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[Green Products](#) Elsevier

Amadeus announces it has acquired the airline network planning software business of Optym, a leader in network optimization. The two companies have been partners for more than three years, jointly delivering solutions to Southwest Airlines, easyJet, and LATAM Airlines. The Amadeus Sky Suite will be further integrated into the Amadeus Airline Platform, including software for network optimization and simulation, frequency and capacity planning, network planning and forecasting, and a flight scheduling development platform. As a result of this transaction, 90 employees will be dedicated to the Amadeus Sky Suite. These employees join the Airlines R&D unit, reporting to Christophe Bousquet, Senior Vice President, Airlines R&D; the Amadeus Sky Suite is part of Amadeus ’ Airlines Offer Suite of solutions. The acquisition is effective immediately, and the companies have begun integration and employee onboarding, continuing to serve customers with a focus on business as usual. Financial details are confidential. Optym will continue to operate as a separate entity focused on other areas of business.

[Advanced Mechatronics Solutions](#) Elsevier

The textbook provides a holistic M&A reference model for capturing value and transaction rational in dynamic eco-systems in the 2020s. The digitalized End-to-End M&A Process Design applies five process modules. It fosters the full-scope of digital tools and describes how it could be applied for shaping business model innovations and revitalize corporate portfolios and vice versa.This textbook has been recommended and developed for university courses in Germany, Austria and Switzerland.

[Internal Combustion Engines](#) Springer Science & Business Media

Hybridization is an increasingly popular paradigm in the auto industry, but one that is not fully understood by car manufacturers. In general, hybrid electric vehicles (HEV) are designed without regard to the mechanics of the power train, which is developed similarly to its counterparts in internal combustion engines. Hybrid Electric Power Train Engineering and Technology: Modeling, Control, and Simulation provides readers with an academic investigation into HEV power train design using mathematical modeling and simulation of various hybrid electric motors and control systems. This book explores the construction of the most energy efficient power trains, which is of importance to designers, manufacturers, and students of mechanical engineering. This book is part of the Research Essentials collection.

[EcoProduction and Logistics](#) EGBG Services LLC

The ambitious objectives of future road mobility, i.e. fuel efficiency, reduced emissions, and zero accidents, imply a paradigm shift in the concept of the car regarding its architecture, materials, and propulsion technology, and require an intelligent integration into the systems of transportation and power. ICT, components and smart systems have been essential for a multitude of recent innovations, and are expected to be key enabling technologies for the changes ahead, both inside the vehicle and at its interfaces for the exchange of data and power with the outside world. It has been the objective of the International Forum on Advanced Microsystems for Automotive Applications (AMAA) for almost two decades to detect novel trends and to discuss technological implications and innovation potential from day one on. In 2012, the topic of the AMAA conference is “ Smart Systems for Safe, Sustainable and Networked Vehicles ” . The conference papers selected for this book address current research, developments and innovations in the field of ICT, components and systems and other key enabling technologies leading to the automobile and road transport of the future. The book focuses on application fields such as electrification, power train and vehicle efficiency, safety and driver assistance, networked vehicles, as well as components and systems. Additional information is available at www.amaa.de

[Electric Powertrain](#) Springer Science & Business Media

In this book, highly qualified multidisciplinary scientists present their recent research that has been motivated by the significance of applied electromechanical devices and machines for electric mobility solutions. It addresses advanced applications and innovative case studies for electromechanical parameter identification, modeling, and testing of; permanent-magnet synchronous machine drives; investigation on internal short circuit identifications; induction machine simulation; CMOS active inductor applications; low-cost wide-speed operation generators; hybrid electric vehicle fuel consumption; control technologies for high-efficient applications; mechanical and electrical design calculations; torque control of a DC motor with a state-space estimation; and 2D-layered nanomaterials for energy harvesting. This book is essential reading for students, researchers, and professionals interested in applied electromechanical devices and machines for electric mobility solutions.

[Smart Engineering Systems](#) SAE International

This book contains the papers of the Internal Combustion Engines: Performance fuel economy and emissions conference, in the IMechE bi-annual series, held on the 29th and 30th November 2011. The internal combustion engine is produced in tens of millions per year for applications as the power unit of choice in transport and other sectors. It continues to meet both needs and challenges through improvements and innovations in technology and advances from the latest research. These papers set out to meet the challenges of internal combustion engines, which are greater than ever. How can engineers reduce both CO2 emissions and the dependence on oil-derivate fossil fuels? How will they meet the future, more stringent constraints on gaseous and particulate material emissions as set by EU, North American and Japanese regulations? How will technology developments enhance performance and shape the next generation of designs? This conference looks closely at developments for personal transport applications, though many of the drivers of change apply to light and heavy duty, on and off highway, transport and other sectors. Aimed at anyone with interests in the internal combustion engine and its challenges The papers consider key questions relating to the internal combustion engine

End-to-End M&A Process Design Springer Science & Business Media

This book describes different methods that are relevant to the development and testing of control algorithms for advanced driver assistance systems (ADAS) and automated driving functions (ADF). These control algorithms need to respond safely, reliably and optimally in varying operating conditions. Also, vehicles have to comply with safety and emission legislation. The text describes how such control algorithms can be developed, tested and verified for use in real-world driving situations. Owing to the complex interaction of vehicles with the environment and different traffic participants, an almost infinite number of possible scenarios and situations that need to be considered may exist. The book explains new methods to address this complexity, with reference to human interaction modelling, various theoretical approaches to the definition of real-world scenarios, and with practically-oriented examples and contributions, to ensure efficient development and testing of ADAS and ADF. Control Strategies for Advanced Driver Assistance Systems and Autonomous Driving Functions is a collection of articles by international experts in the field representing theoretical and application-based points of view. As such, the methods and examples demonstrated in the book will be a valuable source of information for academic and industrial researchers, as well as for automotive companies and suppliers.

The Business of Winning Springer

This book introduces the principles and practices in automotive systems, including modern automotive systems that incorporate the latest trends in the automobile industry. The fifteen chapters present new and innovative methods to master the complexities of the vehicle of the future. Topics like vehicle classification, structure and layouts, engines, transmissions, braking, suspension and steering are illustrated with modern concepts, such as battery-electric, hybrid electric and fuel cell vehicles and vehicle maintenance practices. Each chapter is supported with examples, illustrative figures, multiple-choice questions and review questions. Aimed at senior undergraduate and graduate students in automotive/automobile engineering, mechanical engineering, electronics engineering, this book covers the following: Construction and working details of all modern as well as fundamental automotive systems Complexities of operation and assembly of various parts of automotive systems in a simplified manner Handling of automotive systems and integration of various components for smooth functioning of the vehicle Modern topics such as battery-electric, hybrid electric and fuel cell vehicles Illustrative examples, figures, multiple-choice questions and review questions at the end of each chapter

[Materials for Automobile Bodies](#) Springer

Der inhaltliche Schwerpunkt des Tagungsbands zur ATZlive-Veranstaltung "Der Antrieb von morgen" liegt beim Paradigmenwechsel durch künftig immer strengere Gesetze zu CO2-Emissionen sowie neu gestaltete, anspruchsvollere Prüfzyklen in Labors und realen Fahrsituationen. Die Elektrifizierung schreitet weiter voran. Antriebsstränge müssen noch stärker im Systemverbund Verbrennungsmotor, Getriebe und Elektrifizierung ausgelegt werden. Thematisch wird der Fokus auf die Antriebssynthese gelegt, während Komponenten und deren Fahrzeugintegration die Basis bilden.

[Emerging Solutions for e-Mobility and Smart Grids](#) Springer

1 Introduction -- 2 Design and material utilization -- 3 Materials for consideration and use in automotive body structures -- 4 The role of demonstration, concept and competition cars -- 5 Component manufacture -- 6 Component assembly: materials joining technology -- 7 Corrosion and protection of the automotive structure -- 8 Environmental considerations -- 9 Future trends in automotive body materials.

CRC Press

Focusing on the most rapidly changing areas of mechatronics, this book discusses signals and system control, mechatronic products, metrology and nanometrology, automatic control & robotics, biomedical engineering, photonics, design manufacturing and testing of MEMS. It is reflected in the list of contributors, including an international group of 302 leading

researchers representing 12 countries. The book is intended for use in academic, government and industry R&D departments, as an indispensable reference tool for the years to come. Thid volume can serve a global community as the definitive reference source in Mechatronics. The book comprises carefully selected 93 contributions presented at the 11th International Conference Mechatronics 2015, organized by Faculty of Mechatronics, Warsaw University of Technology, on September 21-23, in Warsaw, Poland.

Vehicle Powertrain Systems Kogan Page Publishers

The automobile industry is tremendously peculiar due to several strict requirements regarding functional reliability, safety standards, comfort level, high-volume production, and environmental limits. In addition, the industry is experiencing a disruptive evolution of modern vehicle research and design: electrification, connectivity, and autonomous driving. This book provides a robust overview of automotive engineering, including new proposals and the latest trends in road vehicle systems and sub-systems. Each chapter presents a rigorous analysis or a new solution in a clear and concise manner, such that professional and academic readers will appreciate both the theory dissertation and the industrial application.

Intelligent Control of Connected Plug-in Hybrid Electric Vehicles Springer-Verlag

This book presents select proceedings of the International Conference on Renewable Energy Systems (ICRES 2020). It focuses mainly on the concepts of electric vehicle, selection of batteries, selection of electric motors for specific capacity vehicles, design of controllers, battery chargers and development of testing facility. It presents the importance of energy storage system and modeling aspects of battery, super capacitor, flywheel energy storage and Superconducting magnetic energy storage systems. The book comprehensively presents the integration of renewable energy sources with smart grid, smart grid technologies and equipment, grid interconnection issues and design of intelligent controllers for grid connected system. The state-of-the-art technologies such as charging infrastructure for electric vehicles, robotic applications in energy, energy education and informatics are also covered in this book. This book will benefit the students and researchers in the field of electronics and electrical engineering, energy engineering, automotive engineering, e-mobility specialists and industrial experts.

Technical Literature Abstracts Technology for Electric and Hybrid Vehicles

Technology for Electric and Hybrid VehiclesSAE International

Applied Electromechanical Devices and Machines for Electric Mobility Solutions BoD - Books on Demand
Government subsidies have contributed to China's success as manufacturer and exporter in capital-intensive industries. China's state-capitalist regime uses subsidies to stabilize and create common understandings of markets among governments and firms.

Hybrid Electric Power Train Engineering and Technology: Modeling, Control, and Simulation BoD - Books on Demand

Intelligent Control of Connected Plug-in Hybrid Electric Vehicles presents the development of real-time intelligent control systems for plug-in hybrid electric vehicles, which involves control-oriented modelling, controller design, and performance evaluation. The controllers outlined in the book take advantage of advances in vehicle communications technologies, such as global positioning systems, intelligent transportation systems, geographic information systems, and other on-board sensors, in order to provide look-ahead trip data. The book contains simple and efficient models and fast optimization algorithms for the devised controllers to address the challenge of real-time implementation in the design of complex control systems. Using the look-ahead trip information, the authors of the book propose intelligent optimal model-based control systems to minimize the total energy cost, for both grid-derived electricity and fuel. The multilayer intelligent control system proposed consists of trip planning, an ecological cruise controller, and a route-based energy management system. An algorithm that is designed to take advantage of previewed trip information to optimize battery depletion profiles is presented in the book. Different control strategies are compared and ways in which connecting vehicles via vehicle-to-vehicle communication can improve system performance are detailed. Intelligent Control of Connected Plug-in Hybrid Electric Vehicles is a useful source of information for postgraduate students and researchers in academic institutions participating in automotive research activities. Engineers and designers working in research and development for automotive companies will also find this book of interest. Advances in Industrial Control reports and encourages the transfer of technology in control engineering. The rapid development of control technology has an impact on all areas of the control discipline. The series offers an opportunity for researchers to present an extended exposition of new work in all aspects of industrial control.

Advanced Microsystems for Automotive Applications 2012 Springer-Verlag

The why, what and how of the electric vehicle powertrain Empowers engineering professionals and students with the knowledge and skills required to engineer electric vehicle powertrain architectures, energy storage systems, power electronics converters and electric drives. The modern electric powertrain is relatively new for the automotive industry, and engineers are challenged with designing affordable, efficient and high-performance electric powertrains as the industry undergoes a technological evolution. Co-authored by two electric vehicle (EV) engineers with decades of experience designing and putting into production all of the powertrain technologies presented, this book provides readers with the hands-on knowledge, skills and expertise they need to rise to that challenge. This four-part practical guide provides a comprehensive review of battery, hybrid and fuel cell EV systems and the associated

energy sources, power electronics, machines, and drives. The first part of the book begins with a historical overview of electromobility and the related environmental impacts motivating the development of the electric powertrain. Vehicular requirements for electromechanical propulsion are then presented. Battery electric vehicles (BEV), fuel cell electric vehicles (FCEV), and conventional and hybrid electric vehicles (HEV) are then described, contrasted and compared for vehicle propulsion. The second part of the book features in-depth analysis of the electric powertrain traction machines, with a particular focus on the induction machine and the surface- and interior-permanent magnet ac machines. The brushed dc machine is also considered due to its ease of operation and understanding, and its historical place, especially as the traction machine on NASA's Mars rovers. The third part of the book features the theory and applications for the propulsion, charging, accessory, and auxiliary power electronics converters. Chapters are presented on isolated and non-isolated dc-dc converters, traction inverters, and battery charging. The fourth part presents the introductory and applied electromagnetism required as a foundation throughout the book. • Introduces and holistically integrates the key EV powertrain technologies. • Provides a comprehensive overview of existing and emerging automotive solutions. • Provides experience-based expertise for vehicular and powertrain system and sub-system level study, design, and optimization. • Presents many examples of powertrain technologies from leading manufacturers. • Discusses the dc traction machines of the Mars rovers, the ultimate EVs from NASA. • Investigates the environmental motivating factors and impacts of electromobility. • Presents a structured university teaching stream from introductory undergraduate to postgraduate. • Includes real-world problems and assignments of use to design engineers, researchers, and students alike. • Features a companion website with numerous references, problems, solutions, and practical assignments. • Includes introductory material throughout the book for the general scientific reader. • Contains essential reading for government regulators and policy makers. Electric Powertrain: Energy Systems, Power Electronics and Drives for Hybrid, Electric and Fuel Cell Vehicles is an important professional resource for practitioners and researchers in the battery, hybrid, and fuel cell EV transportation industry. The book is a structured holistic textbook for the teaching of the fundamental theories and applications of energy sources, power electronics, and electric machines and drives to engineering undergraduate and postgraduate students. Textbook Structure and Suggested Teaching Curriculum This is primarily an engineering textbook covering the automotive powertrain, energy storage and energy conversion, power electronics, and electrical machines. A significant additional focus is placed on the engineering design, the energy for transportation, and the related environmental impacts. This textbook is an educational tool for practicing engineers and others, such as transportation policy planners and regulators. The modern automobile is used as the vehicle upon which to base the theory and applications, which makes the book a useful educational reference for our industry colleagues, from chemists to engineers. This material is also written to be of interest to the general reader, who may have little or no interest in the power electronics and machines. Introductory science, mathematics, and an inquiring mind suffice for some chapters. The general reader can read the introduction to each of the chapters and move to the next as soon as the material gets too advanced for him or her. Part I Vehicles and Energy Sources Chapter 1 Electromobility and the Environment Chapter 2 Vehicle Dynamics Chapter 3 Batteries Chapter 4 Fuel Cells Chapter 5 Conventional and Hybrid Powertrains Part II Electrical Machines Chapter 6 Introduction to Traction Machines Chapter 7 The Brushed DC Machine Chapter 8 Induction Machines Chapter 9 Surface-permanent-magnet AC Machines Chapter 10: Interior-permanent-magnet AC Machines Part III Power Electronics Chapter 11 DC-DC Converters Chapter 12 Isolated DC-DC Converters Chapter 13 Traction Drives and Three-phase Inverters Chapter 14 Battery Charging Chapter 15 Control of the Electric Drive Part IV Basics Chapter 16 Introduction to Electromagnetism, Ferromagnetism, and Electromechanical Energy Conversion The first third of the book (Chapters 1 to 6), plus parts of Chapters 14 and 16, can be taught to the general science or engineering student in the second or third year. It covers the introductory automotive material using basic concepts from mechanical, electrical, environmental, and electrochemical engineering. Chapter 14 on electrical charging and Chapter 16 on electromagnetism can also be used as a general introduction to electrical engineering. The basics of electromagnetism, ferromagnetism and electromechanical energy conversion (Chapter 16) and dc machines (Chapter 7) can be taught to second year (sophomore) engineering students who have completed introductory electrical circuits and physics. The third year (junior) students typically have covered ac circuit analysis, and so they can cover ac machines, such as the induction machine (Chapter 8) and the surface permanent-magnet ac machine (Chapter 9). As the students typically have studied control theory, they can investigate the control of the speed and torque loops of the motor drive (Chapter 15). Power

electronics, featuring non-isolated buck and boost converters (Chapter 11), can also be introduced in the third year. The final-year (senior) students can then go on to cover the more advanced technologies of the interior-permanent-magnet ac machine (Chapter 10). Isolated power converters (Chapter 12), such as the full-bridge and resonant converters, inverters (Chapter 13), and power-factor-corrected battery chargers (Chapter 14), are covered in the power electronics section. This material can also be covered at the introductory postgraduate level. Various homework, simulation, and research exercises are presented throughout the textbook. The reader is encouraged to attempt these exercises as part of the learning experience. Instructors are encouraged to contact the author, John Hayes, direct to discuss course content or structure.

Control Strategies for Advanced Driver Assistance Systems and Autonomous Driving Functions Springer-Verlag
Investigating a noise cancellation system for speakerphones. Reproduced from typescripts. Annotation copyrighted by Book News, Inc., Portland, OR.

Alternative Automotive Technologies and Energy Efficiency National Academies Press
Proceedings of the FISITA 2012 World Automotive Congress are selected from nearly 2,000 papers submitted to the 34th FISITA World Automotive Congress, which is held by Society of Automotive Engineers of China (SAE-China) and the International Federation of Automotive Engineering Societies (FISITA). This proceedings focus on solutions for sustainable mobility in all areas of passenger car, truck and bus transportation. Volume 7: Vehicle Design and Testing (I) focuses on: •Vehicle Performance Development •Vehicle Integration Platformized and Universal Design •Development of CAD /CAE/CAM and CF Methods in Automotive Practice •Advanced Chassis, Body Structure and Design •Automotive Ergonomic, Interior and Exterior Trim Design •Vehicle Style and Aerodynamic Design •New Materials and Structures Above all researchers, professional engineers and graduates in fields of automotive engineering, mechanical engineering and electronic engineering will benefit from this book. SAE-China is a national academic organization composed of enterprises and professionals who focus on research, design and education in the fields of automotive and related industries. FISITA is the umbrella organization for the national automotive societies in 37 countries around the world. It was founded in Paris in 1948 with the purpose of bringing engineers from around the world together in a spirit of cooperation to share ideas and advance the technological development of the automobile.

Handbook of Clean Energy Systems, 6 Volume Set Springer Nature
The book covers a wide range of applied research compactly presented in one volume, and shows innovative engineering solutions for automotive, marine and aviation industries, as well as power generation. While targeting primarily the audience of professional scientists and engineers, the book can also be useful for graduate students, and also for all those who are relatively new to the area and are looking for a single source with a good overview of the state-of-the-art as well as an up-to-date information on theories, numerical methods, and their application in design, simulation, testing, and manufacturing. The readers will find here a rich mixture of approaches, software tools and case studies used to investigate and optimize diverse powertrains, their functional units and separate machine parts based on different physical phenomena, their mathematical representation, solution algorithms, and experimental validation.