Dear RISE Prospective Member,

Conceiving of, designing, and implementing effective and evolving information technology, control, communication, and computer technologies for enabling a sustainable smart grid is not a matter of simply adding on or making minor modifications to the existing electric grid operation and control practices. It rather requires an in-depth understanding of the electric power system operating as a super system that contains independent, complex systems interacting among themselves to achieve the common goal of efficient and reliable electric energy ‘make-move-use.’

The future energy delivery system requires flexibility in order to supply reliable energy with adequate power quality at the lowest cost to the consumer. It is clear that real-time operations and control technologies will adapt and evolve to distributed network control to increase the flexibility of the electric energy system. To develop this future electric grid, a new ‘mega-infrastructure’ system of systems must emerge from the convergence and amalgamation of a physical power system, information and communication system, cyber-security, and electricity market system.

The National Science Foundation has approved the RISE concept as unique in the nation, and invited the team to hold a planning meeting to prepare a full center proposal. We hope your industry is excited about the RISE center, and is able to participate in the planning meeting and hopefully become a founding member of the RISE center. Upon request we can provide more information to learn about the RISE Center, upcoming planning meeting and joining the RISE Center. We invite you to RISE with US.

Sincerely,

G. Kranits Vreugdenhil

On behalf of RISE

RISE Vision & Mission

The RISE vision is the creation of a flexible, resilient, cost-effective and sustainable electricity infrastructure, from generation to end-user operations.

The mission of the center on Real-Time Intelligence for Smart Electric Grid Operations (RISE) is to define, initiate and accelerate the transformation of electricity infrastructure operations end-to-end to fulfill the goal of dramatically improved grid reliability, resiliency, efficiency and sustainability leading to lower cost of energy delivered. This requires the evolution of a new operating paradigm for the new electric energy industry, academia, and government.

The RISE Mission will be accomplished by focusing on the following main objectives:

- To develop an end-to-end grid operational system of systems architecture with emphasis on the integration of power system, communication and information systems, computational systems, cyber systems, market systems, and policy
- To develop scalable grid intelligence (end-to-end) for real-time operations
- To develop real-time dynamic energy management systems
- To educate the next generation of system engineers who understand the interdisciplinary nature of the new electric energy industry important to member companies.

The RISE Thrusts are:


ICC Thrust: Cyber Security, Communication, Computational Networks, Control and Estimation, Intelligence

CV Thrust: Computing Paradigms and platforms, Data and Visualization, Analytics, Information Technology, Intelligent Systems, Real-Time Systems

ED Thrust: Active Assets, Electric Machines, Energy Storage, Electric Vehicles, Power Electronics, Renewable Energy Sources
RISE Centers and Laboratories

Battery Aging and Characterization Lab at Clemson University: International Center for Automotive Research (CUICAR)  
http://cuicar.com

Clemson University Center of Excellence in Next Generation Computing (NGC) http://ngc.clemson.edu/viz

Clemson University SCE&G Energy Innovation Center  
http://scegenergy.com

Clemson University Real-Time Power and Intelligent Systems (RTPI) Laboratory http://rtpl.org

Georgia Institute of Technology National Electric Energy Testing, Research, and Applications Center (NEETRAC)  
http://www.neetrac.gatech.edu/

The Charlotte Visualization Center at UNCC (VisCenter)  
http://viscenter.uncc.edu

More details on RISE available from:  
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Why RISE With Us?

Membership of the center is through an annual fee for a minimum of two years. Industry membership will consist of diverse companies such as utilities, vendors, government agencies, and national laboratories from different disciplines in the scope of this center.

- All center members will have an opportunity to propose specific research problems, case studies, and focus areas for research.
- Leading-edge cost effective research projects jointly developed by university experts and Industry leaders.
- All center members will have the opportunity to contribute to RISE research, education, and innovation-ecosystem by serving as dissertation/thesis committee members and industrial mentors, as appropriate and consistent with the policies and procedures of the participating institutions.
- Additional benefits may be established in bylaws approved by the Board of Directors.

http://risewithus.org