

Public/Private Partnership Creates Opportunity to Fundamentally Address Local Energy Crises

Galvin Electricity Initiative and IIT bring Perfect Power to Chicago; create model for states, communities to secure energy future

Chicago, Nov. 20, 2008 — A ground-breaking approach to electricity distribution and management will provide the long-awaited blueprint needed to eliminate power outages, incorporate renewable energy sources, meet rising demand for high-quality power and lower electricity bills.

The Nation's first Perfect Power System is an example of how government, utilities, businesses and municipalities can collaborate in the development and implementation of advanced power systems that are required to meet rising 21st century power demands. The project, developed for Illinois Institute of Technology (IIT) with the Galvin Electricity Initiative, is the result of an uncommon partnership among the U.S. Department of Energy (DOE), local utility Exelon/ComEd, the entrepreneurial electricity distribution developer Endurant Energy and the Chicago-based global provider of electric power systems, S&C Electric Company.



"Power outages cost Americans at least \$150 billion each year, an expense that would be largely eliminated by developing smart microgrid systems, like the Perfect Power System, that put into practice the smart technologies and distributed power generation our obsolete electricity system needs to become more efficient, reliable and secure," said Robert W. Galvin, former Motorola CEO and founder of the Galvin Electricity Initiative. "This project can be replicated in any local system - at the university, business or municipality level - once policy and technical barriers to these advancements are removed, bringing energy independence and sustainability to all customers and fostering entrepreneurship and innovation in communities nationwide."

The Perfect Power System is based on a smart microgrid - a small, local, modernized version of the electricity grid that carries bulk power across the country. These microgrids focus on rapidly bringing the economic and environmental benefits of modern grid technology to consumers. They engage entrepreneurial innovators and investors to install the smart digital technology that allows the instantaneous, two-way flow of electricity and real-time pricing and demand information between utilities and consumers. This is in stark contrast to today's antiquated, electromechanical-controlled bulk power grids that effectively hold consumers prisoner behind an iron curtain electricity meter.

"What makes a microgrid distinct from other grid improvements is that it augments remote sources of power with locally generated electricity - which may come from a natural-gas burning turbine, solar panels, fuel cells or a combined heat and power generator," said Kurt Yeager, executive director of the Galvin Electricity Initiative "This decentralized system can serve a single large building, a factory, a cluster of buildings or even a municipality that has access to and some control over its own power infrastructure and allows residents and businesses to become active consumers by giving them greater control of their power use and the ability to sell electricity back to the grid."

DOE recognized the path-breaking nature of the IIT Perfect Power System and its potential to spur energy entrepreneurship and expand green economies locally by investing \$7 million in federal funds into the project - one of nine competitively selected to improve efficiency in the Nation's power grid. IIT is investing an additional \$5 million in the project. Mohammad Shahidehpour, chair of the IIT Department of Electrical and Computer Engineering, serves as principal investigator.

"As an institution that specializes in innovation based on research and technology, IIT is proud to be a pioneer in electricity delivery by applying smart microgrid engineering, like the Perfect Power System, to our energy infrastructure," said IIT President Dr. John L. Anderson. "IIT's smart microgrid distribution system will be a replicable flagship model for confronting and modeling a solution to the global energy crisis."

Projections indicate that the Perfect Power model at IIT will pay for itself within five years after it is completed. For IIT, the Perfect Power System will generate significant savings - at least \$20 million over 10 years. Following the short payback period, the university will make money from Perfect Power through cheaper power costs, such as grid infrastructure improvements, allowing them to purchase electricity based on real-time prices rather than the traditional contracted average. IIT will also be able to sell electricity back to local energy markets and to employ more efficient energy conservation efforts by integrating local power generation from clean sources, like solar.

Perfect Power at IIT is the first of several microgrid systems that the Galvin Electricity Initiative will design. The Initiative is currently working on in New Mexico and Massachusetts as well. The Initiative also supports the Illinois Smart Grid Initiative (ISGI) - a public-private collaboration of Illinois stakeholder groups examining the benefits for consumers and the economy of a modernized electricity grid. ISGI is mapping the policy path necessary to implement smart grid technology and allow all Illinois communities to embrace Perfect Power.

To view a comprehensive report showcasing the design and benefits of Perfect Power, visit www.galvinpower.org.

Galvin Electricity Initiative

The Galvin Electricity Initiative, launched by former Motorola CEO Robert W. Galvin, is leading a campaign to transform the Nation's obsolete electric power system into one that can truly meet consumers' needs in this new century. Galvin's vision - a Perfect Power System that cannot fail the end-user - includes a major technological update to the electricity grid infrastructure as well as the development of smart microgrids around the country to benefit consumers and suppliers alike. See how Galvin is turning this vision into a reality at www.galvinpower.org.

Founded in 1890, IIT is a Ph.D.-granting university with more than 7,300 students in engineering, sciences, architecture, psychology, design, humanities, business and law. IIT's interprofessional, technology-focused curriculum is designed to advance knowledge through research and scholarship, to cultivate invention improving the human condition, and to prepare students from throughout the world for a life of professional achievement, service to society, and individual fulfillment. Visit www.iit.edu.

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