



GE's Uninterruptable Power Supply Technology Receives an "eBoost™" with ecomagination™ Qualification

- *GE's SG Series UPS Receives ecomagination™ Qualification*
- *Innovative eBoost Software Increases UPS Efficiency up to 99 Percent*

ATLANTA—April 16, 2012—As energy-demanding datacenters become more prevalent and widely utilized around the globe, finding innovative ways to increase efficiency in existing power supply technologies becomes a necessity. GE Energy's (NYSE: GE) newly ecomagination™-qualified eBoost™ software provides datacenters and IT organizations a way to reduce energy consumption and cost without sacrificing reliability.

The eBoost software has received ecomagination qualification for improving the efficiency of GE's 225-750 kVA SG Series Uninterrupted Power Supply (UPS) modules. The eBoost software has the ability to increase efficiency from 92-94 percent to 98-99 percent.

The cost and availability of energy for power-hungry computers is a growing concern. National governments and energy industry leaders agree that finding ways to control energy demand while at the same time reducing the nation's carbon footprint is a must. Data centers are estimated to consume 2 percent of the U.S. electrical grid's capacity resulting in \$2 billion per month in utility bills. According to a McKinsey & Company study, estimates of carbon dioxide (CO₂) emissions from data centers will quadruple and exceed emissions from the airline industry by 2020 due to the rapid growth in global demand for computing power¹.

While most of the industry effort has previously been focused on improving the efficiency of information technology (IT) and cooling equipment, UPS is now in the spotlight for energy optimization with manufacturers such as GE².

"Energy consumption is a critical issue for IT organizations as their data center energy demands continue to grow," said Riccardo Rutili—Digital Energy's general manager for Power Quality. "If the data center industry adopted UPS high-efficiency mode as normal operation, the impact would be significant. For a typical enterprise-class data center with a 5-megawatt load, this can reduce annual energy consumption by more than 3.6 million kWh, or \$360,000 at \$.10/kWh, assuming 50 percent cooling effectiveness and 50 percent operating load for a typical data center."

[GE's eBoost](#) provides UPS modules with high efficiency and fast power transfers. It allows a bypass of the power conversion process under normal power system conditions, which in turn saves energy. eBoost software continuously monitors utility power quality and activates double conversion mode only when utility power quality falls outside of data center power quality requirements, reducing the amount of time spent in a less efficient traditional "double conversion" mode. The transfer from the high-efficiency mode to inverter can be completed within 2 milliseconds of eBoost recognizing a

¹ Source: [DEA-543 © 2012 General Electric Company](#)

² Source: Department of Energy 2011

system failure to meet power requirements. This “multi-mode” energy efficient operating mode for UPS is included in the [Green Grid Data Center Maturity Model](#) as a recommendation for improving data center energy efficiency. The eBoost software also increases reliability and redundancy by enabling up to six UPS modules in parallel operation and by eliminating single points of failure.

The U.S. Department of Energy is focused on green initiatives to improve energy efficiency and has set a target of creating energy savings of 10 percent overall in U.S. data centers, the equivalent of electricity consumed by 1 million typical U.S. households. Based on Frost & Sullivan’s UPS World Reports, replacing the existing installed base of legacy double conversion UPS with those operating in high-efficiency multi-mode would generate at least 4,000 megawatts of energy savings, which would produce annual energy cost savings of more than \$3 billion per year.

GE’s Digital Energy business is a global leader in protection and control, communications, power sensing and power quality solutions. Its products and services increase the reliability of electrical power networks and critical equipment for utility, industrial and large commercial customers. From protecting and optimizing assets such as generators, transmission lines and motors, to ensuring secure wireless data transmission and providing uninterruptible power, GE’s Digital Energy business delivers industry-leading technologies to solve the unique challenges of each customer. For more information, visit <http://www.gedigitalenergy.com>.

About ecomagination

ecomagination is GE’s business strategy to help customers meet their environmental and operational challenges. It is based on GE’s belief that solving environmental problems is good business around the world. It represents a pledge by the company to continually improve operations and invest in research and development that will produce more innovative ecomagination products. Through ecomagination, GE is driving a global energy transformation with a focus on innovation and R&D investment to accelerate the development and deployment of clean energy technology.

About GE

GE (NYSE: GE) works on things that matter. The best people and the best technologies taking on the toughest challenges. Finding solutions in energy, health and home, transportation and finance. Building, powering, moving and curing the world. Not just imagining. Doing. GE works. For more information, visit the company’s website at www.ge.com.

[GE Energy](#) works connecting people and ideas everywhere to create advanced technologies for powering a cleaner, more productive world. With more than 100,000 employees in over 100 countries, our diverse portfolio of product and service solutions and deep industry expertise help our customers solve their challenges locally. We serve the energy sector with technologies in such areas as natural gas, oil, coal and nuclear energy; wind, solar, biogas and water processing; energy management; and grid modernization. We also offer integrated solutions to serve energy- and water-intensive industries such as mining, metals, marine, petrochemical, food & beverage and unconventional fuels.

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For more information, contact:

Neil Gazeley
GE Energy
Digital Energy
+ 44 (0) 1223 449395
neil.gazeley@ge.com

Matt Falso or Howard Masto
Masto Public Relations
+518 786 6488
matt.falso@mastopr.com
howard.masto@ge.com