

From Smart City To Smart Region Digital Services For An Internet Of Places Springerbriefs In Applied Sciences And Technology

Why technology is not an end in itself, and how cities can be “smart enough,” using technology to promote democracy and equity. Smart cities, where technology is used to solve every problem, are hailed as futuristic urban utopias. We are promised that apps, algorithms, and artificial intelligence will relieve congestion, restore democracy, prevent crime, and improve public services. In *The Smart Enough City*, Ben Green warns against seeing the city only through the lens of technology; taking an exclusively technical view of urban life will lead to cities that appear smart but under the surface are rife with injustice and inequality. He proposes instead that cities strive to be “smart enough”: to embrace technology as a powerful tool when used in conjunction with other forms of social change—but not to value technology as an end in itself. In a technology-centric smart city, self-driving cars have the run of downtown and force out pedestrians, civic engagement is limited to requesting services through an app, police use algorithms to justify and perpetuate racist practices, and governments and private companies surveil public space to control behavior. Green describes smart city efforts gone wrong but also smart enough alternatives, attainable with the help of technology but not reducible to technology: a livable city, a democratic city, a just city, a responsible city, and an innovative city. By recognizing the complexity of urban life rather than merely seeing the city as something to optimize, these *Smart Enough Cities* successfully incorporate technology into a holistic vision of justice and equity.

Hackers, cyber-criminals, Dark Web users, and techno-terrorists beware! This book should make you think twice about attempting to do your dirty work in the smart cities of tomorrow. Scores of cities around the world have begun planning what are known as “smart cities.” These new or revamped urban areas use the latest technology to make the lives of residents easier and more enjoyable. They will have automated infrastructures such as the Internet of Things, “the Cloud,” automated industrial controls, electronic money, mobile and communication satellite systems, wireless texting and networking. With all of these benefits come new forms of danger, and so these cities will need many safeguards to prevent cyber criminals from wreaking havoc. This book explains the advantages of smart cities and how to design and operate one. Based on the practical experience of the authors in projects in the U.S. and overseas in Dubai, Malaysia, Brazil and India, it tells how such a city is planned and analyzes vital security concerns that must be addressed along the way. Most of us will eventually live in smart cities. What are the advantages and the latest design strategies for such ventures? What are the potential drawbacks? How will they change the lives of everyday citizens? This book offers a preview of our future and how

you can help prepare yourself for the changes to come.

The concept of a livable smart city presented in this book highlights the relevance of the functionality and integrated resilience of viable cities of the future. It critically examines the progressive digitalization that is taking place and identifies the revolutionized energy sector as the basis of urban life. The concept is based on people and their natural environment, resulting in a broader definition of sustainability and an expanded product theory. Smart City 2.0 offers its residents many opportunities and is an attractive future market for innovative products and services. However, it presents numerous challenges for stakeholders and product developers.

The era of the smart city has arrived. Only a decade ago, the promise of optimising urban services through the widespread application of information and communication technologies was largely a techno-utopian fantasy. Today, smart urbanisation is occurring via urban projects, policies and visions in hundreds of cities around the globe. Inside Smart Cities provides real-world evidence on how local authorities, small and medium enterprises, corporations, utility providers and civil society groups are creating smart cities at the neighbourhood, city and regional scales. Twenty three empirically detailed case studies from the Global North and South – ranging from Cape Town, Stockholm and Abu Dhabi to Philadelphia, Hong Kong and Santiago – illustrate the multiple and diverse incarnations of smart urbanism. The contributors draw on ideas from urban studies, geography, urban planning, science and technology studies and innovation studies to go beyond the rhetoric of technological innovation and reveal the political, social and physical implications of digitalising the built environment. Collectively, the practices of smart urbanism raise fundamental questions about the sustainability, liveability and resilience of cities in the future. The findings are relevant to academics, students, practitioners and urban stakeholders who are questioning how urban innovation relates to politics and place.

Flexible Resources for Smart Cities

Architecture and the Smart City

Smart City Emergence

Rethinking and Shaping Relationships between Urban Space and Digital Technologies

Convergent Systems for Planning, Design, and Operations

Creating Economic and Public Value in Innovative Urban Systems

How to Create Public and Economic Value with High Technology in Urban Space

There has been much attention paid to the idea of Smart Cities as researchers have sought to define and characterize the main aspects of the concept, including the role of creative industries in urban growth, the importance of social capital in urban development, and the role of urban sustainability. This book develops a critical view of the Smart City concept, the incentives and role of governments in promoting the development of Smart Cities and the analysis of experiences of e-government projects

addressed to enhance Smart Cities. This book further analyzes the perceptions of stakeholders, such as public managers or politicians, regarding the incentives and role of governments in Smart Cities and the critical analysis of e-government projects to promote Smart Cities' development, making the book valuable to academics, researchers, policy-makers, public managers, international organizations and technical experts in understanding the role of government to enhance Smart Cities' projects. This book offers a fascinating exploration of the relationship between information and communication technologies (ICTs) and spatial planning, expanding the concept of "urban smartness" from the usual scale of buildings or urban projects to the regional dimension. In particular, it presents the outcomes of research undertaken at Politecnico di Milano, in collaboration with Telecom Italia, that had three principal goals: to investigate the use of ICTs for the representation, promotion, management, and dissemination of an integrated system of services; to explore the spatial impacts of digital services at different scales (regional, urban, local); and to understand how a system of mobile services can encourage new spatial uses and new collective behavior in the quest for better spatial quality of places. Useful critical analysis of international case studies is also included with the aim of verifying the opportunities afforded by new digital services not only to improve the urban efficiency but also to foster the evolution of urban communities through enhancement of the public realm. The book will be a source of valuable insights for both scholars and local administrators and operators involved in smart city projects.

Key concepts, definitions, examples, and historical contexts for understanding smart cities, along with discussions of both drawbacks and benefits of this approach to urban problems. Over the past ten years, urban planners, technology companies, and governments have promoted smart cities with a somewhat utopian vision of urban life made knowable and manageable through data collection and analysis. Emerging smart cities have become both crucibles and showrooms for the practical application of the Internet of Things, cloud computing, and the integration of big data into everyday life. Are smart cities optimized, sustainable, digitally networked solutions to urban problems? Or are they neoliberal, corporate-controlled, undemocratic non-places? This volume in the MIT Press Essential Knowledge series offers a concise introduction to smart cities, presenting key concepts, definitions, examples, and historical contexts, along with discussions of both the drawbacks and the benefits of this approach to urban life. After reviewing current terminology and justifications employed by technology designers, journalists, and researchers, the book describes three models for smart city development—smart-from-the-start cities, retrofitted cities, and social cities—and offers examples of each. It covers technologies and methods, including sensors, public wi-fi, big data, and smartphone apps, and discusses how developers conceive of interactions among the built environment, technological and urban infrastructures, citizens, and citizen engagement. Throughout, the author—who has studied smart cities around the world—argues that smart city developers should work more closely with local communities, recognizing their preexisting relationship to urban place and realizing the limits of technological fixes. Smartness is a means to an end: improving the quality of urban life.

This Handbook presents a comprehensive and rigorous overview of the state-of-the-art on Smart Cities. It provides the reader with an authoritative, exhaustive one-stop reference on how the field has evolved and where the current and future challenges lie. From the foundations to the many overlapping dimensions (human, energy, technology, data, institutions, ethics etc.), each chapter is written by international experts and amply illustrated with figures and tables with an emphasis on current research. The Handbook is an invaluable desk reference for researchers in a wide variety of fields, not only smart cities specialists but also by scientists and policy-makers in related disciplines that are deeply influenced by the emergence of intelligent cities. It should also serve as a key resource for graduate students and young researchers entering the area, and for instructors who teach courses on these subjects. The handbook is also of interest to industry and business innovators.

Creating the Most Attractive Cities for Talented Citizens

Organizing Smart Buildings and Cities

Singapore

The Rise of Autonomous Smart Cities

Smart City Implementation

Smart Cities Atlas

Are you curious about smart cities? You should be! By mid-century, two-thirds of us will live in cities. The world of tomorrow will be a world of cities. But will they be smart cities? Smart cities are complex blends of technologies, systems and services designed and orchestrated to help people lead productive, fulfilling, safe and happy lives. This remarkable book is a window into our shared future. In crisp language and sharp detail, Mike Barlow and Cornelia Lévy-Bencheton explain how smart cities are powerful forces for positive change. With keen eyes and warm hearts, they invite readers to imagine the world of tomorrow, a fascinating world of connected cities and communities. They capture and convey the depth and richness of the worldwide smart city movement. Smart Cities, Smart Future describes the impact of smart city projects on people in towns, cities and nations around the world. The book includes descriptions of ongoing smart city projects in North America, Europe, Asia and the Middle East. Looking Ahead to an Urban World No two smart cities are alike. No one can say with certainty or precision what the term "smart city" means. There is no standard definition or common template. Today, smart cities are works in progress. They emerge from our hopes and our dreams. This book provides you with the knowledge and insight you need to participate in the smart city movement. It explains how smart cities are "systems of systems" and introduces key concepts such as interoperability, open standards, resiliency, agility, adaptability and continuous improvement. Includes Detailed Glossary of Terms and Essential Vocabulary

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The book includes a detailed comprehensive glossary of essential smart city terms. The glossary will become your indispensable resource as you engage more deeply with the smart city movement and become more involved in planning our common future in an urban world. Carefully Researched and Crisply Written Smart Cities, Smart Future is carefully researched and fully documented. It includes interviews with leaders and experts in multiple disciplines essential to the development of smart cities, towns, regions, states and nations. Written in the clean style of modern journalism, the book offers a strong and compelling narrative of a changing world. It reminds us that we are responsible for choosing our destiny and determining the shape of things to come. The smart city movement is gaining speed and momentum. Read this book, and enjoy the ride!

This book offers practical as well as conceptual knowledge of the latest trends, tools, techniques and methodologies of data analytics in smart cities. The smart city is an advanced technological area that is capable of understanding the environment by examining the data to improve the livability. The smart cities allow different kinds of wireless sensors to gather massive amounts, full speed and a broad range of city data. The smart city has a focus on data analytics facilitated through the IoT platforms. There is a need to customize the IoT architecture and infrastructures to address needs in application of specific domains of smart cities such as transportation, traffic, health and, environment. The smart cities will provide next generation development technologies for urbanization that includes the need of environmental sustainability, personalization, mobility, optimum energy utilization, better administrative services and higher quality of life. Each chapter presents the reader with an in-depth investigation regarding the possibility of data analytics perspective in smart cities. The book presents cutting-edge and future perspectives of smart cities, where industry experts, scientists, and scholars exchange ideas and experience about surrounding frontier technologies, breakthrough and innovative solutions and applications.

The concept of smart cities offers a revolutionary vision of urban design for sustainability. Utilizing the intelligent application of new technologies, smart cities also incorporate considerations of social and environmental capital in order to transform the life and work of cities. This book brings together papers from leading international experts on the transition to smart cities. Drawing upon the experiences of cities in the USA, Canada and Europe, the authors describe the definitional components, critical insights and institutional means by which we can achieve truly smart cities. The resulting volume will be of interest to all involved in urban planning, architecture and engineering, as well as all interested in urban sustainability. This book was published as a special issue of Intelligent Buildings International.

Digital and Smart Cities presents an overview of how technologies shape our cities. There is a growing awareness in the fields of design and architecture of the need to address the way that technology

affects the urban condition. This book aims to give an informative and definitive overview of the topic of digital and smart cities. It explores the topic from a range of different perspectives, both theoretical and historical, and through a range of case studies of digital cities around the world. The approach taken by the authors is to view the city as a socially constructed set of activities, practices and organisations. This enables the discussion to open up a more holistic and citizen-centred understanding of how technology shapes urban change through the way it is imagined, used, implemented and developed in a societal context. By drawing together a range of currently quite disparate discussions, the aim is to enable the reader to take their own critical position within the topic. The book starts out with definitions and sets out the various interpretations and aspects of what constitutes and defines digital cities. The text then investigates and considers the range of factors that shape the characteristics of digital cities and draws together different disciplinary perspectives into a coherent discussion. The consideration of the different dimensions of the digital city is backed up with a series of relevant case studies of global city contexts in order to frame the discussion with real world examples.

Digital Services for an Internet of Places

Untangling Smart Cities

Sustainable Smart City Transitions

From Theory to Practice

Smart City Governance

Showcasing Tomorrow

From Smart City to Smart Region

Untangling Smart Cities: From Theory to Practice helps all key stakeholders understand the complex and often conflicting nature of smart city research, offering valuable insights for designing and implementing strategies to improve the smart city decision-making processes. The book drives the reader to a better theoretical and practical comprehension of smart city development, beginning with a thorough and systematic analysis of the research literature published to date. The book provides an in-depth understanding of the entire smart city knowledge domain, revealing a deeply rooted division in its cognitive-epistemological structure as identified by bibliometric insights. Untangling Smart Cities fills the knowledge gap between theory and practice using case study research, with empirical evidence drawn from cities considered leaders in innovative smart city practices. An invaluable contribution to the growing scientific literature, Untangling Smart Cities provides an accurate and deep understanding of the strategic principles driving smart city development. Provides clarity on the smart city concepts and strategies Provides a systematic literature analysis on the state-of-the-art of Smart Cities research using bibliometrics combined with practical application to guide smart systems implementation Offers a comprehensive and systematic analysis of Smart Cities research produced during its first three decades, driven by statistical analysis

techniques Generates a strong connection between theory and practice by providing the scientific knowledge necessary to approach the complex nature of Smart Cities sourced from the analysis of actual best practices Documents five main development pathways for smart cities development, serving the needs of city managers and policy makers with concrete advice and guidance

An unflinching look at the aspiring city-builders of our smart, mobile, connected future. From Beijing to Boston, cities are deploying smart technology—sensors embedded in streets and subways, Wi-Fi broadcast airports and green spaces—to address the basic challenges faced by massive, interconnected metropolitan centers. In Smart Cities, Anthony M. Townsend documents this emerging futuristic landscape while considering the motivations, aspirations, and shortcomings of the key actors—entrepreneurs, mayors, philanthropists, and software developers—at work in shaping the new urban frontier.

No discussion on mobility can exclude the broader context – the cities, the countryside, the local and national economic, political and social environments, as well as, of course, the technological progress that is being made in industries that are associated with this revolution.

The book discusses the concept of the smart city, and is based on a multi-service and multi-sectoral approach to urban planning, including various urban functions and the human capital of cities. The work is divided into three parts. The first is an introductory section which covers definitions, policies and tools used at European level for the development and classification of a smart city. The second presents a selection of examples of Western and Eastern communities, which experienced technologies and strategies that have made them smart. The third describes in detail the main three possible approaches (economical, technological and social) to the smart city concept which are the focus ambits of the holistic concept of smart city. The work provides a good overview of the concept of smart city, and also offers a critical analysis of the various approaches to smart cities, in order to provide tools to develop solutions that address the smart development of cities with an approach as multi-sectoral as possible. Its accessible language and several examples make the book easy to read and appealing to public administrators, students, planners and researchers.

Introducing Digital Innovation to Cities

Putting Technology in Its Place to Reclaim Our Urban Future

Smart Cities: A Data Analytics Perspective

Transforming City Governments for Successful Smart Cities

Smart City 2.0 as a Livable City and Future Market

Smart City, Smart State

The Right to the Smart City

This book investigates the role of smart cities in the broader context of urban innovation and e-government, identifies what a smart city is in practice and highlights their importance to the

welfare of society. The book offers specific, measurable, and action-oriented public sector planning and management principles and ideas for smart governance in the era of global urbanization and innovation to help with the challenges in maintaining the democratic system of checks and balances as well as the division of powers in a highly interconnected world. The book will be of interest researchers, practitioners, students, and public sector IT professionals that work within innovation management, public administration, urban technologies and urban innovation, and public local administration studies.

Smart City Citizenship provides rigorous analysis for academics and policymakers on the experimental, data-driven, and participatory processes of smart cities to help integrate ICT-related social innovation into urban life. Unlike other smart city books that are often edited collections, this book focuses on the business domain, grassroots social innovation, and AI-driven algorithmic and techno-political disruptions, also examining the role of citizens and the democratic governance issues raised from an interdisciplinary perspective. As smart city research is a fast-growing topic of scientific inquiry and evolving rapidly, this book is an ideal reference for a much-needed discussion. The book drives the reader to a better conceptual and applied comprehension of smart city citizenship for democratised hyper-connected-virialised post-COVID-19 societies. In addition, it provides a whole practical roadmap to build smart city citizenship inclusive and multistakeholder interventions through intertwined chapters of the book. Users will find a book that fills the knowledge gap between the purely critical studies on smart cities and those further constructive and highly promising socially innovative interventions using case study fieldwork action research empirical evidence drawn from several cities that are advancing and innovating smart city practices from the citizenship perspective. Utilises ongoing, action research fieldwork, comparative case studies for examining current governance issues, and the role of citizens in smart cities Provides definitions of new key citizenship concepts, along with a techno-political framework and toolkit drawn from a community-oriented perspective Shows how to design smart city governance initiatives, projects and policies based on applied research from the social innovation perspective Highlights citizen's perspective and social empowerment in the AI-driven and algorithmic disruptive post-COVID-19 context in both transitional and experimental frameworks

Smart City Governance examines public domain activities and services in the digital age, evaluating all facets of smart city e-governance that fosters a cohesive understanding for the

emerging generation of advanced “digital natives. Exploring the tensions between political science and jurisprudence theories with the principles of societies and their alignment with legal systems, the book examines how governance systems can translate into the digital domain, addressing both the technical and legal dimensions. It offers a model for the technological foundation of governance, discussing existing technological components. The book concludes with a section on outlooks for further research. Explores the development of sustainable governance by examining how public domain governance can leverage the full potential of smart city technologies Provides insights on the technical side of smart city governance Fuels discussions on how tomorrow’s urban public institutions can contribute to a more inclusive and participatory society Provides a system architecture blueprint based on the insights and lessons learned Smart Cities and Artificial Intelligence offers a comprehensive view of how cities are evolving as smart ecosystems through the convergence of technologies incorporating machine learning and neural network capabilities, geospatial intelligence, data analytics and visualization, sensors, and smart connected objects. These recent advances in AI move us closer to developing urban operating systems that simulate human, machine, and environmental patterns from transportation infrastructure to communication networks. Exploring cities as real-time, living, dynamic systems, and providing tools and formats including generative design and living lab models that support cities to become self-regulating, this book provides readers with a conceptual and practical knowledge base to grasp and apply the key principles required in the planning, design, and operations of smart cities. Smart Cities and Artificial Intelligence brings a multidisciplinary, integrated approach, examining how the digital and physical worlds are converging, and how a new combination of human and machine intelligence is transforming the experience of the urban environment. It presents a fresh holistic understanding of smart cities through an interconnected stream of theory, planning and design methodologies, system architecture, and the application of smart city functions, with the ultimate purpose of making cities more liveable, sustainable, and self-sufficient. Explores concepts in smart city design and development and the transformation of cities through the convergence of human, machine, and natural systems enabled by Artificial Intelligence (AI) Includes numerous diagrams to illustrate and explain complex smart city systems and solutions Features diverse smart city examples and initiatives from around the globe

Handbook of Smart Cities

Technology, Economic Performance and Climate Resilience

Smart Cities of Today and Tomorrow

Smart City – Future City?

Western and Eastern Intelligent Communities

Beyond Smart Cities

Smart Cities

The promise of competitiveness and economic growth in so-called smart cities is widely advertised in Europe and the US. The promise is focussed on global talent and knowledge economies and not on learning and innovation. But to really achieve smart cities – that is to create the conditions of continuous learning and innovation – this book argues that there is a need to understand what is below the surface and to examine the mechanisms which affect the way cities learn and then connect together. This book draws on quantitative and qualitative data with concrete case studies to show how networks already operating in cities are used to foster and strengthen connections in order to achieve breakthroughs in learning and innovation. Going beyond smart cities means understanding how cities construct, convert and manipulate relationships that grow in urban environments. Cities discussed in this book – Amman, Barcelona, Bilbao, Charlotte, Curitiba, Juarez, Portland, Seattle and Turin – illuminate a blind spot in the literature. Each of these cities has achieved important transformations, and learning has played a key role, one that has been largely ignored in academic circles and practice concerning competitiveness and innovation.

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 For Dummies will give you the knowledge to understand this important topic in depth and be ready to be an agent of change in your community.

Provides the foundations and principles needed for addressing the various challenges of developing smart cities Smart cities are emerging as a priority for research and development across the world. They open up significant opportunities in several areas, such as economic growth, health, wellness, energy efficiency, and transportation, to promote the sustainable development of cities. This book provides the basics of smart cities, and it examines the possible future trends of this technology. Smart Cities: Foundations, Principles, and Applications provides a systems science perspective in presenting the foundations and principles that span multiple disciplines for the development of smart cities. Divided into three parts—foundations, principles, and

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applications—Smart Cities addresses the various challenges and opportunities of creating smart cities and all that they have to offer. It also covers smart city theory modeling and simulation, and examines case studies of existing smart cities from all around the world. In addition, the book: Addresses how to develop a smart city and how to present the state of the art and practice of them all over the world Focuses on the foundations and principles needed for advancing the science, engineering, and technology of smart cities—including system design, system verification, real-time control and adaptation, Internet of Things, and test beds Covers applications of smart cities as they relate to smart transportation/connected vehicle (CV) and Intelligent Transportation Systems (ITS) for improved mobility, safety, and environmental protection Smart Cities: Foundations, Principles, and Applications is a welcome reference for the many researchers and professionals working on the development of smart cities and smart city-related industries.

Smart Cities: Big Data, Civic Hackers, and the Quest for a New Utopia W. W. Norton & Company

Smart Cities For Dummies

Key Enabling Technologies

Smart Cities: Big Data, Civic Hackers, and the Quest for a New Utopia

Place, Politics and Urban Innovation

Smart Cities for Technological and Social Innovation

Foundations, Principles, and Applications

Case Studies, Current Trends, and Future Steps

Globally, Smart Cities initiatives are pursued which reproduce the interests of capital and neoliberal government, rather than wider public good. This book explores smart urbanism and 'the right to the city', examining citizenship, social justice, commoning, civic participation, and co-creation to imagine a different kind of Smart City.

This book enhances the reader's understanding of the theoretical foundations, sociotechnical assemblage, and governance mechanisms of sustainable smart city transitions. Drawing on empirical evidence stemming from existing smart city research, the book begins by advancing a theory of sustainable smart city transitions, which forms bridges between smart city development studies and some of the key assumptions underpinning transition management and system innovation research, human geography, spatial planning, and critical urban scholarship. This interdisciplinary theoretical formulation details how smart city transitions unfold and how they should be conceptualized and enacted in order to be assembled as sustainable developments. The proposed theory of sustainable smart city transitions is then enriched by the findings of investigations into the planning and implementation of smart city transition strategies and projects. Focusing on different empirical settings, change dimensions, and analytical elements, the attention moves from the sociotechnical requirements of citywide transition pathways to the development of sector-specific smart city projects and technological innovations, in particular in the fields of urban mobility and urban governance. This book represents a relevant reference work for academic and practitioner audiences, policy makers, and representative of smart city industries. The chapters in

this book were originally published as a special issue of the Journal of Urban Technology.

This book introduces the concept of the "autonomous city"- a concept that has been developed from the "smart cities" model that is based on a city's ability to gather data and taking it one step further. The digital revolution has brought about numerous changes in the urban realm, along with the understanding that technology can aid in increasing the performance and efficiency of urban areas. This technology has given rise to a wealth of data allowing urban leaders to respond better to crisis and craft policies that increase the liveability of urban areas. The "autonomous city" explores the possibility of urban areas evolving from the dimension of data gathering to that of action response - so a city able to collect data and render real time decisions to self-manage a variety of functions based on its interpretation of that data. The book discusses how this could lead to the automation of select urban dimensions for increased efficiency and performance, but also details how such a process would require careful consideration when put into practice. This book will be a valuable resource for scholars and students across Urban Planning, Sustainability and STS, as well as practitioners and policy makers involved in the development of urban life.

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

Promoting Innovation and Participation

The Smart Enough City

Smart City

Smart Cities, Smart Future

Understanding Smart Cities: A Tool for Smart Government or an Industrial Trick?

From Intelligent to Smart Cities

Theoretical Foundations, Sociotechnical Assemblage and Governance Mechanisms

Transforming cities through digital innovations is becoming an imperative for every city. However, city ecosystems widely struggle to start, manage and execute the transformation. This book aims to give a comprehensive overview of all facets of the Smart City transformation and provides concrete tools, checklists, and guiding frameworks. *Shaping Smart for Better Cities* powerfully demonstrates the range of theoretical and practical challenges, opportunities and success factors involved in successfully deploying digital technologies in cities, focusing on the importance of recognizing local context and multi-layered urban relationships in designing successful urban interventions. The first section, 'Rethinking Smart (in) Places' interrogates the smart city from a theoretical vantage point. The second part, 'Shaping Smart Places' examines various case studies critically. Hence the volume offers an intellectual resource that expands on the current literature, but also provides a pedagogical resource to universities as well as a reflective opportunity for practitioners. The cases allow for an examination of the practical implications of smart interventions in space, whilst the theoretical reflections enable expansion of the literature. Students are encouraged to learn from case studies and apply that learning in design. Academics will gain from the learning embedded in the documentation of the case studies in different geographic contexts, while practitioners can apply their learning to the conceptualisation of new forms of technology use. Demonstrates how to adapt smart urban interventions for hyper-local context in geographic parameters, spatial relationships, and socio-political characteristics Provides a problem-solving approach based on specific smart place examples, applicable to real-life urban management Offers insights from numerous case studies of smart cities interventions in real civic spaces

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

How Singapore's solutions to common problems can provide examples for other societies. Nearly everyone knows that Singapore has one of the most efficient governments and competitive, advanced economies in the world. But can this unique city-state of some 5.5 million residents also serve as a model for other advanced economies as well as for the emerging world? Respected East Asia expert Kent Calder provides clear answers to this intriguing question in his new, groundbreaking book that looks at how Singapore's government has harnessed information technology, data, and a focus on innovative, adaptive governance to become a model smart city, smart state. Calder describes Singapore as a laboratory for solutions to problems experienced by urban societies around the world. In particular, he shows how Singapore has dealt successfully with education, energy, environmental, housing, and transportation challenges; many of its solutions can be adapted in a wide range of other societies. Calder also explains how Singapore offers lessons for how countries can adapt their economies to the contemporary demands of global commerce. Singapore consistently ranks at the top in world surveys measuring competitiveness, ease of doing business, protection of intellectual property, and absence of corruption. The book offers concrete insights and a lucid appreciation of how Singapore's answers to near-universal problems can have a much broader relevance, even in very different societies.

Smart Cities and Artificial Intelligence
A Roadmap for Urban Transformation
Smart City Citizenship

Digital and Smart Cities

Inside Smart Cities

Cases From Around the World

How Cities Network, Learn and Innovate

In cities around the world, digital technologies are utilized to manage city services and infrastructures, to govern urban life, to solve urban issues and to drive local and regional economies. While "smart city" advocates are keen to promote the benefits of smart urbanism - increased efficiency, sustainability, resilience, competitiveness, safety and security - critics point to the negative effects, such as the production of technocratic governance, the corporatization of urban services, technological lock-ins, privacy harms and vulnerability to cyberattack. This book, through a range of international case studies, suggests social, political and practical interventions that would enable more equitable and just smart cities, reaping the benefits of smart city initiatives while minimizing some of their perils. Included are case studies from Ireland, the United States of America, Colombia, the Netherlands, Singapore, India and the United Kingdom. These chapters discuss a range of issues including political economy, citizenship, standards, testbedding, urban regeneration, ethics, surveillance, privacy and cybersecurity. This book will be of interest to urban policymakers, as well as researchers in Regional Studies and Urban Planning.

Increasingly the world around us is becoming 'smart.' From smart meters to smart production, from smart surfaces to smart grids, from smart phones to smart citizens.

'Smart' has become the catch-all term to indicate the advent of a charged technological shift that has been propelled by the promise of safer, more convenient and more efficient forms of living. Most architects, designers, planners and politicians seem to agree that the smart transition of cities and buildings is in full swing and inevitable. However, beyond comfort, safety and efficiency, how can 'smart design and technologies' assist to address current and future challenges of architecture and urbanism? Architecture and the Smart City provides an architectural perspective on the emergence of the smart city and offers a wide collection of resources for developing a better understanding of how smart

architecture, smart cities and smart systems in the built environment are discussed, designed and materialized. It brings together a range of international thinkers and practitioners to discuss smart systems through four thematic sections: 'Histories and Futures', 'Agency and Control', 'Materialities and Spaces' and 'Networks and Nodes'. Combined, these four thematic sections provide different perspectives into some of the most pressing issues with smart systems in the built environment. The book tackles questions related to the future of architecture and urbanism, lessons learned from global case studies and challenges related to interdisciplinary research, and critically examines what the future of buildings and cities will look like.

Smart Cities and Homes: Key Enabling Technologies explores the fundamental principles and concepts of the key enabling technologies for smart cities and homes, disseminating the latest research and development efforts in the field through the use of numerous case studies and examples. Smart cities use digital technologies embedded across all their functions to enhance the wellbeing of citizens. Cities that utilize these technologies report enhancements in power efficiency, water use, traffic congestion, environmental protection, pollution reduction, senior citizens care, public safety and security, literacy rates, and more. This book brings together the most important breakthroughs and advances in a coherent fashion, highlighting the interconnections between the works in different areas of computing, exploring both new and emerging computer networking systems and other computing technologies, such as wireless sensor networks, vehicle ad hoc networks, smart grids, cloud computing, and data analytics and their roles in creating environmentally friendly, secure, and prosperous cities and homes. Intended for researchers and practitioners, the book discusses the pervasive and cooperative computing technologies that will perform a central role for handling the challenges of urbanization and demographic change. Includes case studies and contributions from prominent researchers and practitioners from around the globe Explores the latest methodologies, theories, tools, applications, trends, challenges, and strategies needed to build smart cities and homes from the bottom up Provides a pedagogy that includes PowerPoint slides, key terms, and a comprehensive bibliography

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This book presents a comprehensive overview of the various aspects for the development of smart cities from a European perspective. It presents both theoretical concepts as well as empirical studies and cases of smart city programs and their capacity to create value for citizens. The contributions in this book are a result of an increasing interest for this topic, supported by both national governments and international institutions. The book offers a large panorama of the most important aspects of smart cities evolution and implementation. It compares European best practices and analyzes how smart projects and programs in cities could help to improve the quality of life in the urban space and to promote cultural and economic development.

Transforming the Way We Live and Work

Smart Cities, Smart Mobility

Creating Smart Cities

Shaping Smart for Better Cities

Smart Cities and Homes

Implementing Data-Driven Strategies in Smart Cities

Better Technology, Infrastructure and Security

The United Nations included sustainable cities and communities in its 2030 SDGs. Cities and, on a smaller scale, neighborhoods, building managers and firms are now adopting technologies and information systems to help achieve the energy, economic, social and environmental transition. This volume gathers contributions on the key organizational success factors for this transition. To do so, it analyzes the role of information systems, use of data, and technological assistance solutions from multiple perspectives. The goal is to develop a framework that can successfully apply information systems to organizational and environmental issues for smart cities and smart buildings. Accordingly, the book addresses living-lab experiment evaluation techniques, and provides critical analyses of the role of the environment, context and users' behavioral responses. In addition, it discusses key questions on the efficient management of resources, need for appropriate IT solutions, and employing co-creation with users to improve planning and organization.

In a series of essays, this book describes and analyzes the concept and theory of the recent smart city phenomenon from a global perspective, with a focus on its implementation around the world. After defining the concept it then elaborates on the role of Information and Communication Technology (ICT) as an enabler for smart cities, and the role of ICT in the interplay with smart mobility. A separate chapter develops the concept of an urban smart dashboard for stakeholders to measure performance as well as the economic and public value. It offers examples of smart cities around the globe, and two detailed case studies on Genoa and Amsterdam exemplify the book's theoretical and empirical findings, helping readers understand and evaluate the effectiveness

and capability of new smart city programs.

This book paves the road for researchers from various areas of engineering working in the realm of smart cities to discuss the intersections in these areas when it comes to infrastructure and its flexibility. The authors lay out models, algorithms and frameworks related to the ‘smartness’ in the future smart cities. In particular, manufacturing firms, electric generation, transmission and distribution utilities, hardware and software computer companies, automation and control manufacturing firms, and other industries will be able to use this book to enhance their energy operations, improve their comfort and privacy, as well as to increase the benefit from the electrical system. The book pertains to researchers, professionals, and R&D in an array of industries.

Implementing Data-Driven Strategies in Smart Cities is a guidebook and roadmap for practitioners seeking to operationalize data-driven urban interventions. The book opens by exploring the revolution that big data, data science, and the Internet of Things are making feasible for the city. It explores alternate topologies, typologies, and approaches to operationalize data science in cities, drawn from global examples including top-down, bottom-up, greenfield, brownfield, issue-based, and data-driven. It channels and expands on the classic data science model for data-driven urban interventions – data capture, data quality, cleansing and curation, data analysis, visualization and modeling, and data governance, privacy, and confidentiality. Throughout, illustrative case studies demonstrate successes realized in such diverse cities as Barcelona, Cologne, Manila, Miami, New York, Nancy, Nice, São Paulo, Seoul, Singapore, Stockholm, and Zurich. Given the heavy emphasis on global case studies, this work is particularly suitable for any urban manager, policymaker, or practitioner responsible for delivering technological services for the public sector from sectors as diverse as energy, transportation, pollution, and waste management. Explores numerous specific urban interventions drawn from global case studies, helping readers understand real urban challenges and create data-driven solutions Provides a step-by-step and applied holistic guide and methodology for immediate application in the reader’s own business agenda Presents cutting edge technology presentation with coverage of innovations such as the Internet of Things, robotics, 5G, edge/fog computing, blockchain, intelligent transport systems, and connected-automated mobility