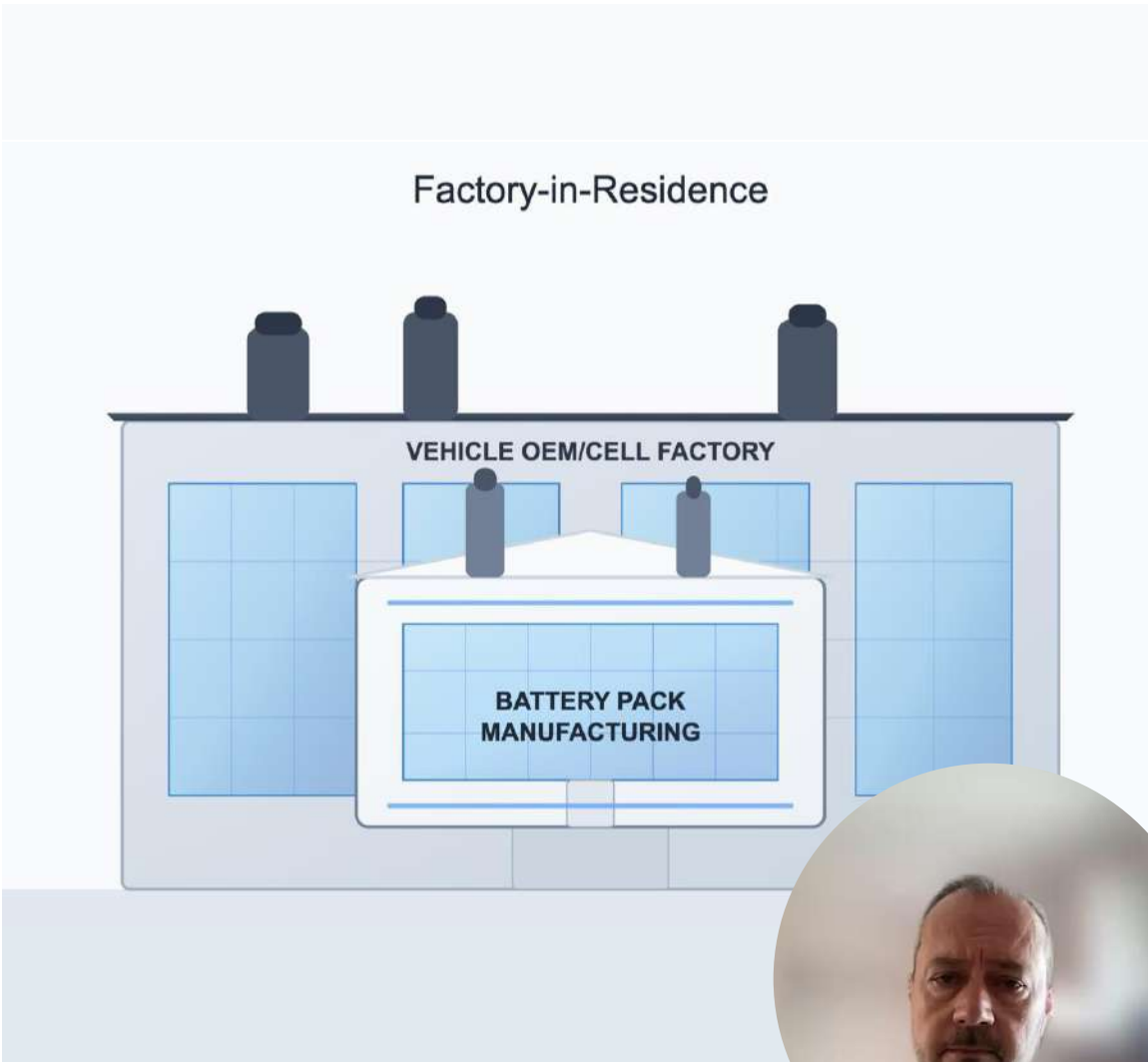


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1. Double down on regional micro-factories + fast validation loops.
2. Productize modular common platforms.
3. License or strengthen BMS/software IP —
4. Selective partnerships with OEMs and non-automotive OEMs.
5. Invest in certification & after-sales service networks





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- 2. Produce modular common platforms.**
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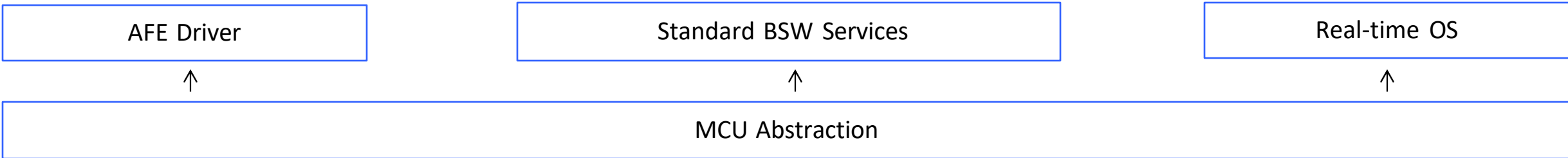
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Flexible Application Layer



Unified Hardware Abstraction Layer



Flexible Hardware Matrix Layer

MCU



AFE





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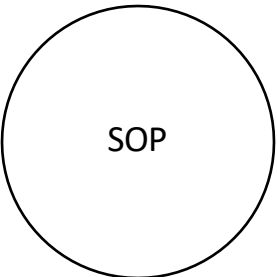
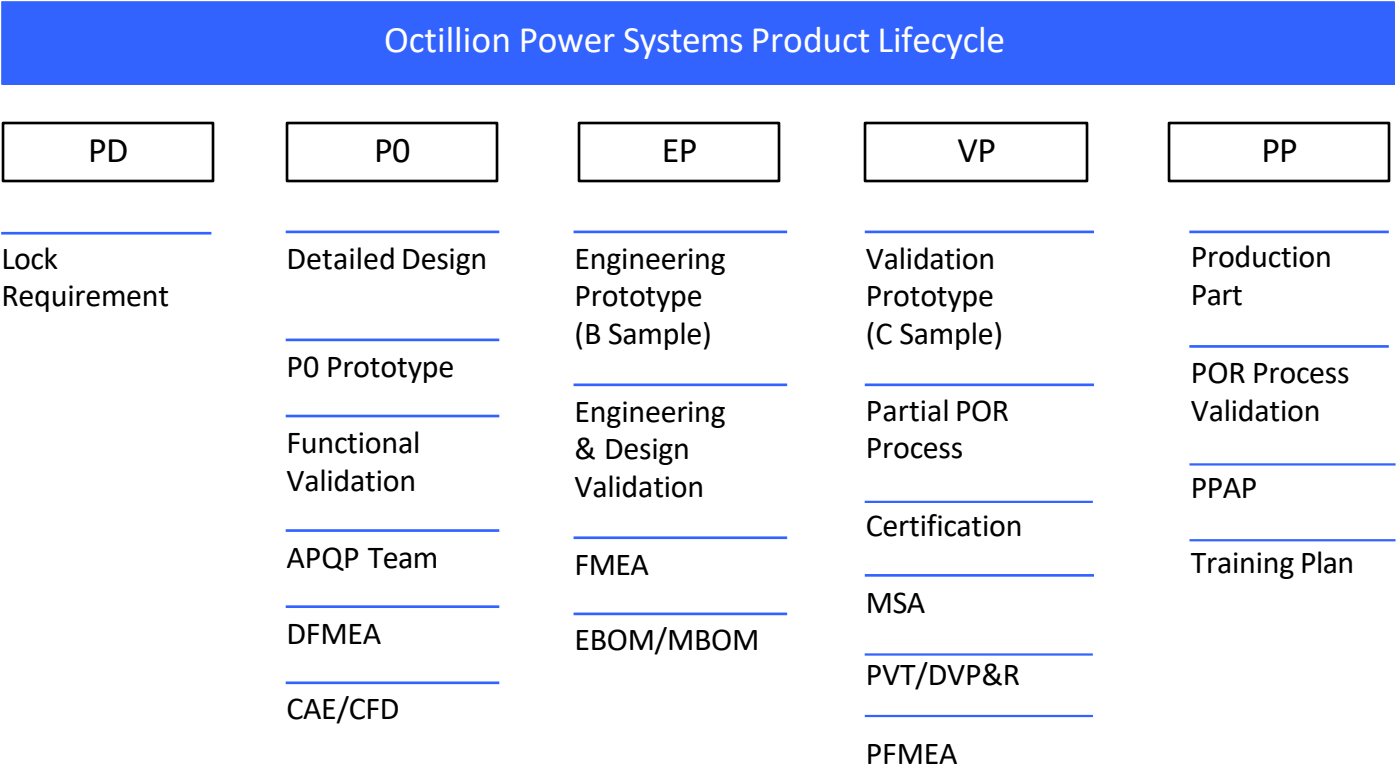
"Octillion is a world-class battery systems partner. From past collaborations, we've seen firsthand their ability to deliver on what matters most: integrity, quality, performance, and cost.."

Alexandre Mongeon, CEO
Vision Marine Technologies

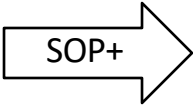




- Technology Development
- Customer RFQ



Start of Production



After Market Support



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GB/T31467.1-2015

Test specification for high power applications

GB/T31467.2-2015

Test specification for high energy applications

GB/T31467.3-2015

Safety requirements and test methods

GB/T31484

Cycle life requirements and test methods for traction battery of electric vehicle

GB/T31485

Safety requirements and test methods for traction battery of electric vehicle

GB/T31486

Electrical performance requirements and test methods for traction battery of electric vehicle

ISO 26262

Standard for functional safety of electrical and/or electronic systems for passenger cars.

ISO 14229

Diagnostic Software implementation.

UL 2580

Standard evaluates EV battery ability to safely withstand simulated abuse conditions and prevents any exposure of persons to hazards as a result of the abuse

UL 1642, UL 1973

Standard for lithium-ion battery and ESS

SAEJ2380, SAEJ2464

Vibration and Electric Vehicle Battery Abuse Test



We Offer Complete In-House Pack Design

Proprietary fusible link to address single cell failures with high tolerance control

Customized hybrid current collector with unique vent controls

Specialized thermally/electrically insulated barriers between modules

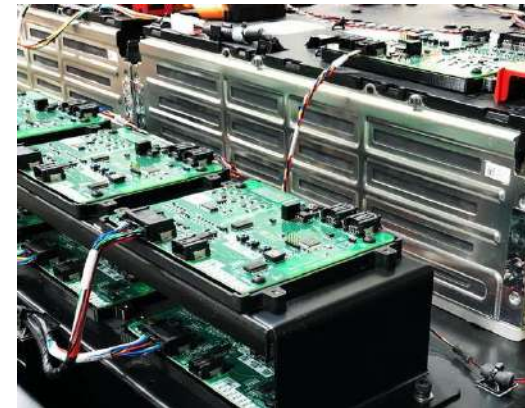
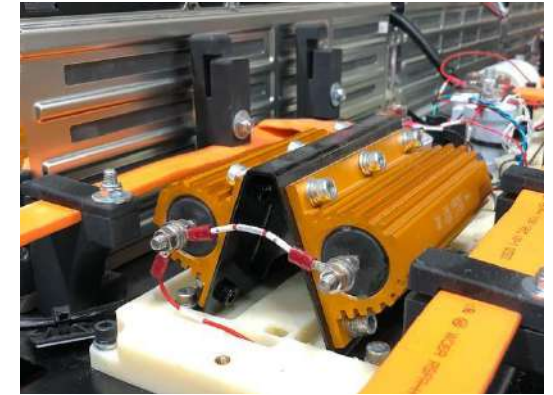
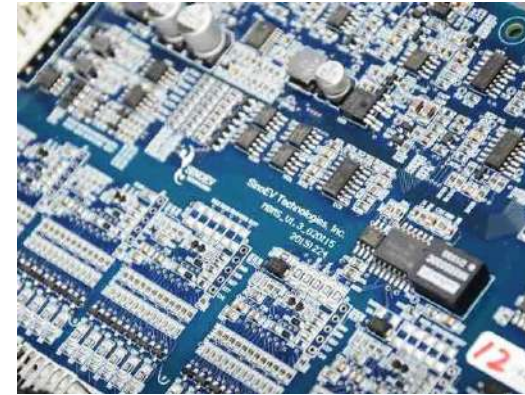
Active liquid cooling/heating at the cell level

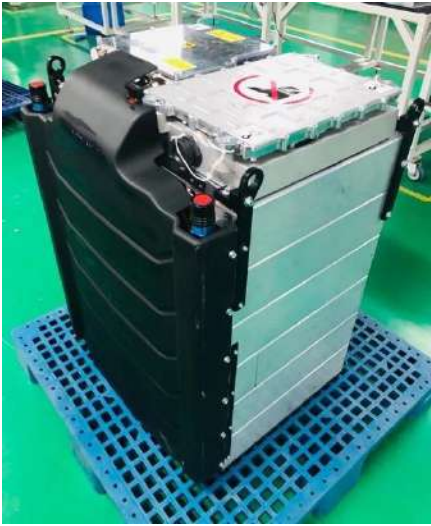
Optimized pitch between cells to maximize pack volumetric energy density

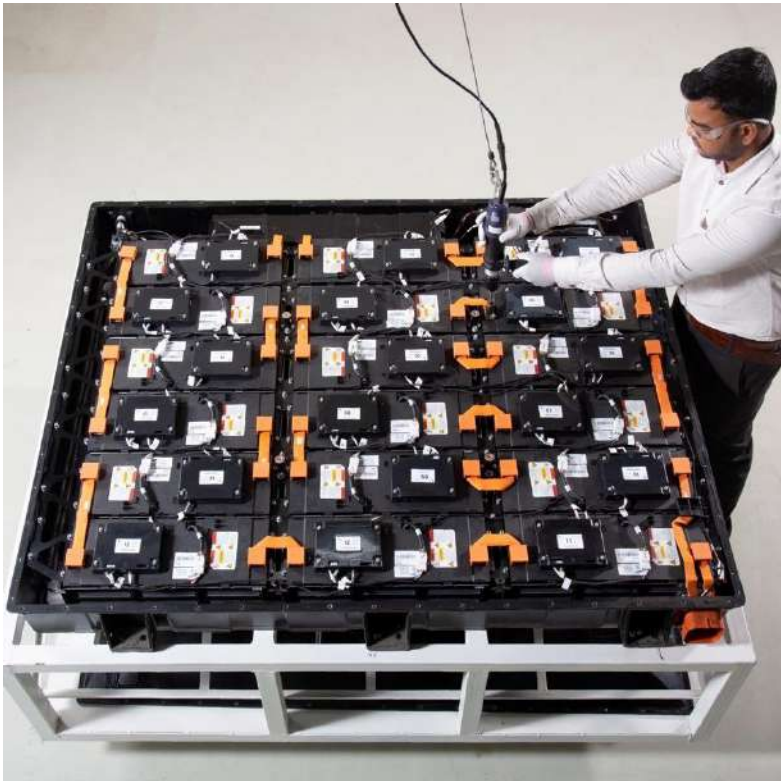
Packs are designed for strength and vibration tolerances

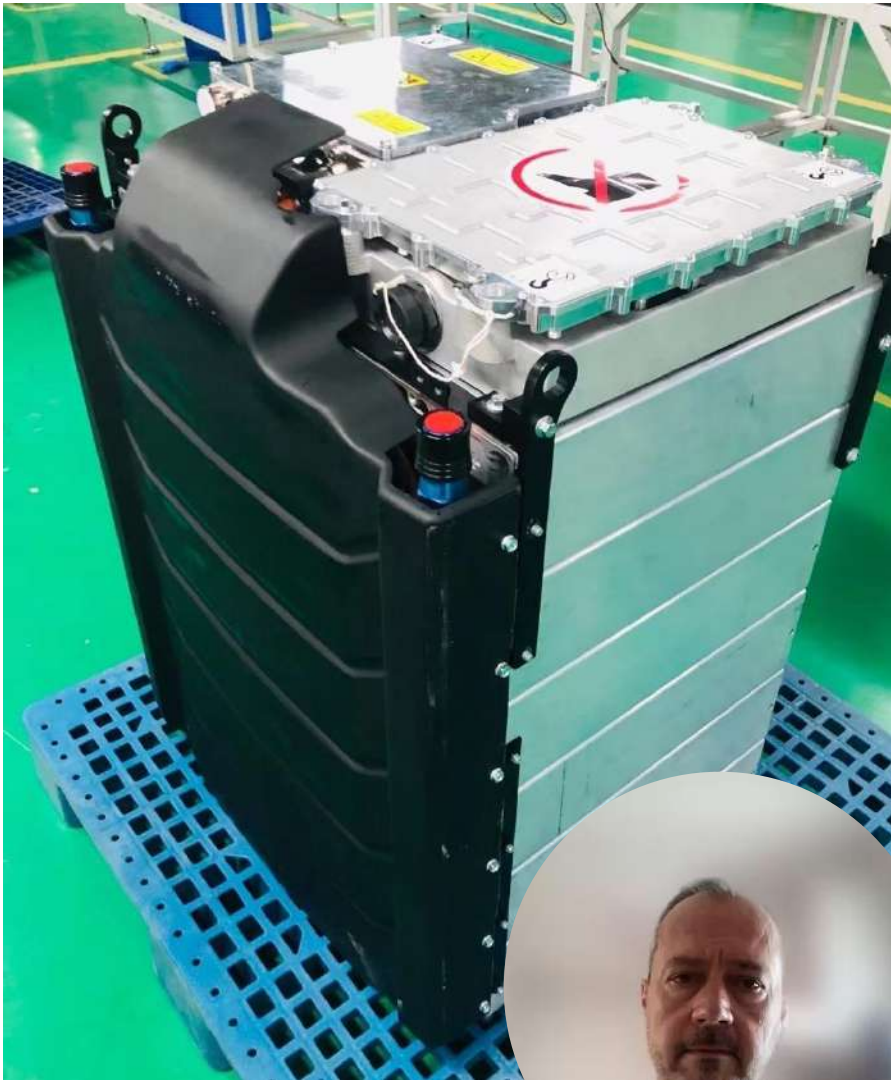
BMS offers multi-level safety protections, vent detection, data loggers

BMS SW and HW designed in-house and customized to customer needs











14,000+ EV batteries fielded

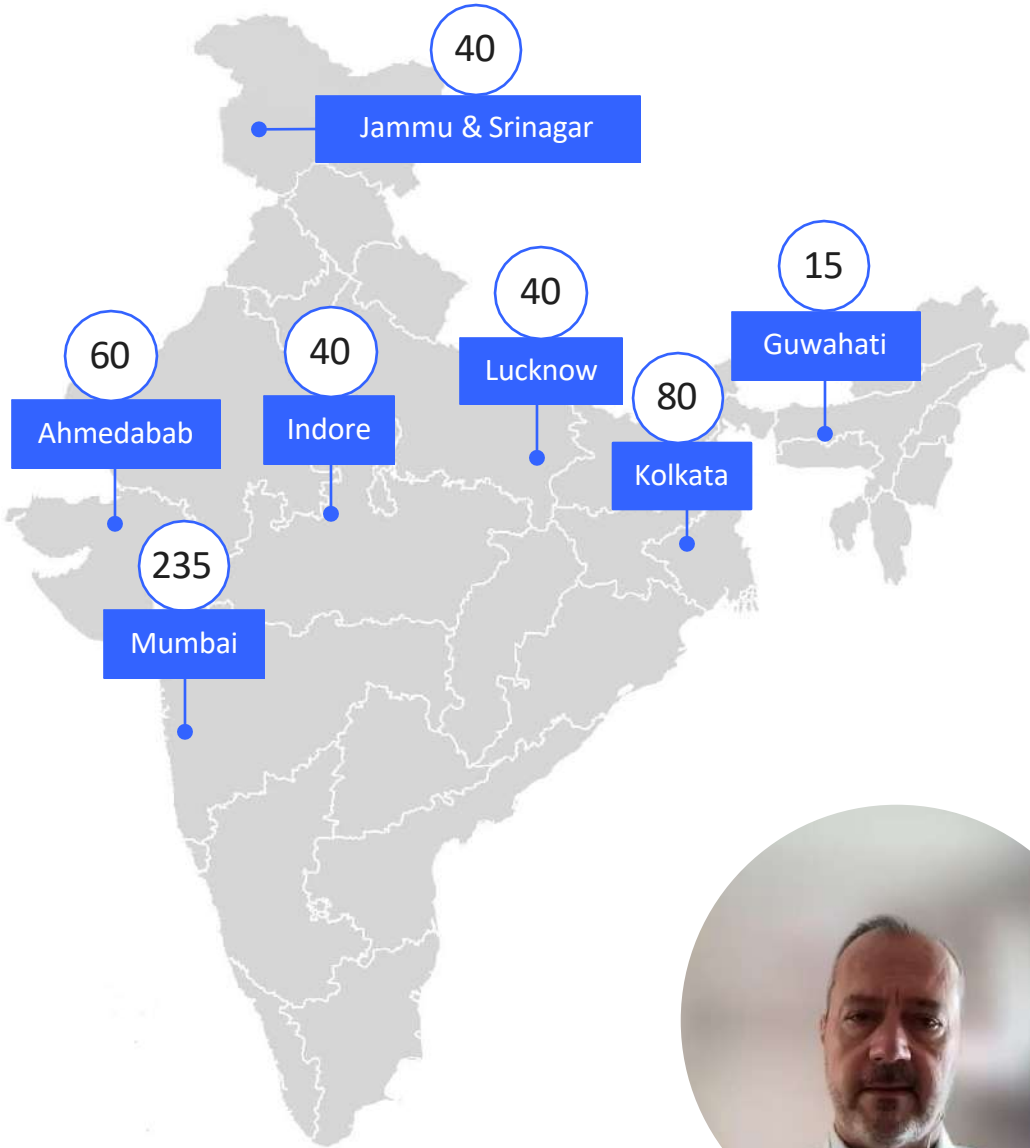
1.39+ GWh in the field

4,000+ buses

60+ cities in active service

Batteries on Indian roads since 2020

More than 1 billion kilometers driven



Thank You!



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