LaunchPoint Technologies Announces New High Efficiency, High Power Density, Halbach Array Electric Motor

LaunchPoint Technologies, Inc. has completed optimization and initial prototyping for a high efficiency, high power density, Halbach array electric motor. With a total weight of only 1.4 pounds, this electric motor produces 7 horsepower at 8400 rpm with 95 percent efficiency. Although the current design is only 6 inches in diameter and less than 1 inch thick, this high power density motor design can be scaled and adapted for larger electric vehicle applications. At 5 horsepower per pound, this electric motor has a higher power density than any other electric motor on the market.

Santa Barbara, CA (PRWEB) September 21, 2009 -- LaunchPoint Technologies, Inc. has completed optimization and initial prototyping for a high efficiency, high power density, Halbach array electric motor. With a total weight of only 1.4 pounds, this electric motor produces 7 horsepower at 8400 rpm with 95 percent efficiency. At 5 horsepower per pound, this electric motor has a higher power density than any other electric motor on the market. The brushless, axial flux permanent magnet design is highly tolerant of temperature and centrifugal effects, and the ironless rotor and stator eliminate iron eddy current and hysteresis losses.

Although the current design is only 6 inches in diameter and less than 1 inch thick, this high power density electric motor design can be scaled and adapted for larger electric vehicle motor applications such as: electrically-powered and hybrid UAVs; electrically-propelled manned aircraft and underwater vehicles; wheel motors for automobiles and motorcycles; and wheel motors for scooters, bicycles, and other lightweight transportation devices.

Designed and developed by LaunchPoint Senior Systems Engineer, Geoff Long, the new high efficiency electric motor will enable applications not previously possible. With the move to electrically-powered vehicles of all types, LaunchPoint's motor technology is timely. "Highly efficient and lightweight electric motors are needed now more than ever, and that's exactly what LaunchPoint's technology delivers," notes Long. "LaunchPoint's electric motor technology squeezes more power out of a smaller package and at a higher efficiency than any other motor on the market."

LaunchPoint received initial development funding through a Phase I Small Business Innovation Research (SBIR) grant from the Defense Advanced Research Projects Agency (DARPA). DARPA is interested in using the motor in electrically-propelled Unmanned Aerial Vehicles (UAVs). The light weight and high power density provided by this new electric motor design enable an extended battery life, longer ranges, and larger payloads.

Continuing development funding is being sought from NASA and the Department of Defense. Several defense manufacturers and multiple branches of the US military have recently expressed specific interest in this motor design. The LaunchPoint Halbach array electric motor, with its ideal combination of power, efficiency and light weight, offers the best solution for applications where performance is critical.

LaunchPoint's Electric Motor Design Experience
LaunchPoint Technologies has a long history of electromagnetic technology development that includes rotary and linear motors as well as magnetic bearings, voice coil actuators, maglev vehicle suspensions, eddy current sensors, and wireless MEMS pressure sensors. Our engineering team focuses on optimization and high-performance applications, including: implantable magnetically-levitated rotary blood pumps; high-speed energy storage flywheels; and linear synchronous motors for maglev vehicles.

About LaunchPoint Technologies, Inc.

LaunchPoint Technologies is an engineering services and design firm that specializes in technology and product development. We have extensive experience in motor/generator design and development, medical device design and development, and maglev technologies. Our staff includes product and system designers, physicists, and engineers from a wide array of disciplines. LaunchPoint's areas of expertise include: systems engineering, electrical & electronic engineering, mechanical engineering, biomedical engineering, security systems, MEMS devices, materials science, safety-critical fail-op/fail-safe systems, battery safety-reliability & availability electronics, and circuit design. Our business models include: engineering consulting; technology development with SBIR grants; and equity-exchange for engineering work on promising technologies. As 'Venture Engineers' we invest our engineering expertise in proof-of-concept modeling and prototype design, secure IP, and assist with grant-writing and/or venture capital solicitation.

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