



HELLA Launches Nickel-Zinc Product Evaluation for 48V Mild Hybrid Vehicles

Tier 1 automotive supplier to study advantages of PowerGenix's NiZn batteries in 48V systems

San Diego, CA

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PowerGenix, the leading developer of high performance Nickel-Zinc (NiZn) batteries, today announced that it has signed a product evaluation contract with [HELLA](#), a direct (tier 1) supplier to major automotive manufacturers worldwide. HELLA will conduct real-world vehicle tests to evaluate Nickel-Zinc's ability in meeting the high-power requirements of 48-volt mild hybrid systems, while substantially reducing overall system complexity and cost.

"Nickel-Zinc could offer some unique benefits in 48-volt systems" said Dr. Marc Nalbach of HELLA. "It's inherently very safe and also promises to provide equivalent emissions reductions, but at a lower cost. We believe our evaluation will open up a lower cost product to our OEM customers interested in reaching the fuel economy gains offered by 48-volt mild hybrid systems."

Micro hybrid vehicles are traditional gasoline or diesel powered cars with automatic, battery powered stop-start systems that shut off the engine while the vehicle is at rest and restart it upon re-engaging the gas pedal. Mild hybrids take fuel economy one step further by allowing the engine to be turned off while coasting, which enhances the stop start application as well as enabling high power regenerative braking. In addition, a starter alternator motor is used to supplement the internal combustion engine with some level of power assist during acceleration.

High rate, high power capabilities are critical to the performance of 48-volt systems, but cost and complexity (safety) of Li Ion battery technologies capable of meeting such requirements pose the biggest challenge to their widespread adoption. Advanced battery solutions such as NiZn offer a promising alternative, while meeting both the cost and technical performance targets of mild hybrids.

"HELLA has built a worldwide reputation for high quality automotive systems and innovative new technologies," said PowerGenix's Director of Business Development, Salil Soman. "We look forward to collaborating to demonstrate that NiZn is capable of meeting all the needs of mild hybrids while offering considerable improvements in cost."

HELLA is a world leader in providing Intelligent Battery Sensors (IBS), DC/DC converters and automotive energy management products for micro hybrid vehicles for the world's leading automotive OEMs (Original Equipment Manufacturers).

The market for micro hybrid and mild hybrid vehicles is on track to grow nearly eightfold to 39 million vehicles in 2017, driving a \$6.9 billion market for energy storage devices, according to a 2012 Lux Research report on micro and mild hybrids.

About PowerGenix

PowerGenix has developed and patented a high-power and low-cost Nickel-Zinc battery for power intensive electronics, outdoor equipment, power tools and hybrid electric vehicles (HEVs). PowerGenix Nickel-Zinc batteries are a higher performing and environmental friendly replacement for Nickel-Cadmium and Nickel Metal Hydride batteries in the multi-billion dollar rechargeable battery market--providing a smaller, lighter and highly recyclable alternative to existing technologies. For more information, please visit <http://www.powergenix.com>.

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