



**HILLCREST**  
energy technologies™

# INVESTOR PRESENTATION

December 7, 2023

ENERGY SOLUTIONS POWERING THE FUTURE

# Forward Looking Statement Notice

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Generally, forward-looking information can be identified by the use of forward-looking terminology such as "plans", "expects", or "does not expect", "is expected", "budget", "scheduled", "estimates", "projects", "targets", "forecasts", "intends", "anticipates", or "does not anticipate", or "believes" or variations (including negative and grammatical variations) of such words and phrases or state that certain actions, events or results "likely", "may", "could", "would", "might", or "will be taken", "occur", or "be achieved". Forward-looking information is based on opinions and estimates of management at the date the information is made, and is based on a number of assumptions and is subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward looking information, including without limitation: (i) commodity prices; (ii) the willingness and ability of third parties to honor their contractual obligations; (iii) the decisions of third parties over which the Company has no control; (iv) environmental and government regulations; (v) availability of financing; (vi) judicial proceedings, (vii) force majeure events; (viii) risks associated



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Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such information. Accordingly, readers should not place undue reliance on forward-looking information contained in this Presentation or in certain of the other documents on file with Canadian securities regulatory authorities, which are available on the Company's SEDAR+ profile at [sedarplus.ca](https://sedarplus.ca). The Company and its directors, officers and employees each disclaim any obligation to update any forward-looking statements, whether as a result of new information, future events or results or otherwise, except as required by applicable law. Accordingly, readers should not place undue reliance on forward-looking statements due to the inherent uncertainty therein. All forward-looking information is expressly qualified in its entirety by this cautionary statement.

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There is an offering document related to this offering that can be accessed under the Company's SEDAR+ profile at [sedarplus.ca](https://sedarplus.ca) and the Company's website at <https://hillcrestenergy.tech/>. Prospective investors should read this offering document before making an investment decision.

**No securities regulatory authority has expressed an opinion about these securities and it is an offence to claim otherwise. This offering may not be suitable for you and you should only invest in it if you are willing to risk the loss of your entire investment. In making this investment decision, you should seek the advice of a registered dealer.**

# Investment Highlights



## THE FIRST TO MARKET WITH A REVOLUTIONARY INVERTER TECHNOLOGY PLATFORM

- Highly differentiated combination of **proprietary hardware and control firmware** offering next-generation power conversion capabilities
- **Adaptable to numerous, fast-growing market segments** such as e-mobility and grid-connected power generation and storage
- **Growing IP portfolio 100% owned by Hillcrest**



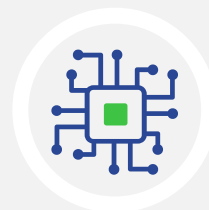
## NEXT-GENERATION CAPABILITIES + US\$2,200 SAVINGS PER VEHICLE

- New levels of power density, efficiency, performance, and reliability
- **99.6% inverter efficiency** offers a significant advantage compared to conventional inverters on the market



## SPEED TO MARKET

- Asset-light business model
- **Multiple co-development projects underway** offering clear pathway to commercialization
- **Ability to scale revenue quickly** with potential OEM partnerships



## SIGNIFICANT TECHNOLOGY AND INDUSTRY EXPERIENCE

- Nearly **100 years of combined automotive sector experience**
- More than **50 years of combined grid-connect power system experience**
- More than 125 combined years of power electronics and power control experience



# What is a Power Inverter?

## Essential to Electrical Systems



**An inverter** is a power electronic device that converts direct current (DC) power to alternating current (AC) power

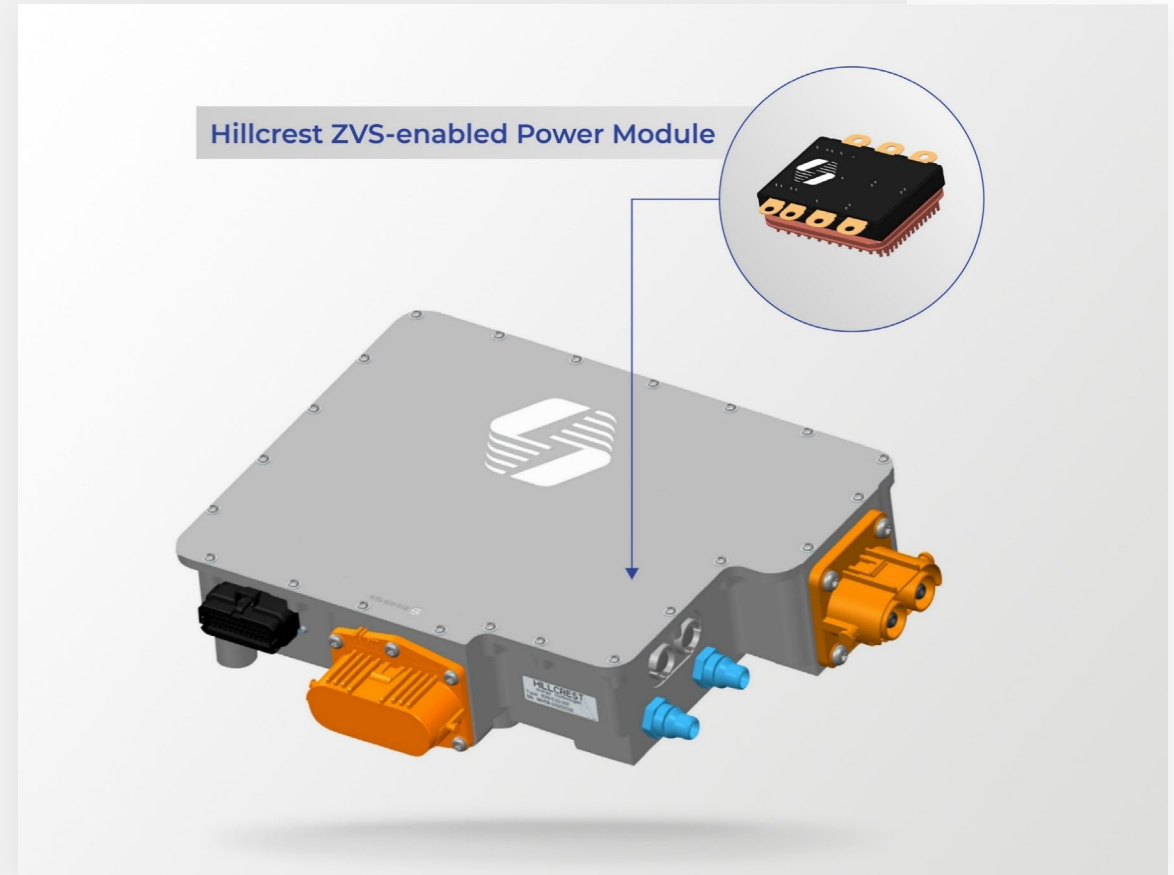


Source can be found [here](#)

# Hillcrest EV Traction Inverter

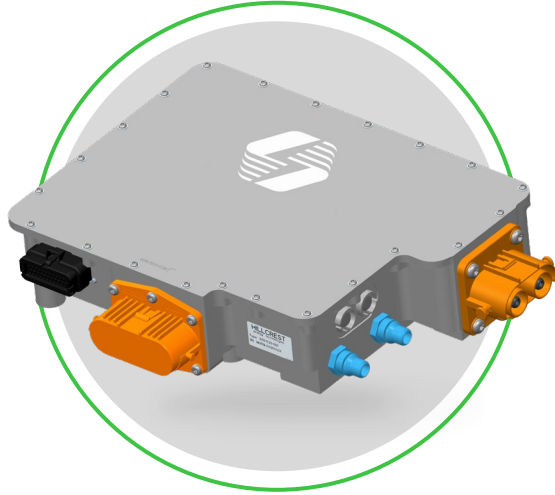
## Nominal 350kW | 800V Silicon Carbide Inverter

- Most efficient inverter available (99.6%)
- ZVS technology eliminates switching losses
- Higher switching frequencies offer the potential to increase motor efficiency
- Proprietary combination of Hillcrest hardware and ZVS software can operate with virtually any motor
- Includes first-of-its kind ZVS-enabled power module



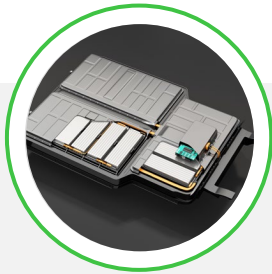
# Benefits Across the Entire Powertrain System

## EVs - First Application of Hillcrest ZVS Technology



### POWER INVERTER

- Inverter efficiency of  $\approx 99.6\%$
- Up to 50% reduction in size of DC-link capacitors
- Optimized use of semiconducting materials



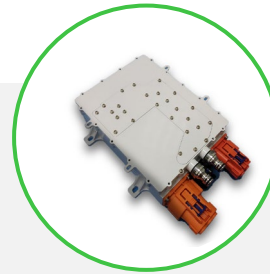
#### **Traction Battery Pack\***

Up to 15% reduction in size of battery pack



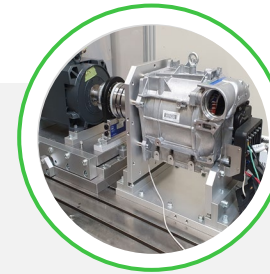
#### **Charger**

Expanded charging capabilities



#### **Onboard Charger**

Elimination of onboard charger



#### **Traction Motor**

Efficiency gains of up to 13% (partial load) can generate up to up to 26% improvement in range; enables new advancements in motor technologies



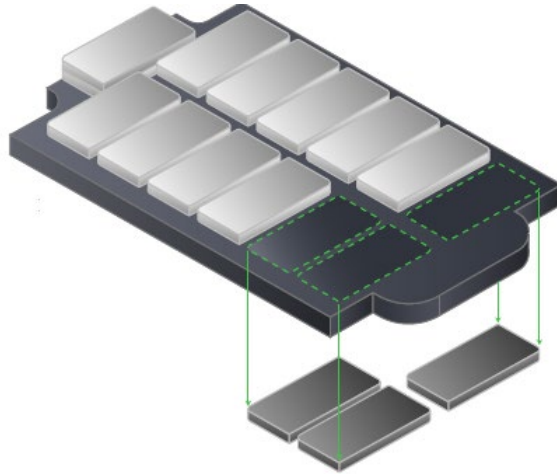
#### **Emi Shielding**

Reduction in EMI shielding/filters and improved system reliability

\*Estimates based on battery pack size of 75 kWh, weight of 2,000 lbs. and cost of \$132/kWh

# Supply Chain Impact

## Hillcrest ZVS Traction Inverter



**UP TO US\$1,500  
SAVINGS  
in battery costs\***

**UP TO 300 POUND  
REDUCTION  
in battery weight\***

**UP to  
15%\***

- Fewer battery cells
- Reduction in complexity of battery system
- Reduction in end-of-life battery waste
- Reduction in critical EV Battery minerals needed per vehicle
- Reduction in upstream GHG emissions associated with supplying critical EV battery minerals

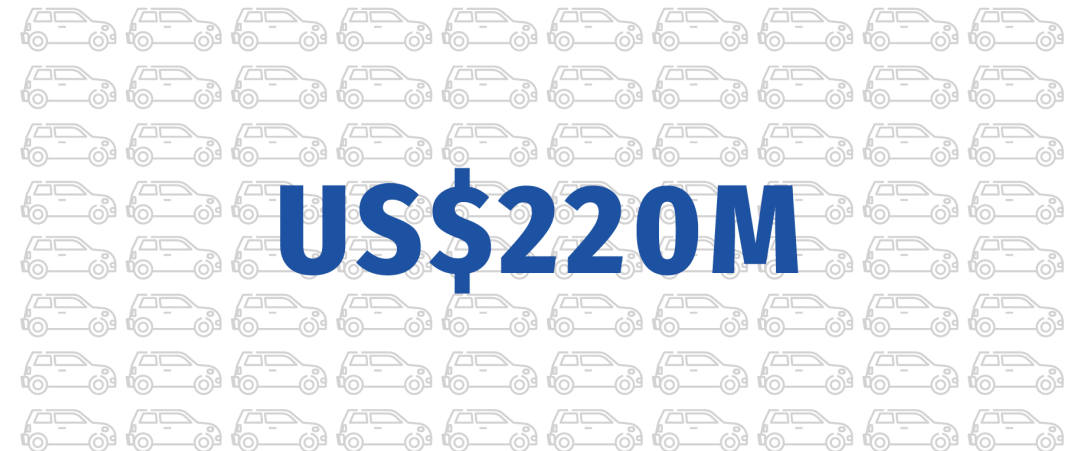
\*Estimates based on battery pack size of 75 kWh, weight of 2,000 lbs. and cost of \$132/kWh



**US\$2,200**

Costs saving  
per vehicle

**Combined savings of**  
up to US\$1,500 in  
battery pack savings\*  
plus up to \$700 in  
other cost of materials  
savings

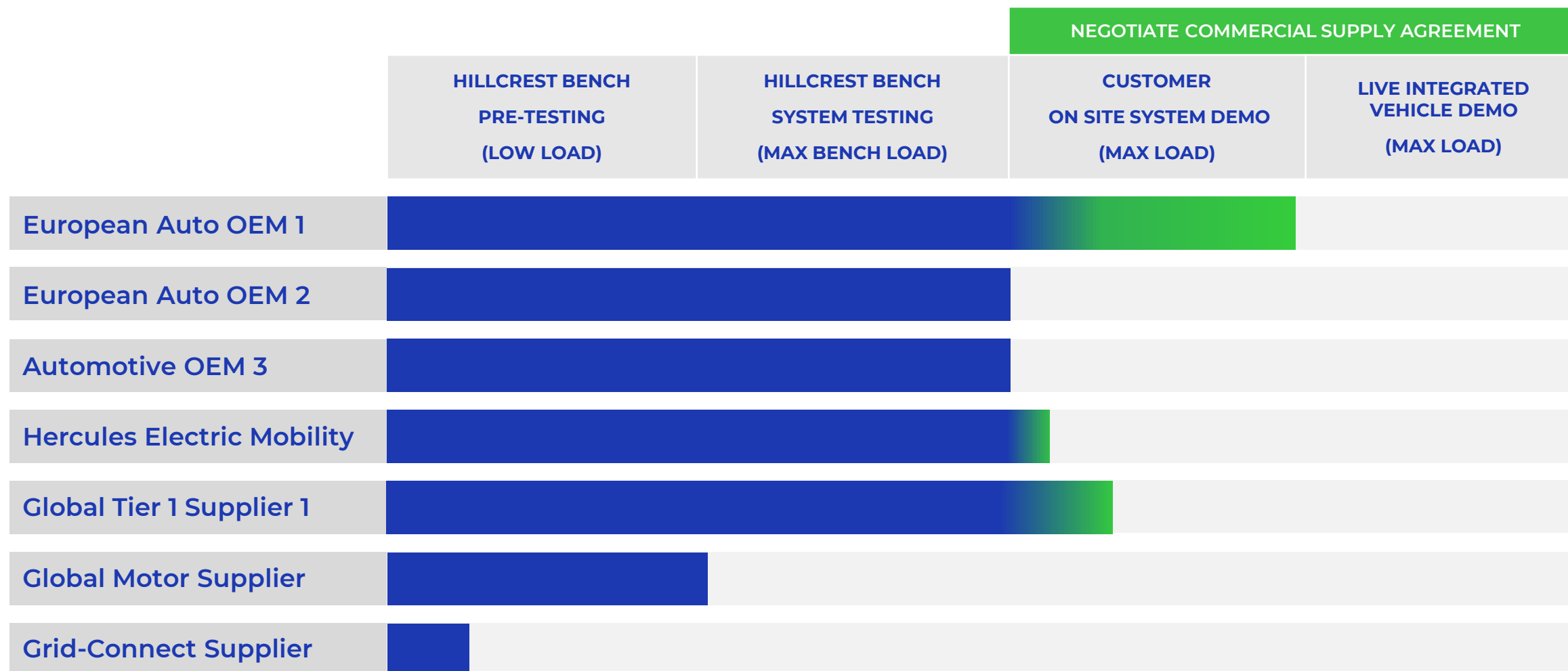


**US\$220M**

Costs saving for a **100,000-vehicle model run**

# Commercialization Update

## Updates on Current Commercial Engagements

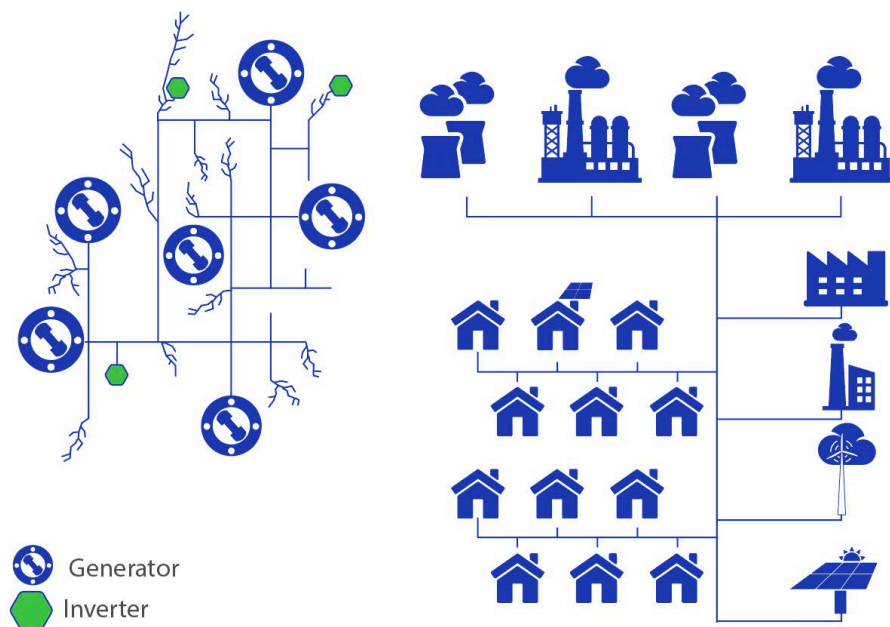




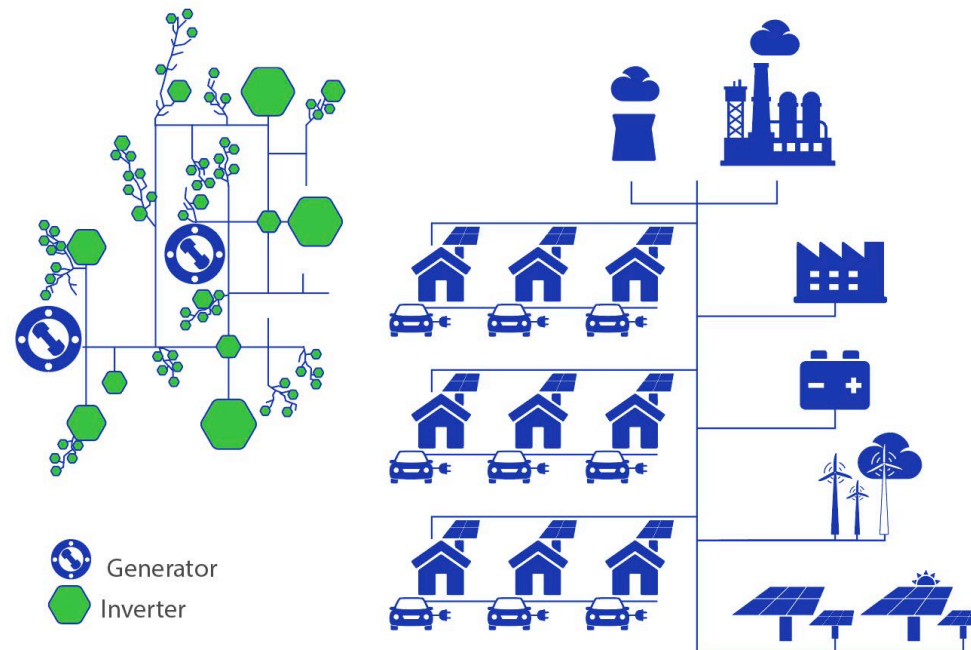
# Hillcrest ZVS Inverter + Future Grid

## Potential for Gigawatts of Annual Power Savings

### PRESENT



### FUTURE



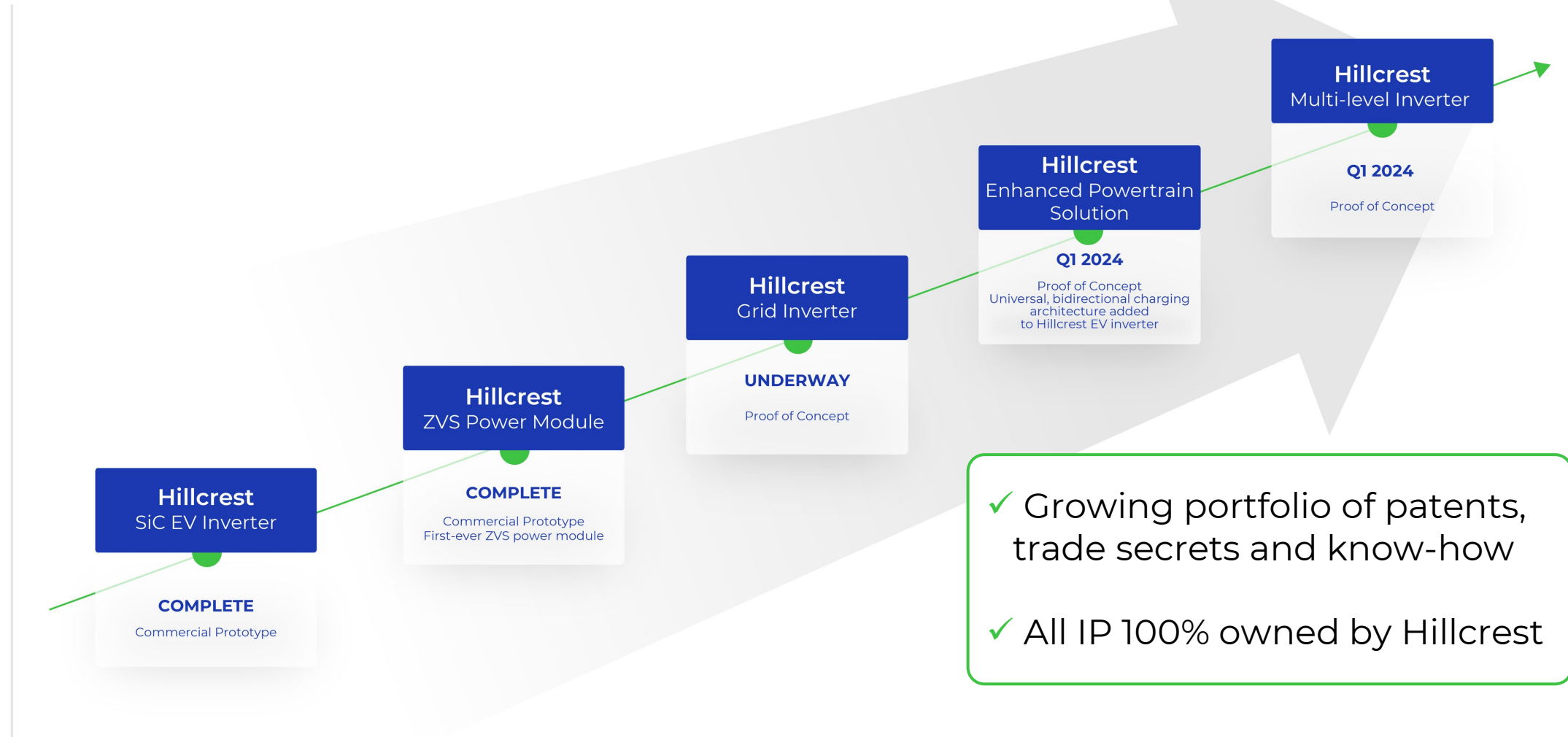
#### Higher Switching Frequencies + No Switching Losses = Greater Efficiency

- Reduction in demand for new power generation capacity
- Reduction in capital expenditures
- Consumer energy cost savings

Source: "Achieving a 100% Renewable Grid – Operating Electric Power Systems with Extremely High Levels of Variable Renewable Energy," <http://ieeexplore.ieee.org/document/7866938/>

# Product Roadmap

## One ZVS Technology Platform - 5 Product Deployments



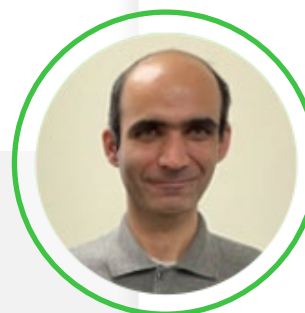
## Core Technical Team



### ARI BERGER

Hillcrest Chief Technology Officer

Expert in electric machine control technologies, systems engineering and multi-disciplinary product design; more than 10 years of commercial experience with a track record of deploying new technologies and go-to-market strategies, specifically in the sector of electrification.



### DR. JALAL AMINI

Hillcrest Senior Power Electronics Engineer

Senior power electronics engineer, possessing superior knowledge and experience in grid applications, power quality and renewable energies. He has designed and implemented a variety of power electronic devices including grid-connected devices such as a wind energy converter, active filters, fast chargers and energy storage systems, induction motor drives, and multilevel converters.



### HARALD HENGSTENBERGER

Managing Director, Owner & Founder,  
Systematec GmbH

Leader of the Systematec team and established electrical engineer with more than 25 years of experience designing, manufacturing, testing and validating hybrid and electric vehicle powertrains



### JAMES HAMOND

Hillcrest Senior Technical Consultant

Having worked in the consumer, industrial and defense sectors, Mr. Hamond is a jack-of-all-trades, spanning hardware, embedded software, control and adaptive algorithms, register-transfer level (RTL), thermal management and mechanical design. He has worked with soft switching systems for over 15 years, most recently as CTO and co-founder of Pre-Switch Inc.

## Advisors



**DAN COKER**  
Hillcrest Strategic Advisor

Veteran automotive executive and pioneering entrepreneur possessing exceptional leadership capabilities and global network. During his 20+ years as president and CEO of Gentherm, Mr. Coker stewarded remarkable growth from inception to a \$1 billion enterprise that fundamentally altered automotive thermal management.



**DR. HEINZ-GEORG BURGHOFF**  
Hillcrest Commercialization Consultant

Automotive business and product strategy expert in vehicle electronics. Dr. Burghoff spent over 20 years with DaimlerChrysler AG, where he held various management positions in passenger car development, heading up electric/electronic development as well as directing battery technology and strategy.

# Capital Overview

As of December 5, 2023

Stock Listing	CSE: HEAT OTCQB: HLRTF FRA: 7HI
Basic Shares Outstanding	66.5M
Fully Diluted Shares Outstanding	91.2M
Warrants Outstanding (Average CAD\$1.68)	16.1M
Options Outstanding	3.7M
Restricted Stock Units	4.9M
Market Cap (December 5, 2023)	US\$22M
3-month Daily Average Trading Volume	64,960

## Ownership

Insider Ownership	11%
New York Family Office	4.9%
German Advisor to the Company	5%
Close Business Associates	16%
Retail Investors	63.1%



## Summary

100%

OWNED IP  
PORTFOLIO

99.6%

~ PEAK INVERTER  
EFFICIENCY



\$2,200

US DOLLARS SAVINGS  
PER VEHICLE

7

CO-DEVELOPMENT  
PROJECTS WITH EV AND  
GRID-CONNECT POWER  
SYSTEM PARTNERS



**HILLCREST**  
energy technologies™

## CONTACT US



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<https://hillcrestenergy.tech>

# THANK YOU!

ENERGY SOLUTIONS POWERING THE FUTURE



# Benefits Across the Entire Powertrain System

## EVs - First Application of Hillcrest ZVS Technology

Current E-Mobility Challenge	Hillcrest ZVS Technology Solution	Customer Benefit
<b>Range</b>	Up to 13% improvement in motor efficiency (partial load) for increased range of up to 26%	Up to 26% improvement in range
<b>Performance (Power)</b>	Up to 13% improvement in system-efficiency for increased power and better motor control	Up to 13% improvement in power and capacity
<b>Battery Weight*</b>	Up to 15% reduction in battery pack	Up to 300 lbs and US\$1,500 cost savings
<b>Cost of Materials</b>	Up to 50% reduction in capacitor size, reduction in EMI shielding	Up to US\$500 cost savings
<b>System Complexity</b>	Elimination of onboard charger and booster with deployment of Enhanced Powertrain Solution	Up to US\$200 cost savings
<b>Charging Accessibility</b>	Improved charging efficiency, speed and access at varying power levels (i.e. charging 800V vehicle on existing 400V chargers)	Up to 14% faster charging across a wider range of charging options

\*Estimates based on battery pack size of 75 kWh, weight of 2,000 lbs. and cost of \$132/kWh

# Hillcrest + Systematec GmbH

## Our Strategic Partnership



### Joint Development

- ✓ Continuous collaborative agreement
- ✓ Hillcrest directs projects and owns IP
- ✓ Seamless integration with Hillcrest engineering team



### Capabilities

- ✓ Full spectrum power electronics engineering services based in Germany
- ✓ 13-member multi-disciplinary team with extensive industry experience
- ✓ Comprehensive insight into EV industry



### Relationships

- ✓ Customers include numerous automotive OEM's and tier 1 suppliers
- ✓ Extensive industry network in auto, electrical & electronics
- ✓ Impeccable reputation

Learn more about Systematec: [Systematec GmbH](#)

## Executive Team



**DON CURRIE**

CEO and Director

Trusted relationship and business builder with decades of North American equity markets exposure and public company financing success. Extensive experience owning and operating private businesses and serving on select public company boards.



**Daryn Gordon**

Chief Financial Officer

Chartered Professional Accountant (CPA, CA) with more than two decades of public company practice. Mr. Gordon started his career with global auditing firms Grant Thornton LLP and PwC Canada and transited to providing CFO services to Canadian public companies 14 years ago.



**JAMES BOLEN**

Chief Commercialization Officer

Veteran executive who is expert at leading innovation teams from concept development to commercial success. Mr. Bolen is the former president and CEO at Global Power Technologies USA, a global leader in ultra-reliable power systems for remote industrial architecture.



**JAMIE L. HOGUE**

Chief Operating Officer

More than 20 years of progressive experience in organizational development, operational management and policy leadership. Throughout her career, she's built diversified expertise in energy, water, natural resource and sustainability policy, communications and practice.



**ARI BERGER**

Chief Technology Officer

Expert in electrical machine control technologies, systems engineering and multi-disciplinary product design; over a decade of commercial experience with a track record of deploying new technologies and go-to-market strategies.



## Board of Directors



### DAVID FARRELL

Independent Chair

Mr. Farrell (B.Comm (Finance), LL.B, ICD.D) Mr. David Farrell is a corporate director with over 25 years of corporate and investment banking experience, and has negotiated, structured and closed more than US\$25 billion worth of M&A and structured financing transactions for numerous junior companies.



### MICHAEL MOSKOWITZ

Independent Director

Seasoned technology executive and previous leader of Panasonic's North American business operations. Mr. Moskowitz enables technological innovation in key areas, such as sustainable energy, smart mobility, immersive experiences, integrated supply chain and consumer lifestyle.



### DON CURRIE

CEO and Director

Trusted relationship and business builder with decades of North American equity markets exposure and public company financing success. Extensive experience owning and operating private businesses and serving on select public company boards.



### KYLIE DICKSON

Independent Director

Canadian CPA who has played a pivotal role in multiple financings and M&A transactions. She was previously VP of Business Development at Equinox Gold Corp., VP Business Development at Trek Mining, CFO for JDL Gold Corp., Anthem United Inc. and Esperanza Resources, and served as the Corporate Controller of Minefinders Corporation.

## Board of Directors (Continued)



**MICHAEL KRZUS**

Director

Former CEO and Director of NYSE listed company with 38 years energy industry experience including senior technical and executive management positions with both large and small publicly listed companies in Canada, USA, Australia and the Netherlands.



**ROBERT LAMBERT**

Independent Director

Currently Deputy Chairman of Jadestone Energy Inc., founder of Ipex Energy Ltd. And a partner in Oilfield Capital International LLP. Over the past 12 years held positions of CEO of Petra Petroleum Inc., Senior Independent Director of Eland Oil & Gas PLC, CEO of GB Petroleum Ltd., and previously held various executive management and senior operational roles with Conoco Inc. over a 25-year international career.



**TOM MILNE**

Independent Director

Senior financial executive with extensive international experience in energy E&P, pipelines, oil sands & communication technology; served as director of both public and private companies including chairman of audit committee for AMEX-listed oil sands company.