Solutions 48v 12v Automotive Bidirectional Synchronous

Emily Post's Etiquette, 19th Edition
Handbook on Battery Energy Storage System
Numerical Techniques in Electromagnetics, Second Edition
Overcoming Barriers to Deployment of Plug-in Electric Vehicles
Fundamentals of Electric Circuits
Linear Circuit Design Handbook
Power GaN Devices
Batteries in a Portable World
Railway Applications. Electronic Equipment Used on Rolling Stock

Emily Post's Etiquette, 19th Edition

For use in an introductory circuit analysis or circuit theory course, this text presents circuit analysis in a clear manner, with many practical applications. It carefully explains each step.

Numerical Techniques in Electromagnetics, Second Edition

This book enables design engineers to be more effective in designing discrete and integrated circuits by helping them understand the role of analog devices in their circuit design. Analog elements are at the heart of many important functions in both discrete and integrated circuits, but from a design perspective the analog components are often the most difficult to understand. Examples include operational amplifiers, D/A and A/D converters and active filters. Effective circuit design requires a strong understanding of the operation of these analog devices and how they affect circuit design. Comprehensive coverage of analog circuit components for the practicing engineer. Market design information for all major types of linear circuits includes practical advice on how to read op amp data sheets and how to choose off-the-shelf op amps.

Overcoming Barriers to Deployment of Plug-in Electric Vehicles

Having trouble keeping up with the latest standards for external power supplies such as the California Energy Commission's (CEC) requirements for efficiency and no-load power consumption, or the implications of the 3rd Edition 60601 on Medical Safety? Ever wondered why seemingly similar power supplies have significantly different performance and reliability characteristics? The answers to these and many more questions can be found in this Essential Guide to Power Supplies. Whether you're new to designing-in a power supply or DC-DC converter or an 'old hand', this book offers an invaluable resource and all the information you'll need in one easy reference guide.

Nokia's Smartphone Problem

Safe, efficient, code-compliant electrical installations are made simple with the latest publication of this widely popular series. Like its highly successful previous editions, the National Electrical Code 2011 spiral bound version combines solid, thorough, research-based content with the tools you need to build an in-depth understanding of the most important topics. New to the 2011 edition are articles including first-time Article 399 on Outdoor, Overhead Conductors with over 600 volts, first-time Article 694 on Small Wind Electric Systems, first-time Article 840 on Premises Powered Broadband Communications Systems, and more. This spiral bound version allows users to open the code to a certain page and easily keep the book open while referencing that page. The National Electrical Code is adopted in all 50 states, and is an essential reference for those in or entering careers in electrical design, installation, inspection, and safety.

Fundamentals of Electric Circuits

The light-duty vehicle fleet is expected to undergo substantial technological changes over the next several decades. New powertrain designs, alternative fuels, advanced materials and significant changes to the vehicle body are being driven by increasingly stringent fuel economy and greenhouse gas emission standards. By the end of the next decade, cars and light-duty trucks will be more fuel efficient, weigh less, emit less air pollutants, have more safety features, and will be more expensive to purchase relative to current vehicles. Though the gasoline-powered spark ignition engine will continue to be the dominant powertrain configuration even through 2030, such vehicles will be equipped with advanced technologies, materials, electronics and controls, and aerodynamics. And by 2030, the deployment of alternative methods to propel and fuel vehicles and alternative modes of transportation, including autonomous vehicles, will be well underway. What are these new technologies - how will they work, and will some technologies be more effective than others? Written to inform The United States Department of Transportation's National Highway Traffic Safety Administration (NHTSA) and Environmental Protection Agency (EPA) Corporate Average Fuel Economy (CAFE) and greenhouse gas (GHG) emission standards, this new report from the National Research Council is a technical evaluation of costs, benefits, and implementation issues of fuel reduction technologies for next-generation light-duty vehicles. Cost, Effectiveness, and Deployment of Fuel Economy Technologies for Light-Duty Vehicles estimates the cost, potential efficiency improvements, and barriers to commercial deployment of technologies that might be employed from 2020 to 2030. This report describes these promising technologies and makes recommendations for their inclusion on the list of technologies applicable for the 2017-2025 CAFE standards.

Linear Circuit Design Handbook

Power Electronics and Motor Drive Systems is designed to aid electrical engineers, researchers, and students to analyze and address common problems in state-of-the-art power electronics technologies. Author Stefanos Manias supplies a detailed discussion of the theory of power electronics circuits and power electronic conversion technology systems, with common problems and methods of analysis to critically evaluate results. These theories are reinforced by simulation examples using well-known and widely available software programs, including SPICE, PSIM, and MATLAB/SIMULINK. Manias expertly analyzes power electronic circuits with basic power semiconductor devices, as well as the new power electronic converters. He also clearly and comprehensively provides an analysis of modulation and output voltage, current control techniques, passive and active filtering, and the characteristics and gating circuits of different power semiconductor switches, such as IGBTs, MOSFETs, IGCTs, MCTs and GTOs. Includes step-by-step analysis of power electronic systems Reinforced by simulation examples using SPICE, PSIM, and MATLAB/SIMULINK Provides 110 common problems and solutions in power electronics technologies

Power GaN Devices

Batteries in a Portable World

Railway Applications. Electronic Equipment Used on Rolling Stock
Fully worked solutions with clear explanations. The Pulse-width Modulated DC-DC Power Converter: Solutions Manual provides solutions to the practice problems in the text. Fully worked, each solution includes formulas and diagrams as necessary to help you understand the approach, and explanations clarify the reasoning behind the correct answer. The solutions are aligned chapter-by-chapter with the text, and provide useful guidance that can help you identify your level of comprehension. Designed to make your study time more productive, this solutions manual is an invaluable tool for anyone studying electricity and electrical engineering.

Smart Technologies for Energy, Environment and Sustainable Development

This handbook serves as a guide to deploying battery energy storage technologies, specifically for distributed energy resources and flexibility resources. Battery energy storage technology is the most promising, rapidly developed technology as it provides higher efficiency and ease of control. With energy transition through decarbonization and decentralization, energy storage plays a significant role to enhance grid efficiency by alleviating volatility from demand and supply. Energy storage also contributes to the grid integration of renewable energy and promotion of microgrid.

Robotic Vehicles: Systems and Technology

The introduction of Li-ion batteries in 1991 created a tremendous change in the handheld devices landscape. Since then, the energy stored and put to use in palm-sized electronic devices has quadrupled. Devices are continuously getting more power hungry, outpacing battery development. Written by leading engineers in the field, this cutting-edge resource helps you overcome this challenge, offering you an insightful overview and in-depth guide to the many varied areas of battery power management for portable devices. You find the latest details on optimizing charging circuits, developing battery gauges that provide the longest possible run-time while ensuring data protection, and utilizing safety circuits that provide multiple independent levels of protection for highly energetic batteries. This unique book features detailed design examples of whole systems, providing you with the real-world perspective needed to put this knowledge into practice. You get the state-of-the-art know-how you need to perfect your device designs, helping you make them strong competitors in the fast-growing portable device marketplace.

Electric and Hybrid Vehicles

PV Charging and Storage for Electric Vehicles

This book addresses the first comprehensive overview of the properties and fabrication methods of GaN-based power transistors, with contributions from the most active research groups in the field. It describes how gallium nitride has emerged as an excellent material for the fabrication of power transistors; thanks to the high energy gap, high breakdown field, and saturation velocity of GaN, these devices can reach breakdown voltages beyond the 4kV range, and very high switching frequencies, thus being suitable for application in power conversion systems. Based on GaN, switching mode power converters with efficiency in excess of 99 % have already been demonstrated, thus clearing the way for massive adoption of GaN transistors in the power conversion market. This is expected to have important advantages at both the environmental and economic level, since power conversion losses account for 10 % of global electricity consumption. The first part of the book describes the properties and advantages of gallium nitride compared to conventional semiconductor materials. The second part of the book describes the techniques used for device fabrication, and the methods for GaN-on-Silicon mass production. Specific attention is paid to the three most advanced device structures: lateral transistors, vertical power devices, and nanowire-based HEMTs. Other relevant topics covered by the book are the strategies for normally-off operation, and the problems related to device reliability. The last chapter reviews the switching characteristics of GaN HEMTs based on a systems level approach. This book is a unique reference for people working in the materials, device and power electronics fields; it provides interdisciplinary information on material growth, device fabrication, reliability issues and circuit-level switching investigation.

The Essential Guide to Power Supplies

This book comprises the select proceedings of the International Conference on Future Learning Aspects of Mechanical Engineering (FLAME) 2020. This volume focuses on several emerging interdisciplinary areas involving mechanical engineering. Some of the topics covered include automobile engineering, mechatronics, applied mechanics, structural mechanics, hydraulic mechanics, human vibrations, biomechanics, biomedical instrumentation, ergonomics, biomechanics, bioinstrumentation, and nuclear engineering. The contents of this book will be useful for students, researchers as well as professionals interested in interdisciplinary topics of mechanical engineering.

Photovoltaic Systems Engineering, Third Edition

This book can assist you to learn about embedded systems using an MSP432 microcontroller. This third edition was written on the basis of an MSP432P401R MCU and Code Composer Studio. This book can used as a support material for microcontroller and embedded system courses. The book covers MSP432: GPIO, timers, display, interrupt, and ADC. Moreover, this book covers topics of software architectures, PWM, motor control, serial communications, TI Driver library, TI RTOS, Power management, and embedded system security. This book was written for undergraduate engineering students and the audience having similar prior knowledge and skills.

Grid-to-Vehicle (G2V) and Vehicle-to-Grid (V2G) Technologies

Lead-Acid Batteries for Future Automobiles

This book comprises select proceedings of the International Conference on Smart Technologies for Energy, Environment, and Sustainable Development (ICSTEEESD 2018). The chapters are broadly divided into three focus areas, viz. energy, environment, and sustainable development, and discusses the relevance and applications of smart technologies in these fields. A wide variety of topics such as renewable energy, energy conservation and management, energy policy and planning, environmental management, marine environment, green building, smart cities, smart transportation are covered in this book. Researchers and professionals from varied engineering backgrounds contribute chapters with an aim to provide economically viable solutions to sustainable development challenges. The book will prove useful for academics, professionals, and policy makers interested in sustainable development.

Introduction to Power Electronics

Electronic Components and Systems focuses on the principles and processes in the field of electronics and the integrated circuit. Covered in the book are basic aspects and physical fundamentals; different types of materials involved in the field; and passive and active electronic components such as capacitors, inductors, diodes, and transistors. Also covered in the book are topics such as the fabrication of semiconductor devices and integrated circuits; analog circuits; digital logic circuitry; digital logic technology; and microprocessors. The monograph is recommended for beginning electronic engineers who would like to know the fundamental concepts, theories, and processes in the related fields.

Advances in Interdisciplinary Engineering

This book introduces the technological innovations of robotic vehicles. It presents the concepts required for self-driving cars on the road. Besides, readers can gain invaluable knowledge in the construction, programming, and control of the six-legged robot. The book also presents the controllers and aerodynamics of several different types of rotorcrafts. It includes the simulation and flight of the various kinds of rotor-propelled air vehicles under each of their different aerodynamics environment. The book is suitable for academia, educators, students, and researchers who are interested in autonomous vehicles, robotics, and rotor-propelled vehicles.
Electronic Components and Systems

A thoroughly revised third edition of this widely praised, bestselling textbook presents a comprehensive systems-level perspective of electric and hybrid vehicle systems, with specific contributions focusing on the design of continuous time sigma-delta modulators, automotive electronics, and power management. This book serves as a valuable reference to the state-of-the-art, for anyone involved in analog circuit research and development.

Analog Circuit Design Volume Three

This book is based on the 18 tutorials presented during the 25th workshop on Advances in Analog Circuit Design. Expert designers present readers with information about a variety of topics at the frontier of analog circuit design, including low-power and energy-efficient analog electronics, with specific contributions focusing on the design of continuous time sigma-delta modulators, automotive electronics, and power management. This book serves as a valuable reference to the state-of-the-art, for anyone involved in analog circuit research and development.

Battery Power Management for Portable Devices

This contributed volume contains the results of the research program ‘Agreement for Hybrid and Electric Vehicles’, developed in the framework of the Energy Technology Network of the International Energy Agency. The topical focus lies on technology options for the system optimization of hybrid and electric vehicle components and drive train configurations which enhance the energy efficiency of the vehicle. The approach to the topic is genuinely interdisciplinary, covering insights from fields. The target audience primarily comprises researchers and industry experts in the field of automotive engineering, but the book may also be beneficial for graduate students.

Electromagnetic Compatibility of Electric Vehicle

The Emily Post Institute, the most trusted brand in etiquette, tackles the latest issues regarding how we interact along with classic etiquette and manners advice in this updated and gorgeously packaged edition. Today’s world is in a state of constant change. But one thing remains year after year: the necessity for good etiquette. This 19th edition of Emily Post’s Emily Post’s Etiquette offers insight and wisdom on a variety of new topics and fresh advice on classic conundrums, including: Social media living with neighbors Networking and job seeking office issues Sports and recreation entertaining at home and celebrations Weddings Invitations loss, grieving, and condolences Table manners from the practical—from table settings and introductions to thank-you notes and condolences—the Posts make it clear why good etiquette matters. Etiquette is a sensitive awareness of the feelings of others, they remind us. Ultimately, being considerate, respectful, and honest is what’s really important in building positive relationships. "Please" and "thank you" do go a long way, and whether it’s a handshake, a hug, or a friend request, it’s the underlying sincerity and good intentions behind any action that matter most.

Electronic Design

Design Note Collection, the third book in the Analog Circuit Design series, is a comprehensive volume of applied circuit design solutions, providing elegant and practical design techniques. Design Notes in this volume are focused circuit explanations, easily applied in your own designs. This book includes an extensive power management section, covering switching regulator design, linear regulator design, microprocessor power design, battery management, powering LED lighting, automotive and industrial power design. Other sections span a range of analog design topics, including data conversion, data acquisition, communications interface design, operational amplifier design, filter design, and wireless, RF, communications and network design. Whatever your application - industrial, medical, security, embedded systems, instrumentation, automotive, communications infrastructure, satellite and radar, computers or networking; this book will provide practical design techniques, developed by experts for tackling the challenges of power management, data conversion, signal conditioning and wireless/RF analog circuit design. A rich collection of applied analog circuit design solutions for use in your own designs. Each Design Note is presented in a concise, two-page format, making it easy to read and assimilate. Contributions from the leading lights in analog design, including Bob Dobkin, Jim Williams, George Erdi and Carl Nelson, among others. Extensive sections covering power management, data conversion, signal conditioning, and wireless/RF.

Trilogy of Wireless Power Transfer

Electric vehicles are only ‘green’ as long as the source of electricity is ‘green’ as well. At the same time, renewable power production suffers from diurnal and seasonal variations, creating the need for energy storage technology. Moreover, overloading and voltage problems are expected in the distributed network due to the high penetration of distributed generation and increased power demand from the charging of electric vehicles. The energy and mobility transition hence calls for novel technological innovations in the field of sustainable electric mobility powered from renewable energy. This Special Issue focuses on recent advances in technology for PV charging and storage for electric vehicles.

Wideband Continuous-time ADCs, Automotive Electronics, and Power Management

The proceedings present a selection of refereed papers presented at the 1st International Conference on Electronic Engineering and Renewable Energy (ICEERE 2018) held during 15-17 April 2018, Saidi, Morocco. The contributions from electrical engineers and experts highlight key issues and developments essential to the multifaceted field of electrical engineering systems and seek to address multidisciplinary challenges in Information and Communication Technologies. The book has a special focus on energy challenges for developing the Euro-Mediterranean regions through new renewable energy technologies in the agricultural and rural areas. The book is intended for academia, including graduate students, experienced researchers and industrial practitioners working in the fields of Electronic Engineering and Renewable Energy.

Composite Materials Handbook
In the past few years, interest in plug-in electric vehicles (PEVs) has grown. Advances in battery and other technologies, new federal standards for carbon dioxide emissions and fuel economy, state zero-emission-vehicle requirements, and the current administration's goal of putting millions of alternative-fuel vehicles on the road have all heightened PEVs as a transportation alternative. Consumers are also beginning to recognize the advantages of PEVs over conventional vehicles, such as lower operating costs, smoother operation, and better acceleration; the ability to fuel up at home; and zero tailpipe emissions when the vehicle operates solely on its battery. There are, however, barriers to PEV deployment, including the vehicle cost, the short all-electric driving range, the long battery charging time, uncertainties about battery life, the few choices of vehicle models, and the need for a charging infrastructure to support PEVs. What should industry do to improve the performance of PEVs and make them more attractive to consumers? At the request of Congress, Overcoming Barriers to Deployment of Plug-in Electric Vehicles identifies barriers to the introduction of electric vehicles and recommends ways to mitigate these barriers. This report examines the characteristics and capabilities of electric vehicle technologies, such as cost, performance, range, safety, and durability, and assesses how these factors might create barriers to widespread deployment. Overcoming Barriers to Deployment of Plug-in Electric Vehicles provides an overview of the current status of PEVs and makes recommendations to spur the industry and increase the attractiveness of this promising technology for consumers. Through consideration of consumer behaviors, tax incentives, business models, incentive programs, and infrastructure needs, this book studies the state of the industry and makes recommendations to further its development and acceptance.

**Learning Embedded Systems with MSP432 Microcontrollers**

The Wireless World

Building on solid state device and electromagnetic contributions to the series, this text book introduces modern power electronics, that is the application of semiconductor devices to the control and conversion of electrical power. The increased availability of solid state power switches has made power electronics an increasingly important part of applications, from the relatively low power domain of domestic equipment, to high power control of industrial processes and very high power control along transmission lines. The first edition of this book was published in 1998, and since then there has been a dramatic rise in power electronics. Numerical Techniques in Electromagnetics continues to teach readers how to pose, numerically analyze, and solve electromagnetic problems. The first edition of Numerical Techniques in Electromagnetics filled a gap in the market for such a comprehensive introduction to the entire range of devices and examines their applications, assuming only the minimum mathematical and electronic background. It covers a full year's course in power electronics. Numerous exercises, worked examples and self assessments are included to facilitate self study and distance learning.

**National Electrical Code**

Asian Sources Electronic Components

This book introduces the electromagnetic compatibility (EMC) of electric vehicle(EV), including EMC of the whole vehicle, electromagnetic interference(EMI) prediction and suppression of motor drive system, EMI prediction and suppression of DC-DC converter, electromotive field safety and EMC of wireless charging system, signal integrity and EMC of the vehicle controller unit(VCU), EMC of battery management system(BMS), electromagnetic radiated emission diagnosis and suppression of the whole vehicle, etc. The analysis method, modeling and simulation method, test method and rectification method of EMC are demonstrated. The simulation and experimental results are presented as tables and figures. This book is useful as reference for graduate students, senior undergraduates and engineering technicians of vehicle engineering related majors. For EMI prediction, suppression and EMC optimization design for EVs, this book provides reference for engineers to solve EMC problems. This book is intended for senior undergraduates, postgraduates, lecturers and laboratory researchers engaged in electric vehicle and electromagnetic compatibility research.


Lead-Acid Batteries for Future Automobiles presents an overview on the innovations that were recently introduced in automotive lead acid batteries and other aspects of current research. Innovative concepts are presented, some of which aim to make lead-acid technology a candidate for higher levels of powertrain hybridization, namely 48-volt mild or high-volt full hybrids. Lead-acid batteries continue to dominate the market as storage devices for automotive starting and power supply systems, but are facing competition from alternative storage technologies and being challenged by new application requirements, particularly related to new electric vehicle functions and powertrain electrification. Presents an overview of development trends for future automobiles and the demands that they place on the battery Describes how to adapt LABs for use in micro and mild hybrid EVs via collector construction and materials, via carbon additives, via new cell construction (bipolar), and via LAB hybrids with Li-ion and supercap systems System integration of LABs into vehicle power-supply and hybridization concepts Short description of competitive battery technologies Advanced Hybrid and Electric Vehicles

The U.S. Department of Energy now estimates a factor of 14 increase in grid-connected systems between 2009 and 2017, depending upon various factors such as incentives for renewables and availability and price of conventional fuels. With this fact in mind, Photovoltaic Systems Engineering, Third Edition presents a comprehensive engineering basis for photovoltaic (PV) system design, so engineers can understand the what, why, and how associated with the electrical, mechanical, economic, and aesthetic aspects of PV system design. Building on the popularity of the two previous editions, esteemed authors Roger Messenger and Jerry Ventre explore the significant growth and new ideas in the PV industry. They integrate their experience in system design and installation gained since publication of the last edition. Intellectual tools to help engineers and students to understand new technologies and ideas in this rapidly evolving field. The book educates about the design of PV systems so that when engineering judgment is needed, the engineer can make intelligent decisions based on a clear understanding of the parameters involved. This goal differentiates this textbook from the many design and installation manuals that train the reader how to make design decisions, but not why. The authors explain why a PV design is executed a certain way, and how the design process is actually implemented. In exploring these ideas, this cutting-edge book presents: An updated background of energy production and consumption Mathematical background for understanding energy supply and demand A summary of the solar spectrum, how to locate the sun, and how to optimize the capture of its energy Analysis of the components used in PV systems. Also useful for students, the text is full of additional practical considerations added to the theoretical background associated with mechanical and structural design. A modified top-down approach organizes the material to quickly cover the building blocks of the PV system. The focus is on adjusting the parameters of PV systems to optimize performance. The last two chapters present the physical basis of PV cell operation and optimization. Presenting new problems based upon contemporary technology, this book covers a wide range of topics, including chemistry, circuit analysis, electronics, solid state device theory, and economics this book will become a relied upon addition to any engineer’s library.

Pulse-width Modulated DC-DC Power Converters

Fuel cells are one of the cleanest and most efficient technologies for generating electricity. Since there is no combustion involved, there are no pollutants commonly produced by boilers and furnaces. For systems designed to consume hydrogen directly, the only products are water and heat. Fuel cells are an important technology for a potentially wide variety of applications including on-site electric power for households and commercial buildings; supplemental or auxiliary power to support car, truck and aircraft systems; power for personal, mass and commercial transportation; and the modular addition by utilities of new power generation closely tailored to meet growth in power consumption. These applications will be in a large number of industries worldwide. In this Seventh Edition of the Fuel Cell Handbook, we have discussed the Solid State Energy Conversion Alliance Program (SECA) activities. In addition, individual fuel cell technologies and other supporting materials have been updated.

**Fuel Cell Handbook (Seventh Edition)**

As the availability of powerful computer resources has grown over the last three decades, the art of computation of electromagnetic (EM) problems has also grown - exponentially. Despite this dramatic growth, however, the EM community lacked a comprehensive text on the computational techniques used to solve EM problems. The first edition of Numerical Techniques in Electromagnetics filled that gap and became the reference of choice for thousands of engineers, researchers, and students. The Second Edition of this best-selling text reflects the continuing increase in awareness and use of numerical techniques and incorporates advances and refinements made in recent years. Most notable among these are the improvements made to the standard algorithm for the finite difference time domain (FDTD) method and treatment of absorbing boundary conditions in FDTD, finite element, and transmission line matrix methods. The author also added a chapter on the method of lines. Numerical Techniques in Electromagnetics continues to teach readers how to pose, numerically analyze, and solve EM problems, give them the ability to expand their problem-solving skills using a variety of methods, and prepare them for research in electromagnetism. Now the Second Edition goes even further toward providing a comprehensive resource that addresses all of the most useful computation methods for EM problems.
Electronic Components and Technology

What happened to one of the most celebrated corporate champions from the tiny Finland? Is Nokia the next Kodak? How the Finnish mobile phone giant reached this crossroads? The book chronicles Nokia’s lost decade in which the venerable handset champion found itself in the clutches of a vicious cycle. “Nokia’s Smartphone Problem” delves into one strategic blunder after another to offer a vivid account of this tale of management indecision. It provides a riveting look at how this comedy of errors took one of the world’s most global companies to a near-death experience. “Nokia’s Smartphone Problem” is written to educate and inform managers in the IT, wireless, and consumer electronic industries. It's a groundbreaking book that delves in the past, present, and future of Nokia and smartphone business at large to find all the pertinent answers regarding smartphone product development cycle. That translates into a detailed treatment of smartphone industry's business models and basic building blocks like hardware, operating systems, apps and ecosystems. And that makes the book a must-read for managers tasked with formulating a mobile strategy for their businesses. The book takes a microscopic look at the seemingly shaken Nokia's product and strategy roadmaps. Next, it takes readers inside Nokia’s three-year relationship with Microsoft and narrates how the breakup eventually led to the formation of the New Nokia. The book further reconstructs Nokia’s mid- to long-term plans for reinventing this great European corporate icon. The Nokia story is engulfed in a plethora of misconceptions. A lot of information about the mobile phone pioneer is cluttered, and a number of facts are not in place. “Nokia’s Smartphone Problem” aspires to clear the air, develop a comprehensible picture, and thus set the record straight. Nokia is no more the master of the mobile game, but it is still an important company. The book digs deep into Nokia's heritage, strategy blunders, major stumbling blocks, and bailout efforts. That way, it attempts to recollect notes from this epic moment in Nokia’s life and create an authentic document that not only recounts its breathtaking transformation, but also provides a discourse on the Finnish company’s turnaround plan. Find out: A highly readable account of smartphone building blocks: OSes, apps, ecosystems and more! A captivating history of Symbian, MeeGo and Sailfish software ventures. What went wrong in Nokia’s phenomenal partnership with Microsoft? Stephen Elop’s scorecard and the making of a less Finnish Nokia. How the New Nokia might look like?

Power Electronics and Motor Drive Systems

This Special Issue “Grid-to-Vehicle (G2V) and Vehicle-to-Grid (V2G) Technologies” was in session from 1 May 2019 to 31 May 2020. For this Special Issue, we invited articles on current state-of-the-art technologies and solutions in G2V and V2G, including but not limited to the operation and control of gridable vehicles, energy storage and management systems, charging infrastructure and chargers, EV demand and load forecasting, V2G interfaces and applications, V2G and energy reliability and security, environmental impacts, and economic benefits as well as demonstration projects and case studies in the aforementioned areas. Articles that deal with the latest hot topics in V2G are of particular interest, such as V2G and demand-side response control technique, smart charging infrastructure and grid planning, advanced power electronics for V2G systems, adaptation of V2G systems in the smart grid, adaptation of smart cities for a large number of EVs, integration, and the optimization of V2G systems, utilities and transportation assets for advanced V2G systems, wireless power transfer systems for advanced V2G systems, fault detection, maintenance and diagnostics in V2G processes, communications protocols for V2G systems, energy management system (EMS) in V2G systems, IoT for V2G systems, distributed energy storage and grid planning for V2G, transportation networks and V2G, energy management for V2G, smart charging/discharging stations for efficient V2G, environmental and socio-economic benefits and challenges of V2G systems, and building integrated V2G systems (BIV2G). Five manuscripts are published in this Special Issue, including: "An Ensemble Stochastic Forecasting Framework for Variable Distributed Demand Loads" by Ayegman et al., "Where Will You Park? Predicting Vehicle Locations for Vehicle-to-Grid. An MPC Scheme with Enhanced Active Voltage Vector Region for V2G Inverter" by Shipman et al., "Electric Vehicles Energy Management with V2G/G2V Multiactor Optimization of Smart Grids" by Xia et al., and "A Review on Communication Standards and Charging Topologies of V2G and V2H Operation Strategies" by Savitti et al.