

## Cisco Kinetic For Cities Parking Solution At A Glance

The response and subsequent performance of federal, state, and especially local agencies, in particular their coordination and cooperation with each other and with Pentagon authorities, provide lessons for dealing with other large-scale emergencies in the future. Material used in this study was distilled from more than 1,300 interviews, relying on the corroborative testimony of two or more witnesses wherever possible.

This book constitutes the thoroughly refereed proceedings of the 4th International Conference on Smart Cities and Green ICT Systems, SMARTGREENS 2015, and the 1st International Conference on Vehicle Technology and Intelligent Transport Systems, VEHITS 2015, held in Lisbon, Portugal, in May 2015. The 15 full papers of SMARTGREENS 2015 presented were carefully reviewed and selected from 73 submissions. VEHITS 2015 received 27 paper submissions from which 3 papers were selected and published in this book. The papers reflect topics such as smart cities, energy-aware systems and technologies, sustainable computing and communications, sustainable transportation and smart mobility. This book is a printed edition of the Special Issue "Sensors and Actuators in Smart Cities" that was published in JSAN

This book is a printed edition of the Special Issue "Wireless Sensor and Actuator Networks for Smart Cities" that was published in JSAN

This book is about the unprecedented challenges facing the worlds cities as they expand and develop in response to demographic change, human aspirations and the forces of globalization. Most of that growth is taking place in the developing countries and it is here that the megacities (places with over ten million people) seem destined to emerge during the next few decades. While there are considerable variations in the rates of city expansion between and within the different world regions, much of that growth has taken place as formless urban sprawl, as well as the slums and squatter settlements to be found in many of the worlds cities. These urbanizing areas face acute economic, social and environmental problems. They stem from, amongst other things, fundamental changes in the nature of work, the economic crisis that began in 2008, the continuing, and often growing, inequalities within the urban population and from the severe pollution and hazardous living conditions that afflict many urban communities. Without suitable action to address them, those problems are likely to worsen as the effects of human induced climate change become ever more apparent. So how can our cities become truly liveable places? Published in tandem with ISOCARP's 47th World Congress held in Wuhan, China, the many case studies in this publication describe new planning and other approaches that seek to create more sustainable, more liveable, cities.

As the world has transformed, so have cities. Today, cities are home to 54

percent of the world's population, and by the middle of this century that figure will likely rise to 66 percent. According to the United Nations (UN) Habitat I (1972), Habitat II (1996) and Habitat III (2016) summits, cities are facing many serious challenges, including growing inequality, security concerns and the worsening impacts of climate change. Uncontrolled urbanization has led to many problems (haphazard growth of areas, emergence of slums, inadequate water and power supply, poor sanitation, shortage of transport and other civic amenities, shrinking green spaces, pollution, crime, and urban disaster risks such as fire, flood, road and industrial accidents, etc.). Worldwide, communities at the international, national and local level are continuously working to improve human habitats. In order to make our planet more sustainable, the UN has moved from the Millennium Development Goals (MDG) to the Sustainable Development Goals (SDG). Among the latter, the aim of SDG 11 is to "...make cities and human settlements inclusive, safe, resilient and sustainable." In light of these challenges, various terms have emerged to help understand urban issues. Visualizing the problem, the United Nations program "Making Cities Resilient" is focused on mitigating the disaster risk in urban areas. This book analyzes terms such as: sustainable, resilient, livable, inclusive, smart and world class city, which have emerged in the process of combating urban challenges in today's world. The book addresses emerging concepts for cities, challenges and potentials, urban environments, health and planning/policies. Covering 14 large cities in India, as well as case studies from Japan, Singapore, Thailand, Malaysia, Poland and Sweden, it provides a regional dimension to and micro-level perspective on urban issues.

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 highlighted 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.

Med sine "gratis" tjenester har giganter som Google og Facebook gitt oss et tilbud vi ikke kunne takke nei til. Til gjengjeld forsyner de seg med enorme mengder data om vår oppførsel og preferanser, som de ganske uforstyrret selger videre til høystbydende. Det er dette Shoshana Zuboff kaller overvåkingskapitalisme, et fenomen som truer med å omforme samfunnet like mye som den industrielle revolusjonen gjorde på 1800-tallet. I

overvåkingskapitalismens tid er vi ikke bare konsumenter, vi utgjør selve råvaren. Den skjulte og stadig mer sofistikerte bruken av dataene om oss bidrar ikke bare til å gi oss skreddersydd innhold og reklame. Den er blitt et verktøy til å forutsi og påvirke vår atferd, både som kunder, borgere og som velgere. Og den utgjør en mektig trussel mot så vel demokratiet som vår personlige frihet. Shoshana Zuboff er filosof, sosialpsykolog og professor emerita ved Harvard Business School. Hennes tre tidligere bøker har alle åpnet dører til ny forståelse av hvordan teknologien påvirker mennesket.

Inspiring people to care about the planet. In the new edition of *LIVING IN THE ENVIRONMENT*, authors Tyler Miller and Scott Spoolman have partnered with the National Geographic Society to develop a text designed to equip students with the inspiration and knowledge they need to make a difference solving today's environmental issues. Exclusive content highlights important work of National Geographic Explorers, and features over 200 new photos, maps, and illustrations that bring course concepts to life. Using sustainability as the integrating theme, *LIVING IN THE ENVIRONMENT 18e*, provides clear introductions to the multiple environmental problems that we face and balanced discussions to evaluate potential solutions. In addition to the integration of new and engaging National Geographic content, every chapter has been thoroughly updated and 18 new Core Case Studies offer current examples of present environmental problems and scenarios for potential solutions. The concept-centered approach used in the text transforms complex environmental topics and issues into key concepts that students will understand and remember. Overall, by framing the concepts with goals for more sustainable lifestyles and human communities, students see how promising the future can be and their important role in shaping it. offers additional exclusive National Geographic content, including high-quality videos on important environmental problems and efforts being made to address them. Team up with Miller/Spoolman's, *LIVING IN THE ENVIRONMENT* and the National Geographic Society to offer your students the most inspiring introduction to environmental science available! Important Notice: Media content referenced within the product description or the product text may

not be available in the ebook version.

Featuring new listings and new information on existing haunts, this book offers supernatural tourists a guide to points of interest through the eyes of the world's leading ghost hunters.

**Smart City Emergence: Cases from Around the World** analyzes how smart cities are currently being conceptualized and implemented, examining the theoretical underpinnings and technologies that connect theory with tangible practice achievements. Using numerous cities from different regions around the globe, the book compares how smart cities of different sizes are evolving in different countries and continents. In addition, it examines the challenges cities face as they adopt the smart city concept, separating fact from fiction, with insights from scholars, government officials and vendors currently involved in smart city implementation. Utilizes a sound and systematic research methodology Includes a review of the latest research developments Contains, in each chapter, a brief summary of the case, an illustration of the theoretical context that lies behind the case, the case study itself, and conclusions showing learned outcomes Examines smart cities in relation to climate change, sustainability, natural disasters and community resiliency

The challenges to humanity posed by the digital future, the first detailed examination of the unprecedented form of power called "surveillance capitalism," and the quest by powerful corporations to predict and control our behavior. In this masterwork of original thinking and research, Shoshana Zuboff provides startling insights into the phenomenon that she has named surveillance capitalism. The stakes could not be higher: a global architecture of behavior modification threatens human nature in the twenty-first century just as industrial capitalism disfigured the natural world in the twentieth. Zuboff vividly brings to life the consequences as surveillance capitalism advances from Silicon Valley into every economic sector. Vast wealth and power are accumulated in ominous new "behavioral futures markets," where predictions about our behavior are bought and sold, and the production of goods and services is subordinated to a new "means of behavioral modification." The threat has shifted from a totalitarian Big Brother state to a ubiquitous digital architecture: a "Big Other" operating in the interests of surveillance capital. Here is the crucible of an unprecedented form of power marked by extreme concentrations of knowledge and free from democratic oversight. Zuboff's comprehensive and moving analysis lays bare the threats to twenty-first century society: a controlled "hive" of total connection that seduces with promises of total certainty for maximum profit -- at the expense of democracy, freedom, and our human future. With little resistance from law or society, surveillance capitalism is on the verge of dominating the social order and shaping the digital future -- if we let it.

The environment that we construct affects both humans and our natural world in myriad ways. There is a pressing need to create healthy places and to reduce the health threats inherent in places already built. However, there has been little

awareness of the adverse effects of what we have constructed-or the positive benefits of well designed built environments. This book provides a far-reaching follow-up to the pathbreaking *Urban Sprawl and Public Health*, published in 2004. That book sparked a range of inquiries into the connections between constructed environments, particularly cities and suburbs, and the health of residents, especially humans. Since then, numerous studies have extended and refined the book's research and reporting. *Making Healthy Places* offers a fresh and comprehensive look at this vital subject today. There is no other book with the depth, breadth, vision, and accessibility that this book offers. In addition to being of particular interest to undergraduate and graduate students in public health and urban planning, it will be essential reading for public health officials, planners, architects, landscape architects, environmentalists, and all those who care about the design of their communities. Like a well-trained doctor, *Making Healthy Places* presents a diagnosis of--and offers treatment for--problems related to the built environment. Drawing on the latest scientific evidence, with contributions from experts in a range of fields, it imparts a wealth of practical information, with an emphasis on demonstrated and promising solutions to commonly occurring problems.

Includes Geographical index.

Who are we, and how do we relate to each other? Luciano Floridi, one of the leading figures in contemporary philosophy, argues that the explosive developments in Information and Communication Technologies (ICTs) is changing the answer to these fundamental human questions. As the boundaries between life online and offline break down, and we become seamlessly connected to each other and surrounded by smart, responsive objects, we are all becoming integrated into an "infosphere". Personas we adopt in social media, for example, feed into our 'real' lives so that we begin to live, as Floridi puts in, "onlife". Following those led by Copernicus, Darwin, and Freud, this metaphysical shift represents nothing less than a fourth revolution. "Onlife" defines more and more of our daily activity - the way we shop, work, learn, care for our health, entertain ourselves, conduct our relationships; the way we interact with the worlds of law, finance, and politics; even the way we conduct war. In every department of life, ICTs have become environmental forces which are creating and transforming our realities. How can we ensure that we shall reap their benefits? What are the implicit risks? Are our technologies going to enable and empower us, or constrain us? Floridi argues that we must expand our ecological and ethical approach to cover both natural and man-made realities, putting the 'e' in an environmentalism that can deal successfully with the new challenges posed by our digital technologies and information society.

Summary Big Data teaches you to build big data systems using an architecture that takes advantage of clustered hardware along with new tools designed specifically to capture and analyze web-scale data. It describes a scalable, easy-to-understand approach to big data systems that can be built and run by a small

team. Following a realistic example, this book guides readers through the theory of big data systems, how to implement them in practice, and how to deploy and operate them once they're built. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Book Web-scale applications like social networks, real-time analytics, or e-commerce sites deal with a lot of data, whose volume and velocity exceed the limits of traditional database systems. These applications require architectures built around clusters of machines to store and process data of any size, or speed. Fortunately, scale and simplicity are not mutually exclusive. Big Data teaches you to build big data systems using an architecture designed specifically to capture and analyze web-scale data. This book presents the Lambda Architecture, a scalable, easy-to-understand approach that can be built and run by a small team. You'll explore the theory of big data systems and how to implement them in practice. In addition to discovering a general framework for processing big data, you'll learn specific technologies like Hadoop, Storm, and NoSQL databases. This book requires no previous exposure to large-scale data analysis or NoSQL tools. Familiarity with traditional databases is helpful. What's Inside Introduction to big data systems Real-time processing of web-scale data Tools like Hadoop, Cassandra, and Storm Extensions to traditional database skills About the Authors Nathan Marz is the creator of Apache Storm and the originator of the Lambda Architecture for big data systems. James Warren is an analytics architect with a background in machine learning and scientific computing. Table of Contents A new paradigm for Big Data PART 1 BATCH LAYER Data model for Big Data Data model for Big Data: Illustration Data storage on the batch layer Data storage on the batch layer: Illustration Batch layer Batch layer: Illustration An example batch layer: Architecture and algorithms An example batch layer: Implementation PART 2 SERVING LAYER Serving layer Serving layer: Illustration PART 3 SPEED LAYER Realtime views Realtime views: Illustration Queuing and stream processing Queuing and stream processing: Illustration Micro-batch stream processing Micro-batch stream processing: Illustration Lambda Architecture in depth

This book highlights state-of-the-art research on big data and the Internet of Things (IoT), along with related areas to ensure efficient and Internet-compatible IoT systems. It not only discusses big data security and privacy challenges, but also energy-efficient approaches to improving virtual machine placement in cloud computing environments. Big data and the Internet of Things (IoT) are ultimately two sides of the same coin, yet extracting, analyzing and managing IoT data poses a serious challenge. Accordingly, proper analytics infrastructures/platforms should be used to analyze IoT data. Information technology (IT) allows people to upload, retrieve, store and collect information, which ultimately forms big data. The use of big data analytics has grown tremendously in just the past few years. At the same time, the IoT has entered the public consciousness, sparking people's imaginations as to what a fully connected world can offer. Further, the

book discusses the analysis of real-time big data to derive actionable intelligence in enterprise applications in several domains, such as in industry and agriculture. It explores possible automated solutions in daily life, including structures for smart cities and automated home systems based on IoT technology, as well as health care systems that manage large amounts of data (big data) to improve clinical decisions. The book addresses the security and privacy of the IoT and big data technologies, while also revealing the impact of IoT technologies on several scenarios in smart cities design. Intended as a comprehensive introduction, it offers in-depth analysis and provides scientists, engineers and professionals the latest techniques, frameworks and strategies used in IoT and big data technologies.

Become empowered to build and maintain smarter cities At its core, a Smart City is a collection of technological responses to the growing demands, challenges, and complexities of improving the quality of life for billions of people now living in urban centers across the world. The movement to create smarter cities is still in its infancy, but ambitious and creative projects in all types of cities—big and small—around the globe are beginning to make a big difference. New ideas, powered by technology, are positively changing how we move humans and products from one place to another; create and distribute energy; manage waste; combat the climate crisis; build more energy efficient buildings; and improve basic city services through digitalization and the smart use of data. Inside this book you'll find out: What it really means to create smarter cities How our urban environments are being transformed Big ideas for improving the quality of life for communities Guidance on how to create a smart city strategy The essential role of data in building better cities The major new technologies ready to make a difference in every community Smart Cities will give you the knowledge to understand this important topic in depth and be ready to be an agent of change in your community.

Information and communication technologies play an essential role in the effectiveness and efficiency of smart city processes. Recognizing the role of process analysis in energy usage and how it can be enhanced is essential to improving city sustainability. Smart Grid Analytics for Sustainability and Urbanization provides emerging research on the development of information technology and communication systems in smart cities and smart grids. While highlighting topics such as process mining, innovation management, and sustainability optimization, this publication explores technology development and the mobilization of different environments in smart cities. This book is an important resource for graduate students, researchers, academics, engineers, and government officials seeking current research on how process analysis in energy usage is manifested and how it can be enhanced.

With the promise of delivery drones, personal helicopters and groceries delivered right to your refrigerator, one might think we are living in the best of transportation times. However, most city commuters would be quick to tell you otherwise. Of all

the technological interventions continuously inserted into our daily travels, which ones will last? Is ride-sharing here to stay? In ten years will we all be taking autonomous vehicles to work? Will traffic as we know it cease to exist? While this volume makes no promises or predictions, it does take a step back from the hype of the new to explore more of the options from what might seem like yesterday's solutions: busses, bikes and even trains. Perhaps remedies to our transportation woes are not all in the future but are hiding in plain and present site. 00'The Future of Transportation' is the third volume in the 'SOM Thinkers' series, conceived by Skidmore, Owings & Merrill. 'SOM Thinkers' originated from a desire to start a public conversation about the built environment. Rather than frame the subject in the expected ?professional? language, the series poses today?s most pressing questions about design and architecture in a bold and accessible way.

Explore the role the bicycle played in the women's liberation movement. Smart Cities for Technological and Social Innovation establishes a key theoretical framework to understand the implementation and development of smart cities as innovation drivers, in terms of lasting impacts on productivity, livability and sustainability of specific initiatives. This framework is based on empirical analysis of 12 case studies, including pioneer projects from Europe, Asia, the Middle East, and more. It explores how successful smart cities initiatives nurture both technological and social innovation using a combination of regulatory governance and private agency. Typologies of smart city-making approaches are explored in depth. Integrative analysis identifies key success factors in establishing innovation relating to the effectiveness of social systems, institutional thickness, governance, the role of human capital, and streamlining funding of urban development projects. Cases from a range of geographies, scales, social and economic contexts Explores how smart cities can promote technological and social innovation in terms of direct impacts on livability, productivity and sustainability Establishes an integrative framework based on empirical evidence to develop more innovative smart city initiatives Investigates the role of governments in coordinating, fostering and guiding innovations resulting from smart city developments Interrogates the policies and governance structures which have been effective in supporting the development and deployment of smart cities

Final report of the National Commission on Terrorist Attacks upon the United States.

This open access book presents the outcomes of the symposium "NEW METROPOLITAN PERSPECTIVES," held at Mediterranea University, Reggio Calabria, Italy on May 26-28, 2020. Addressing the challenge of Knowledge Dynamics and Innovation-driven Policies Towards Urban and Regional Transition, the book presents a multi-disciplinary debate on the new frontiers of strategic and spatial planning, economic programs and decision support tools in connection with urban-rural area networks and metropolitan centers. The

respective papers focus on six major tracks: Innovation dynamics, smart cities and ICT; Urban regeneration, community-led practices and PPP; Local development, inland and urban areas in territorial cohesion strategies; Mobility, accessibility and infrastructures; Heritage, landscape and identity; and Risk management, environment and energy. The book also includes a Special Section on Rregion United Nations 2020-2030. Given its scope, the book will benefit all researchers, practitioners and policymakers interested in issues concerning metropolitan and marginal areas.

Warehouses are an integral link in the modern supply chain, ensuring that the correct product is delivered in the right quantity, in good condition, at the required time, and at minimal cost: in effect, the perfect order. The effective management of warehouses is vital in minimizing costs and ensuring the efficient operation of any supply chain.

Warehouse Management is a complete guide to best practice in warehouse operations. Covering everything from the latest technological advances to current environmental issues, this book provides an indispensable companion to the modern warehouse.

Supported by case studies, the text considers many aspects of warehouse management, including: cost reduction productivity people management warehouse operations With helpful tools, hints and up-to-date information, Warehouse Management provides an invaluable resource for anyone looking to reduce costs and boost productivity.

Since cities emerged ten thousand years ago, they have become one of the most impressive artifacts of humanity. But their evolution has been anything but linear—cities have gone through moments of radical change, turning points that redefine their very essence. In this book, a renowned architect and urban planner who studies the intersection of cities and technology argues that we are in such a moment. The authors explain some of the forces behind urban change and offer new visions of the many possibilities for tomorrow's city. Pervasive digital systems that layer our cities are transforming urban life. The authors provide a front-row seat to this change. Their work at the MIT Senseable City Laboratory allows experimentation and implementation of a variety of urban initiatives and concepts, from assistive condition-monitoring bicycles to trash with embedded tracking sensors, from mobility to energy, from participation to production. They call for a new approach to envisioning cities: futurecraft, a symbiotic development of urban ideas by designers and the public. With such participation, we can collectively imagine, examine, choose, and shape the most desirable future of our cities.

Today, billions of devices are Internet-connected, IoT standards and protocols are stabilizing, and technical professionals must increasingly solve real problems with IoT technologies. Now, five leading Cisco IoT experts present the first comprehensive, practical reference for making IoT work. IoT Fundamentals brings together knowledge previously available only in white papers, standards documents, and other hard-to-find sources—or nowhere at all. The authors begin with a high-level overview of IoT and introduce key concepts needed to successfully design IoT solutions. Next, they walk through each key technology, protocol, and technical building block that combine into complete IoT solutions. Building on these essentials, they present several detailed use cases, including manufacturing, energy, utilities, smart+connected cities, transportation,

mining, and public safety. Whatever your role or existing infrastructure, you'll gain deep insight what IoT applications can do, and what it takes to deliver them. Fully covers the principles and components of next-generation wireless networks built with Cisco IOT solutions such as IEEE 802.11 (Wi-Fi), IEEE 802.15.4-2015 (Mesh), and LoRaWAN Brings together real-world tips, insights, and best practices for designing and implementing next-generation wireless networks Presents start-to-finish configuration examples for common deployment scenarios Reflects the extensive first-hand experience of Cisco experts

This book presents an in-depth description of the Arrowhead Framework and how it fosters interoperability between IoT devices at service level, specifically addressing application. The Arrowhead Framework utilizes SOA technology and the concepts of local clouds to provide required automation capabilities such as: real time control, security, scalability, and engineering simplicity. Arrowhead Framework supports the realization of collaborative automation; it is the only IoT Framework that addresses global interoperability across multiplet SOA technologies. With these features, the Arrowhead Framework enables the design, engineering, and operation of large automation systems for a wide range of applications utilizing IoT and CPS technologies. The book provides application examples from a wide number of industrial fields e.g. airline maintenance, mining maintenance, smart production, electro-mobility, automative test, smart cities—all in response to EU societal challenges. Features Covers the design and implementation of IoT based automation systems. Industrial usage of Internet of Things and Cyber Physical Systems made feasible through Arrowhead Framework. Functions as a design cookbook for building automation systems using IoT/CPS and Arrowhead Framework. Tools, templates, code etc. described in the book will be accessible through open sources project Arrowhead Framework Wiki at [forge.soa4d.org/](http://forge.soa4d.org/) Written by the leading experts in the European Union and around the globe.

This book contains selected papers from the 9th International Conference on Information Science and Applications (ICISA 2018) and provides a snapshot of the latest issues encountered in technical convergence and convergences of security technology. It explores how information science is core to most current research, industrial and commercial activities and consists of contributions covering topics including Ubiquitous Computing, Networks and Information Systems, Multimedia and Visualization, Middleware and Operating Systems, Security and Privacy, Data Mining and Artificial Intelligence, Software Engineering, and Web Technology. The proceedings introduce the most recent information technology and ideas, applications and problems related to technology convergence, illustrated through case studies, and reviews converging existing security techniques. Through this volume, readers will gain an understanding of the current state-of-the-art information strategies and technologies of convergence security. The intended readership includes researchers in academia, industry and other research institutes focusing on information science and technology. This open access book explores the collision between the sustainable energy transition and the Internet of Things (IoT). In that regard, this book's arrival is timely. Not only is the Internet of Things for energy applications, herein called the energy Internet of Things (eloT), rapidly developing but also the transition towards sustainable energy to abate global climate is very much at the forefront of public discourse. It is within the

context of these two dynamic thrusts, digitization and global climate change, that the energy industry sees itself undergoing significant change in how it is operated and managed. This book recognizes that they impose five fundamental energy management change drivers: 1.) the growing demand for electricity, 2.) the emergence of renewable energy resources, 3.) the emergence of electrified transportation, 4.) the deregulation of electric power markets, 5.) and innovations in smart grid technology. Together, they challenge many of the assumptions upon which the electric grid was first built. The goal of this book is to provide a single integrated picture of how eIoT can come to transform our energy infrastructure. This book links the energy management change drivers mentioned above to the need for a technical energy management solution. It, then, describes how eIoT meets many of the criteria required for such a technical solution. In that regard, the book stresses the ability of eIoT to add sensing, decision-making, and actuation capabilities to millions or perhaps even billions of interacting "smart" devices. With such a large scale transformation composed of so many independent actions, the book also organizes the discussion into a single multi-layer energy management control loop structure. Consequently, much attention is given to not just network-enabled physical devices but also communication networks, distributed control & decision making, and finally technical architectures and standards. Having gone into the detail of these many simultaneously developing technologies, the book returns to how these technologies when integrated form new applications for transactive energy. In that regard, it highlights several eIoT-enabled energy management use cases that fundamentally change the relationship between end users, utilities, and grid operators. Consequently, the book discusses some of the emerging applications for utilities, industry, commerce, and residences. The book concludes that these eIoT applications will transform today's grid into one that is much more responsive, dynamic, adaptive and flexible. It also concludes that this transformation will bring about new challenges and opportunities for the cyber-physical-economic performance of the grid and the business models of its increasingly growing number of participants and stakeholders.

The book outlines the concept of the Automated City, in the context of smart city research and development. While there have been many other perspectives on the smart city such as the participatory city and the data-centric city, this book focuses on automation for the smart city based on current and emerging technologies such as the Internet of Things, Artificial Intelligence and Robotics. The book attempts to provide a balanced view, outlining the promises and potential of the Automated City as well as the perils and challenges of widespread automation in the city. The book discusses, at some depth, automated vehicles, urban robots and urban drones as emerging technologies that will automate many aspects of city life and operation, drawing on current work and research literature. The book also considers broader perspectives of the future city, in the context of automation in the smart city, including aspirational visions of cities, transportation, new business models, and socio-technological challenges, from urban edge computing, ethics of the Automated City and smart devices, to large scale cooperating autonomous systems in the city.

The Internet of Things (IoT) usually refers to a world-wide network of interconnected heterogeneous objects (sensors, actuators, smart devices, smart objects, RFID, embedded computers, etc) uniquely addressable, based on standard communication

protocols. Beyond such a definition, it is emerging a new definition of IoT seen as a loosely coupled, decentralized system of cooperating smart objects (SOs). A SO is an autonomous, physical digital object augmented with sensing/actuating, processing, storing, and networking capabilities. SOs are able to sense/actuate, store, and interpret information created within themselves and around the neighbouring external world where they are situated, act on their own, cooperate with each other, and exchange information with other kinds of electronic devices and human users. However, such SO-oriented IoT raises many in-the-small and in-the-large issues involving SO programming, IoT system architecture/middleware and methods/methodologies for the development of SO-based applications. This Book will specifically focus on exploring recent advances in architectures, algorithms, and applications for an Internet of Things based on Smart Objects. Topics appropriate for this Book include, but are not necessarily limited to: - Methods for SO development - IoT Networking - Middleware for SOs - Data Management for SOs - Service-oriented SOs - Agent-oriented SOs - Applications of SOs in Smart Environments: Smart Cities, Smart Health, Smart Buildings, etc. Advanced IoT Projects.

The Internet of Things (IoT) is an emerging network superstructure that will connect physical resources and actual users. It will support an ecosystem of smart applications and services bringing hyper-connectivity to our society by using augmented and rich interfaces. Whereas in the beginning IoT referred to the advent of barcodes and Radio Frequency Identification (RFID), which helped to automate inventory, tracking and basic identification, today IoT is characterized by a dynamic trend toward connecting smart sensors, objects, devices, data and applications. The next step will be “cognitive IoT,” facilitating object and data re-use across application domains and leveraging hyper-connectivity, interoperability solutions and semantically enriched information distribution. The Architectural Reference Model (ARM), presented in this book by the members of the IoT-A project team driving this harmonization effort, makes it possible to connect vertically closed systems, architectures and application areas so as to create open interoperable systems and integrated environments and platforms. It constitutes a foundation from which software companies can capitalize on the benefits of developing consumer-oriented platforms including hardware, software and services. The material is structured in two parts. Part A introduces the general concepts developed for and applied in the ARM. It is aimed at end users who want to use IoT technologies, managers interested in understanding the opportunities generated by these novel technologies, and system architects who are interested in an overview of the underlying basic models. It also includes several case studies to illustrate how the ARM has been used in real-life scenarios. Part B then addresses the topic at a more detailed technical level and is targeted at readers with a more scientific or technical background. It provides in-depth guidance on the ARM, including a detailed description of a process for generating concrete architectures, as well as reference manuals with guidelines on how to use the various models and perspectives presented to create a concrete architecture. Furthermore, best practices and tips on how system engineers can use the ARM to develop specific IoT architectures for dedicated IoT solutions are illustrated and exemplified in reverse mapping exercises of existing standards and platforms. The books in the Florida and the Caribbean Open Books Series demonstrate the University Press of Florida's long history of publishing Latin American and Caribbean

studies titles that connect in and through Florida, highlighting the connections between the Sunshine State and its neighboring islands. Books in this series show how early explorers found and settled Florida and the Caribbean. They tell the tales of early pioneers, both foreign and domestic. They examine topics critical to the area such as travel, migration, economic opportunity, and tourism. They look at the growth of Florida and the Caribbean and the attendant pressures on the environment, culture, urban development, and the movement of peoples, both forced and voluntary. The Florida and the Caribbean Open Books Series gathers the rich data available in these architectural, archaeological, cultural, and historical works, as well as the travelogues and naturalists' sketches of the area prior to the twentieth century, making it accessible for scholars and the general public alike. The Florida and the Caribbean Open Books Series is made possible through a grant from the National Endowment for the Humanities and the Andrew W. Mellon Foundation, under the Humanities Open Books program.

Tim Beatley has long been a leader in advocating for the "greening" of cities. But too often, he notes, urban greening efforts focus on everything except nature, emphasizing such elements as public transit, renewable energy production, and energy efficient building systems. While these are important aspects of reimagining urban living, they are not enough, says Beatley. We must remember that human beings have an innate need to connect with the natural world (the biophilia hypothesis). And any vision of a sustainable urban future must place its focus squarely on nature, on the presence, conservation, and celebration of the actual green features and natural life forms. A biophilic city is more than simply a biodiverse city, says Beatley. It is a place that learns from nature and emulates natural systems, incorporates natural forms and images into its buildings and cityscapes, and designs and plans in conjunction with nature. A biophilic city cherishes the natural features that already exist but also works to restore and repair what has been lost or degraded. In *Biophilic Cities* Beatley not only outlines the essential elements of a biophilic city, but provides examples and stories about cities that have successfully integrated biophilic elements--from the building to the regional level--around the world. From urban ecological networks and connected systems of urban greenspace, to green rooftops and green walls and sidewalk gardens, Beatley reviews the emerging practice of biophilic urban design and planning, and tells many compelling stories of individuals and groups working hard to transform cities from grey and lifeless to green and biodiverse.

"This publication offers practical advice and inspiration for ensuring that nature in the city is more than infrastructure--that it also promotes well-being and creates an emotional connection to the earth among urban residents. Divided into six parts, the Handbook begins by introducing key ideas, literature, and theory about biophilic urbanism. Chapters highlight urban biophilic innovations in more than a dozen global cities. The final part concludes with lessons on how to advance an agenda for urban biophilia and an extensive list of resources."--Publisher.

This book constitutes the refereed post-conference proceedings of the 5th International Conference on Future Access Enablers for Ubiquitous and Intelligent Infrastructures, FABULOUS 2021, held in May 2021. Due to COVID-19 pandemic the conference was held virtually. This year's conference topic covers security of innovative services and infrastructure in traffic, transport and logistic ecosystems. The 30 revised full papers

were carefully reviewed and selected from 60 submissions. The papers are organized in thematic sessions on: Internet of things and smart city; smart environment applications; information and communications technology; smart health applications; sustainable communications and computing infrastructures.

Sensors are integral to modern living and are found in a huge number of applications in science, engineering and technology thus it is critical for scientists and technologists to understand the physical principles behind sensor types as well as their characteristics, applications, and how they can be suitably employed in sensor technologies. Whilst there exists a vast literature on the physics and characteristics of traditional sensors, this book provides a broad overview of the range of sensor technologies and attendant topics needed to optimise and utilise these devices in the modern world. Not only reviewing sensors by classification, the book encompasses the physics, design characteristics, simulation and interface electronics, and it includes case studies, future challenges and several other aspects of wider sensor technology to provide an overview of modern sensors and their applications. The broad scope will appeal to industrial and academic researchers and application engineers, especially those developing and implementing real-time hardware implementations employing smart sensors for emerging applications. Key Features Features a broad review of sensor types, including MEMS, wearable and smart sensors Presents application of modern sensors and emerging research directions Incorporates case studies Reviews wider associated technologies such as simulation, materials and interface electronics Interdisciplinary appeal making the text suitable for industrial and academic researchers as well as application engineers

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