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## **Smart electrical networks. The networks of the future**

The smart electricity grid – foreword

### **PART I BASIC CONCEPTS**

Overview of smart networks

Smart grid and internet of things

Smart infrastructure system

Smart energy infrastructure subsystem

Smart information subsystem-smart metering

Smart information subsystem - smart monitoring and measurement

Communication technologies for smart grids

Protection system for smart grid –overview

Smart management system

### **PART II THE IMPORTANT COMPONENTS OF AN INTELLIGENT ELECTRICITY NETWORK**

Advanced metering infrastructure in smart grid (AMI)

SCADA – the brain of the smart grid

Smart grid stability and control

Smart electricity meters the heart of smart grid

Health aspects of smart electricity meters

### **PART III CURRENT CHALLENGES FOR SMART NETWORKS**

Smart grids: present challenges

Smart grids potential solutions for present challenged

### **PART IV CYBER SECURITY IN THE SMART GRID**

Types of attacks in a smart grid

Cyber security in the smart grid - an overview

Cybersecurity vulnerabilities in smart grids

Countermeasures and protective actions against cyber attacks in smart grids

Cyber-physical smart grids test bed

A brief overview on cyber security standards for smart grid

### **PART V SMART GRID SECURITY AND PRIVACY**

Smart grid security-An endless brain game

A security technology for a smart network

Privacy preservation of data - Achilles' heel in smart grid

Part I Confidentiality issues in a smart network

Privacy preservation of data - Achilles' heel in a smart grid

Part II Privacy solutions

## PART VI SMART ELECTRICITY METERS IN HOUSEHOLD

Constructive and functional aspects

Security and privacy