



HILLCREST
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CSE: HEAT
OTCQB: HLRTF
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***HILLCREST HIGH-EFFICIENCY INVERTER ENABLES SIGNIFICANT
IMPROVEMENT IN ELECTRIC MOTOR EFFICIENCY***

- Internal testing of Hillcrest high-efficiency inverter with 80kW electric motor achieves impressive motor efficiency gains
- Test results confirm ability of Hillcrest inverter technology to improve electric motor efficiency when using high switching frequencies
- First technical whitepaper will be released on Thursday, April 21

VANCOUVER, BC, April 14, 2022 – 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 electrical systems, has completed initial internal testing of its high-efficiency inverter with an electric motor and will release the results in an upcoming whitepaper on Thursday, April 21.

Internal tests announced previously have already confirmed the ability of the Hillcrest inverter technology to achieve efficiencies exceeding 99% at switching frequencies up to 60 kHz.

New tests were performed using the 10kW Hillcrest high-efficiency inverter proof of concept on an 80kW electric motor currently used in EV powertrain applications. After running efficiency tests on the motor to establish a performance baseline at the 10kHz switching frequency, the same tests were run at 20kHz, 40kHz and 60kHz. Results showed motor efficiency improvements at each increased switching frequency level, confirming the ability of the Hillcrest technology to leverage higher switching frequencies without generating additional losses/heat, thereby enabling the electric motor to operate at higher efficiency levels.

“Currently, electric motors used in electric vehicle powertrains operate within a switching frequency range of 8kHz to 16kHz due to the historic tradeoff between the best possible switching behavior and acceptable thermal losses,” said Harald Hengstenberger, managing director and founder of Systematec GmbH, a strategic partner to Hillcrest and current power electronics design house to the German automotive industry. “The ability of the Hillcrest high-efficiency inverter to operate at much higher switching frequencies without generating additional losses will now allow motor manufacturers to take advantage of new motor concepts not previously available to them.”

Leveraging the Hillcrest traction inverter to improve motor efficiency in an electric vehicle powertrain has the potential to reduce motor size and cooling requirements and increases power density. In an electric vehicle, this can result in more power, more payload capability and increased range.

“We are thrilled to see these initial tests not only validate but exceed our expectations in demonstrating the ability of the Hillcrest traction inverter to increase the efficiency in electric vehicle and motor applications,” said Hillcrest Energy Technologies CTO Ari Berger. “Combined with our existing test results confirming inverter efficiency exceeding 99% at switching frequencies up to 60 kHz, we are one step closer to demonstrating the ability of our technology to anchor the next generation of highly efficient, high-performance powertrain systems.”

The successful tests completed thus far with the Hillcrest proof of concept are the first steps in the commercialization testing protocol. Testing of the Hillcrest 250kW 800V commercial prototype inverter will commence in the coming months with delivery of a working prototype expected this fall.

While this specific testing demonstrates Hillcrest’s efficiency targets in the EV powertrain application, the results indicate similar potential for other target applications, such as grid-tied renewables, charging and storage systems, and other high voltage/high power applications. As the world moves towards clean energy and electrification in a variety of sectors, these systems must be as efficient as possible. Future testing will be tailored to these additional applications.

The company’s initial technical whitepaper detailing Hillcrest’s inverter testing to date will be published on the Hillcrest website on Thursday, April 21.

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 the 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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