DESCRIPTION

For many, smart grids are the biggest technological revolution since the Internet. They have the potential to reduce carbon dioxide emissions, increase the reliability of electricity supply, and increase the efficiency of our energy infrastructure.

Smart Grid Applications, Communications, and Security explains how diverse technologies play hand-in-hand in building and maintaining smart grids around the globe. The book delves into the communication aspects of smart grids, provides incredible insight into power electronics, sensing, monitoring, and control technologies, and points out the potential for new technologies and markets.

Extensively cross-referenced, the book contains comprehensive coverage in four major parts:

- **Part I: Applications** provides a detailed introduction to smart grid applications—spanning the transmission, distribution, and consumer side of the electricity grid

- **Part II: Communications** discusses wireless, wireline, and optical communication solutions—from the physical layers up to sensing, automation, and control protocols running on the application layers

- **Part III: Security** deals with cyber security—sharpening the awareness of security threats, reviewing the ongoing standardization, and outlining the future of authentication and encryption key management
• Part IV: Case Studies and Field Trials presents self-contained chapters of studies where the smart grid of tomorrow has already been put into practice. With contributions from major industry stakeholders such as Siemens, Cisco, ABB, and Motorola, this is the ideal book for both engineering professionals and students.

⚠️ ABOUT THE AUTHOR

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