



**HILLCREST**  
energy technologies™

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CSE: HEAT  
OTCQB: HLRTF  
FRA: 7HIA.F

## **HILLCREST DEMONSTRATES INVERTER EFFICIENCIES**

### ***SUCCESSFUL SOFT-SWITCHING RESULTS DRIVE DOWN CRITICAL SWITCHING LOSSES***

- Hillcrest high efficiency inverter achieves reduction in switching losses of +90% compared to conventional, hard-switched inverters.
- Results signify additional milestone on path to commercialization.
- Unmatched efficiencies deliver opportunity for higher power density, lower cost and weight and better power quality and performance in future EV's.

**VANCOUVER, BC, July 13, 2022** – via InvestorWire – Hillcrest Energy Technologies (CSE: HEAT) (OTCQB: HLRTF) (FRA: 7HIA.F), a clean technology company developing transformative power conversion technologies and control system solutions for next-generation EVs and electrical systems, has completed proof of concept testing that demonstrates the elimination of switching losses with its traction inverter.

A comparison of losses between soft-switching and hard-switching was calculated by Hillcrest. The system was tested with 470V DC-link voltage under 5A load with 20kHz switching frequency. The Hillcrest inverter achieved an average of more than 90% fewer switching losses and a roughly 90% reduction in dV/dt compared to the conventional, hard-switched inverters found in many EVs today.

The company includes details of the soft-switching testing and results in an update of its previously released technical whitepaper available for download [at the Hillcrest website](#). While previous testing had confirmed the efficiency of total inverter losses, the new tests looked specifically at the efficiencies gained via Hillcrest's mastery of soft-switching.

Electric motors currently used in EV powertrains operate within a switching frequency range of 8kHz to 16kHz, due to the historic trade-off between the best possible switching behavior and acceptable thermal losses. The ability of the Hillcrest high-efficiency inverter to soft-switch at much higher frequencies without generating additional losses will allow motor manufacturers to take advantage of new motor concepts not previously available to them.

“These test results represent another milestone on the pathway to commercialization of our traction inverter,” said Don Currie, CEO of Hillcrest Energy Technologies. “It’s an exciting step that proves we’re on the right track to providing the optimal inverter technology that will help make the next generation of EVs even more efficient and more powerful.”

Leveraging the Hillcrest traction inverter in an EV powertrain is intended to improve overall system-level performance. A system with higher power density, lower cost and weight, and better power quality and performance could play an integral part in delivering a vehicle with more power, more payload capability and increased range.

“With these new test results in hand, we can more clearly demonstrate that zero-voltage switching (“ZVS”) is both feasible and it offers several cost and performance benefits relative to overall system size, complexity and weight of future electric vehicles,” stated Ari Berger, Hillcrest CTO.

The successful tests completed thus far with the Hillcrest proof of concept are important steps in the commercialization testing protocol. Testing of the Hillcrest 250kW 800V commercial prototype traction inverter is currently underway, with a final prototype ready for delivery to customers in the fourth quarter of this year. The Company intends to provide an update on the progress of the commercial prototype shortly.

### **Additional updates**

- Hillcrest has added a new member to its technical team, Ronald Rebeiro. Ronald holds a Ph.D in electrical and electronics engineering and brings experience in electrical machine design and motor drives. He will focus primarily on engineering project management and testing activities at Hillcrest’s Vancouver tech development lab.
- Effective July 1, 2022, Hillcrest has entered into a 6-month agreement with IBN, Investor Brand Network, to increase exposure to retail investors in the United States. IBN is a multifaceted communications organization with an investor-based distribution network that connects companies to the investment community through a syndication network of 50-plus trusted web brands. Hillcrest will pay US\$29,000 per quarter for these services, with no shares, options or other equity being issued in relation to this agreement.

### **About Hillcrest Energy Technologies**

Hillcrest Energy Technologies is a clean technology company developing high value, high performance power conversion technologies and digital control systems for next-generation powertrains and grid-connected renewable energy systems. From concept to commercialization, Hillcrest is investing in the development of energy solutions that will power a more sustainable and electrified future. Hillcrest is publicly traded on the CSE under the symbol “HEAT,” on the OTCQB Venture Market as “HLRTF” and the Frankfurt Stock Exchange as “7HIA.F.” For more information, please visit: <https://hillcrestenergy.tech/>.

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