SMART GRID: Toward a stronger, smarter, and more secure energy infrastructure
Sponsored by the Energy Research and Development Center

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103 Engineering Management

Dr. S. Massoud Amin

Abstract: What will it take to bring our electric power grid up to 21st century standards? How could a stronger and smarter grid integrate sustainable sources like wind, solar, and hydroelectric power connect with, and reinvigorate, our energy system? And what should be done to improve the reliability, security, and efficiency of the nation’s electrical infrastructure?

Professor Massoud Amin, who coined the term smart grid and pioneered RD&D in smart self-healing grids, shares his vision for the construction of an improved and strengthened national power grid that would avert large-scale blackouts, save billions of dollars in wasted electricity, and increase the security of the country’s essential power supply and delivery system into an intelligent infrastructure.

Biographical Sketch: Professor Massoud Amin is leading extensive R&D efforts into smart grid development. At Minnesota, he leads a team of 5 endowed chairs and 47 senior faculty members and industry executives, who develop local and global leaders for technology enterprises. He teaches/researches in complex dynamical systems, smart grids, pivotal and emerging technologies, S&T policy, and critical infrastructure security.

Before becoming a professor of Electrical and Computer Engineering, the Honeywell/H.W. Sweatt Chair in Technological Leadership, and a University Distinguished Professor at the University of Minnesota, he directed all Infrastructure Security, Grid Operations/Planning, and Energy Markets at the Electric Power Research Institute (EPRI) after 9/11. Prior to that he led mathematics and information sciences at EPRI, pioneered R&D in smart grids, worked on self-repairing energy infrastructures, and led the development of over 24 technologies transferred to industry.

Professor Amin is the author or co-author of over 190 peer reviewed papers, and the editor of seven collections of manuscripts. Board appointments include the Board of Directors of the Texas RE (2010-present), Board on Infrastructure and the Constructed Environment (BICE) at the U.S. National Academy of Engineering (2001-2007), and the Board on Mathematical Sciences and Applications (BMSA) at the National Academy of Sciences (2006-2009). He serves on the editorial boards of six international journals. He was three times Professor of the Year at Washington University in St. Louis (1992-1995), received the 2002 President’s Award for the Infrastructure Security Initiative at EPRI, and twice received the Chauncey Award, the Institute’s highest honor.