

Construction Cost Handbook Singapore 2017 Arcadis

The Routledge REITs Research Handbook presents a cutting-edge examination of the research into this key global investment vehicle. Edited by internationally respected academic and REIT expert Professor David Parker, the book will set the research agenda for years to come. The handbook is divided into two parts, the first of which provides the global context and a thematic review covering: asset allocation, performance, trading, sustainability, Islamic REITs, emerging sectors and behavioural finance. Part II presents a regional review of the issues with high level case studies from a diverse range of countries including the US, UK, Brazil, India, Australia, China, Singapore, Israel and Russia, to name just a few. This handbook redefines existing areas within the context of international REITs research, highlights emerging areas and future trends and provides postgraduates, professionals and researchers with ideas and encouragement for future research. It is essential reading for all those interested in real estate, international investment, global finance and asset management. With the built environment contributing almost half of global greenhouse emissions, there is a pressing need for the property and real estate discipline to thoroughly investigate sustainability concerns. The Routledge Handbook of Sustainable Real Estate brings together the latest research of leading academics globally, demonstrating the nature and extent of the impact as well as suggesting means of mitigating humankind's impact and building resilience. Four sections examine the different aspects of sustainable real estate: governance and policy valuation, investment and finance management redevelopment and adaptation. Covering all land uses from residential to commercial, retail and industrial, the Routledge Handbook of Sustainable Real Estate is an exciting mixture of received wisdom and emerging ideas and approaches from both the developed and developing world. Academics, upper-level students and researchers will find this book an essential guide to the very best of sustainable real estate research.

Der Band dokumentiert die Ergebnisse der dritten IAPL-MPI Post-Doctoral Summer School, die vom 1. bis 4. Juli 2018 in Luxemburg stattfand. Die Summer School bringt herausragende junge Post-Doc-Forscher zusammen, die sich mit dem europäischen, internationalen und vergleichenden Verfahrensrecht sowie anderen relevanten Mechanismen der Streitbeilegung befassen. Ihnen wird die Möglichkeit geboten, aktuelle Forschungsprojekte offen mit jungen Kollegen und erfahrenen Wissenschaftlern zu diskutieren. Der fruchtbare Generationenmix steht im Mittelpunkt des Projekts, das sich auf prozessualer und materieller Ebene v.a. mit nationalem Recht, der Rechtsvergleichung, dem Europa- und Völkerrecht befasst.

In Third Party Funding, Gian Marco Solas, for the first time, describes third party funding (TPF) as stand-alone practice within the wider litigation and legal markets. The book reports on legal issues related to TPF in both common law and civil law jurisdictions, and in the international context. It then discusses the incentives and economics of TPF transactions in different legal contexts while explaining how the practice emerged and how it is likely to develop. In addition, the book offers practical insights into TPF transactions and analyzes a number of regulatory proposals that could affect its use and desirability. This work should be read by scholars, practitioners, policymakers, and anyone else interested in how TPF is changing the practice of law.

Third Party Funding

Sustainable Construction Technologies

Global Shipbuilding Industry Handbook Volume 1. European Union- Strategic Information and Contacts

Spon's External Works and Landscape Price Book 2017

Handbook of Energy Efficiency in Buildings

A Practical Guide to Transforming the Construction Industry

Spon's Mechanical and Electrical Services Price Book 2018 continues to be the most comprehensive and best annual services engineering price book currently available, providing detailed pricing information across the full range of mechanical and electrical services, together with higher-level costs for a diverse range of systems and different building applications. Use the access code inside the front cover of the book to get set up with a VitalSource® ebook of this 2018 edition. This versatile and powerful online data viewing package is available for use until the end of December 2018. With new cost models for a gym, a spa and a bar, this edition also includes the following new items: Solar thermal panels A physical access control barrier system A security revolving door And significant developments to Calorifiers Commercial Boilers Combined heating and power systems Heat exchangers All the standard features you have come to expect from SPON'S MECHANICAL AND ELECTRICAL SERVICES PRICE BOOK are also included, considered essential for today's services cost professional: detailed materials prices, labour constants, labour costs and measured work prices for mechanical and electrical works, from above ground drainage to automatic transfer switches, and circuit breakers to sprinkler systems an extensive Approximate Estimating section for quick, rule-of-thumb pricing of mechanical or electrical installations, together with elemental services costs for different types and standard of buildings full details of wage rates, daywork and cost indices on a national and Central London basis. an overhauled index and guidance notes updates, free of charge, two or three times a year - see inside for registration details. Updates are available online at www.pricebooks.co.uk Handbook of Energy Efficiency in Buildings: A Life Cycle Approach offers a comprehensive and in-depth coverage of the subject with a further focus on the Life Cycle. The editors, renowned academics, invited a diverse group of researchers to develop original chapters for the book and managed to well integrate all contributions in a consistent volume. Sections

cover the role of the building sector on energy consumption and greenhouse gas emissions, international technical standards, laws and regulations, building energy efficiency and zero energy consumption buildings, the life cycle assessment of buildings, from construction to decommissioning, and other timely topics. The multidisciplinary approach to the subject makes it valuable for researchers and industry based Civil, Construction, and Architectural Engineers. Researchers in related fields as built environment, energy and sustainability at an urban scale will also benefit from the books integrated perspective. Presents a complete and thorough coverage of energy efficiency in buildings Provides an integrated approach to all the different elements that impact energy efficiency Contains coverage of worldwide regulation Construction prices rose over the last year by 5%, according to AECOM's tender price index, with construction price inflation continuing to run above the long-run average. The main drivers are rising input costs. Producer price indices have moved up at a clip in recent quarters, with sharp increases in prices for materials and fuels consumed by UK manufacturers. Demand- and supply-side factors make the probability of short-term price falls very slim. SPON'S ARCHITECTS' AND BUILDERS' PRICE BOOK 2018, compiled by AECOM, still provides the most accurate, detailed and professionally relevant construction price information for the UK. Its unique Tender Index, updated through the year, gives an ongoing reality check and allows you to adjust for changing market conditions. Although it suits a wide range of project sizes, this is the only price book which sets out a detailed cost base for contracts exceeding £4,000,000 in value. Use the access code inside the front cover of the book to get set up with a VitalSource® ebook of this 2018 edition. This versatile and powerful online data viewing package is available for use until the end of December 2018. Major changes have been made to this 143rd edition: New Cost Models for a retail distribution unit, a palliative care unit, and a cinema As well as an overhaul of prices, several new items have been added, including: An expanded range of beam & block flooring Rainwater harvesting - with a precast concrete tank A precast concrete flow attenuation system Precast concrete communication boxes ... along with the standard features you have come to expect from SPON'S ARCHITECTS' AND BUILDERS' PRICE BOOK: 20,000 prices for the most frequently specified items, the majority with labour constants and detailed build-ups. Hundreds of alternative materials prices for the more unusual items. Detailed guidance on wage rates, daywork, cost limits and allowances, property insurance and professional fees, plus useful formulae, design criteria and trade association addresses. Updates, free of charge, two or three times a year - see inside for registration details. Updates are available online at www.pricebooks.co.uk

This book provides the latest technical information on sustainable materials that are feedstocks for additive manufacturing (AM). Topics covered include an up-to-date and extensive overview of raw materials, their chemistry, and functional properties of their commercial versions; a description of the relevant AM processes, products, applications, advantages, and limitations; prices and market data; and a forecast of sustainable materials used in AM, their properties, and applications in the near future. Data included are relative to current commercial products and are presented in easy-to-read tables and charts. Features Highlights up-to-date information and data of actual commercial materials Offers a broad survey of state-of-the-art information Forecasts future materials, applications, and areas of R&D Contains simple language, explains technical terms, and minimizes technical lingo Includes over 200 tables, nearly 200 figures, and more

than 1,700 references to technical publications, mostly very recent Handbook of Sustainable Polymers for Additive Manufacturing appeals to a diverse audience of students and academic, technical, and business professionals in the fields of materials science and mechanical, chemical, and manufacturing engineering.

Technology Foundations and Industry Practice

The Palgrave Handbook of Managing Fossil Fuels and Energy Transitions

A Modern Guide to the Digitalization of Infrastructure

A Life Cycle Approach

Handbook of Research on Driving Transformational Change in the Digital Built Environment

Innovation in Construction

The Routledge Handbook of Race and Ethnicity in Asia introduces theoretical approaches to the study of race, ethnicity and indigeneity in Asia beyond those commonly grounded in the Western experience. The volume's twenty-eight chapters consider not only the relationship between ethnic or racial minorities and the state, but social relations within and between individual and transnational communities. These shape not only the contours of governance, but also the means by which knowledge of national identity, 'self', and 'other' have been constructed and reconstructed over time. Divided into four sections, it provides holistic and comparative coverage of South, South East, and East Asia, as well as Australasia and Oceania; an area that extends from Pakistan in the West to Hawai'i in the East. Contributors to this handbook offer a variety of disciplinary and interdisciplinary perspectives, opening a domain of scholarship wherein the relationship between phenotype and racism is less pronounced than European and North American approaches, which have often privileged the so-called 'colour stigmata', leading to further exclusions of particular ethnic, racial, and indigenous communities. This volume seeks to overcome racism and white ideologies embedded in theories of race and ethnicity in Asia, proving a valuable resource to both students and scholars of comparative racial and ethnic studies, international relations and human rights.

This guidebook is a practical and essential tool providing everything necessary for structural design engineers to create detailed and accurate calculations. Basic information is provided for steel, concrete and geotechnical design in accordance with Australian and international standards. Detailed design items are also provided, especially relevant to the mining and oil and gas industries. Examples include pipe supports, lifting analysis and dynamic machine foundation design. Steel theory is presented with information on fabrication, transportation and costing, along with member, connection, and anchor design. Concrete design includes information on construction costs, as well as detailed calculations ranging from a simple beam design to the manual

production of circular column interaction diagrams. For geotechnics, simple guidance is given on the manual production and code compliance of calculations for items such as pad footings, piles, retaining walls, and slabs. Each chapter also includes recommended drafting details to aid in the creation of design drawings. More generally, highly useful aids for design engineers include section calculations and force diagrams. Capacity tables cover real-world items such as various slab thicknesses with a range of reinforcing options, commonly used steel sections, and lifting lug capacities. Calculations are given for wind, seismic, vehicular, piping, and other loads. User guides are included for Space Gass and Strand7, including a non-linear analysis example for lifting lug design. Users are also directed to popular vendor catalogues to acquire commonly used items, such as steel sections, handrails, grating, grouts and lifting devices. This guidebook supports practicing engineers in the development of detailed designs and refinement of their engineering skill and knowledge.

Building Information Modeling (BIM) refers to the consistent and continuous use of digital information throughout the entire lifecycle of a built facility, including its design, construction and operation. In order to exploit BIM methods to their full potential, a fundamental grasp of their key principles and applications is essential. Accordingly, this book combines discussions of theoretical foundations with reports from the industry on currently applied best practices. The book's content is divided into six parts: Part I discusses the technological basics of BIM and addresses computational methods for the geometric and semantic modeling of buildings, as well as methods for process modeling. Next, Part II covers the important aspect of the interoperability of BIM software products and describes in detail the standardized data format Industry Foundation Classes. It presents the different classification systems, discusses the data format CityGML for describing 3D city models and COBie for handing over data to clients, and also provides an overview of BIM programming tools and interfaces. Part III is dedicated to the philosophy, organization and technical implementation of BIM-based collaboration, and discusses the impact on legal issues including construction contracts. In turn, Part IV covers a wide range of BIM use cases in the different lifecycle phases of a built facility, including the use of BIM for design coordination, structural analysis, energy analysis, code compliance checking, quantity take-off, prefabrication, progress monitoring and operation. In Part V, a number of design and construction companies report on the current state of BIM adoption in connection with actual BIM projects, and discuss the approach pursued for the shift toward BIM, including the hurdles taken. Lastly, Part VI summarizes the book's content and provides an outlook on future developments. The book was written both for professionals using or programming such tools, and for students in Architecture and Construction Engineering

programs.

The construction industry is amidst a digital transformation that is focused on addressing well-documented issues and calls for significant improvements and changes through increased productivity, whole-life value, client focus, reduction of waste, and being more sustainable. The key aspect to driving change and transformation is the education and upskilling of the required workforce towards developing the required capacities. Various approaches can be taken to embed digital construction within education and through collaborative efforts in order to drive change and facilitate improvements. The Handbook of Research on Driving Transformational Change in the Digital Built Environment focuses on current developments in practice and education towards facilitating transformation in the built environment. This book provides insight, from a practice perspective, in relation to the client's understanding, digitally enabled collaboration, interoperability and open standards, and maturity/capability. Covering topics that include digital transformation and construction, digitally enabled infrastructure, building information modelling, collaborative digital education, and the digital built environment, this book is an ideal reference source for engineers, professionals, and researchers in the field of digital transformation as well as doctoral scholars, doctoral researchers, professionals, and academicians.

Building Information Modeling

BIM Teaching and Learning Handbook

Spon's Architects' and Builders' Price

Implementation for Students and Educators

Manual of Digital Earth

Spon's Architects' and Builders' Price Book 2018

The concept of integrated project delivery (IPD) has evolved as a result of the need for highly expert teams of people to collaborate to deliver extremely complex projects, to manage expectations about delivery speed, changes in governance standards and to take advantage of and manage expectations raised by rapid advances in technology. All this demands effective change management. This is the first Handbook to contextualise and thematically explore the concept with an emphasis on rigorous practical and theoretical validation. The Handbook is divided into five sections, each with a focus on several interconnected themes including: An introduction to IPD concepts. The foundational elements and characteristics of IPD. People, culture and collaboration as key ingredients to successful and effective IPD. Technology and process aspects of

relational contracting forms such as IPD. New and relevant perspectives to IPD that have received scant attention to date. Aspects and emerging issues that are rarely consciously considered in traditional project delivery due to the commercial imperative that drives firms and client organisations. The Handbook offers both discussions of these key themes, and also in-depth research into construction and other industry project procurement and delivery that spans decades. In addition, the Handbook presents 'best' and 'better' practice, but also includes insights into cutting-edge experimental developments in technology and practices where proof of concept is currently being developed into emerging practice. Contributing authors in this Handbook collaborate with the co-editors to draw together an integrated set of chapters that align to deliver a coherent narrative of the IPD concept. It is an invaluable reference for practitioners and academics alike, and useful as core course content for numerous degree programs of study and professional development courses.

This book examines complex challenges in managing major strategic economic and social infrastructure projects. It is divided into four primary themes: value-based approach to infrastructure systems appraisal, enabling planning and execution, financing and contracting strategies for infrastructure systems and digitising major infrastructure delivery. Within these four themes, the chapters of the book cover: the value and benefits of infrastructure projects planning for resilient major infrastructure projects sustainable major infrastructure development and management, including during mega events improving infrastructure project financing stakeholder engagement and multi-partner collaborations delivering major infrastructure projects effectively and efficiently whole-life-cycle performance, operations and maintenance relationship risks on major infrastructure projects public-private partnerships, design thinking principles, and innovation and technology. By drawing on insights from their research, the editors and contributors bring a fresh perspective to the transformation of major strategic infrastructure projects. This text is designed to help policymakers and investors select and prioritise their infrastructure needs beyond the constraining logic of political cycles. It offers a practical set of recommendations for governments on attracting private capital for infrastructure projects while creating clear social and economic value for their citizens. Through theoretical underpinning, empirical data and in-depth informative global case studies, the book presents an essential resource for students, researchers, practitioners and policymakers interested in all aspects of strategic infrastructure planning, project management, construction management, engineering and business management.

This year the rates in the book include contractor ' s overheads and profit, making the book easier for design and planning professionals. Now in its 37th edition, Spon's External Works and Landscape Price Book 2018 offers the only comprehensive source of information for detailed external works and landscape costs. It covers all the items to be found in hard and soft landscape contracts, and forms an indispensable reference book for quantity surveyors, landscape architects, contractors and local authority managers – essential for compiling estimates, specifications, bills of quantities and works schedules – no matter what the size of the project being undertaken. Use the access code inside the front cover of the book to get set up with a VitalSource® ebook of this 2018 edition. This versatile and powerful online data viewing package is available for use until the end of December 2018. This NRM edition includes the following new items: BEGA external lighting Build-ups for Wienerberger Dutch paving bricks SUDS paving Alternative french drainage systems Pop-up power Porcelain paving Portland stone paving Portland stone walls and cladding And new Cost Models for commercial housing and civic environments. All the standard features that you expect from SPON'S EXTERNAL WORKS AND LANDSCAPE PRICE BOOK remain: material and measured work prices covering contract items from preliminaries and site clearance and encompassing the core external works activities with full breakdowns into labour, materials and other components detailed guidance on wage rates, landscape consultants ' fee scales an extensive Approximate Estimates section for rapid spot estimating updates, free of charge, two or three times a year – see inside for registration details. Updates are available online at www.pricebooks.co.uk

This book is intended as a basis for advanced treatment of concepts in project management. In the current scenario where most questions are answered through the internet, the knowledge element in project management has come under the influence of disruptive technologies. In other words, project managers no longer get 'points' for knowing something that is easily available on the internet. This has far-reaching consequences. The present day project managers need to orient themselves to newer benchmarks of what is required for success on the business front. This book deals with a few such advanced concepts in project management. This book is not designed as an elementary primer to the field of project management, rather it is an advanced level treatment on the subject, to be read after the preliminary study has already been completed. The book is designed for practicing project managers, and graduate students in engineering and management, who need to understand the dynamics that are typically encountered in a project-based environment. The content in the book is based on extensive study of literature and training programs. Many

of the tools have been developed on the basis of modeling and simulation methods that are specially designed by the author. These were tested at several live projects across the globe. Most of the exercises in the book are actually meant for the reader to perform as they go. The book is not designed with a 'read-all-and-come-back-later' approach, rather it focuses on 'learning by doing', whereby the reader is expected to do the exercises before reading on. The book will prove useful in self-learning, as well as in classroom teaching and professional training programs.

Routledge Handbook of Race and Ethnicity in Asia

Activating Urban Waterfronts

Handbook on Public Private Partnerships in Transportation, Vol I

Spon's Mechanical and Electrical Services Price Book 2017

Handbook of Sustainable Polymers for Additive Manufacturing

Routledge Handbook of Sustainable Real Estate

SPON'S CIVIL ENGINEERING AND HIGHWAY WORKS PRICE BOOK 2018 from AECOM gives costs for both general and civil engineering works and highway works. It provides a full breakdown of labour, plant and material elements, with labour rates updated. cost guidance is given at a number of levels, varying from the more general functional costs to detailed unit costs, and in conformity with CESMM4 and the Highways Method of Measurement. This 32nd edition incorporates a general update of prices in consultation with leading manufacturers, suppliers and specialist contractors -- especially in line with changes in the labour force and devaluation of the pound: Adjustments to the scope, range and detail of information help the user adjust unit costs with reference to allocated resources and outputs Resource costing in Part 4 is supplemented by the further advice on output factors in Part 10. Rail rates have been heavily revised, as the rail sector is currently overstretched. Man hours methodology has been generally used instead of gang rates, clarifying labour costs and output Use the access code inside the front cover of the book to get set up with a VitalSource® ebook of this 2018 edition. This versatile and powerful online data viewing package is available for use until the end of December 2018. In a time when it is essential to gain 'competitive advantage' in a sometimes turbulent market, this price book provides instant-access cost information and forms a one-stop reference. ... along with the standard features you have come to expect from SPON'S CIVIL ENGINEERING AND HIGHWAY WORKS PRICE BOOK: for budgeting: estimating principles, on-cost advice, method-related charges for resource costings: labour costs, plant costs, material prices for rapid cost information: approximate estimates, dayworks, cost indices for plant and labour allowances: production rates, outputs, man hour constants for detailed pricing: unit costs with full breakdown, or specialist prices, with advice on item coverage, waste allowances and comparative costs for incidental advice: tables and formulae, technical information, professional advice updates, free of

charge, two or three times a year – see inside for registration details. Updates are available online at www.pricebooks.co.uk Providing a coherent and multidisciplinary approach to digitalization, this Modern Guide aims to systematize how the digitalization process affects infrastructure-based industries, including telecommunications, transport, energy, water and postal services. This innovative Research Companion considers the history, nature and status of construction economics, and its need for development as a field in order to be recognised as a distinct discipline. It presents a state-of-the-art review of construction economics, identifying areas for further research.

This comprehensive Handbook provides an in-depth analysis of the nature of East Asian economic integration alongside thoughtful insights into contemporary issues, such as agricultural development, structural transformation and East Asian trade, alongside skills and human capital development policies of ASEAN. Contributors also provide detailed explanations on trade, poverty and Aid for Trade, institutional reforms, regulatory reform and measuring integration.

Research Handbook on the Belt and Road Initiative

BIM and Big Data for Construction Cost Management

Singapore 2017

Life Cycle Analysis and Assessment in Civil Engineering: Towards an Integrated Vision

Spon's Civil Engineering and Highway Works Price Book 2017

This Handbook is the first volume to comprehensively analyse and problem-solve how to manage the decline of fossil fuels as the world tackles climate change and shifts towards a low-carbon energy transition. The overall findings are straight-forward and unsurprising: although fossil fuels have powered the industrialisation of many nations and improved the lives of hundreds of millions of people, another century dominated by fossil fuels would be disastrous. Fossil fuels and associated greenhouse gas emissions must be reduced to a level that avoids rising temperatures and rising risks in support of a just and sustainable energy transition. Divided into four sections and 25 contributions from global leading experts, the chapters span a wide range of energy technologies and sources including fossil fuels, carbon mitigation options, renewables, low carbon energy, energy storage, electric vehicles and energy sectors (electricity, heat and transport). They cover varied legal jurisdictions and multiple governance approaches encompassing multi- and inter-disciplinary technological, environmental, social, economic, political,

legal and policy perspectives with timely case studies from Africa, Asia, Australia, Europe, North America, South America and the Pacific. Providing an insightful contribution to the literature and a much-needed synthesis of the field as a whole, this book will have great appeal to decision makers, practitioners, students and scholars in the field of energy transition studies seeking a comprehensive understanding of the opportunities and challenges in managing the decline of fossil fuels.

A general upgrade, with good external works site cost models, strong on composite items and more measured works. Now in its 36th edition, Spon's External Works and Landscape Price Book 2017 offers the only comprehensive source of information for detailed external works and landscape costs. It covers all the items to be found in hard and soft landscape contracts, and forms an indispensable reference book for quantity surveyors, landscape architects, contractors and local authority managers – essential for compiling estimates, specifications, bills of quantities and works schedules – no matter what the size of the project being undertaken. Use the access code inside the front cover of the book to get set up with internet access to this 2017 edition until the end of December 2017. We now provide a VitalSource® ebook, giving a versatile and powerful online data viewing package. This NRM edition includes the following new and significantly developed items: Acoustic fencing Architectural metalwork Block and beam systems Culverts Deep Concrete manholes to 3 m Headwalls Pre-cast steps New retaining walls And green roofs and sportsfields have now been broken down into details, rather than presented as a lump sum. All the standard features that you expect from SPON'S EXTERNAL WORKS AND LANDSCAPE PRICE BOOK remain: material and measured work prices covering contract items from preliminaries and site clearance and encompassing the core external works activities with full breakdowns into labour, materials and other components detailed guidance on wage rates, landscape consultants' fee scales an extensive Approximate Estimates section for rapid spot estimating updated, free of charge, two or three times a year – see inside for registration details. Updates are available online at www.pricebooks.co.uk.

UK construction shows its underlying strength. Tender prices have risen strongly since last year's book was compiled -- increasing by around 8%, and at an annualised rate of

close to 10% in the last half year. Spon's Architects' and Builders' Price Book 2017, compiled by AECOM, still provides the most accurate, detailed and professionally relevant construction price information for the UK. Its unique Tender Index, updated through the year, gives an ongoing reality check and allows you to adjust for changing market conditions. Although it suits a wide range of project sizes, this is the only price book which sets out a detailed cost base for contracts exceeding £4,000,000 in value. Use the access code inside the front cover of the book to get set up with internet access to this 2017 edition until the end of December 2017. We now provide a VitalSource® ebook, giving a versatile and powerful online data viewing package. Major changes have been made to this 142nd edition: Major revision and simplification has been made to the in situ concrete section, and plasterboard linings and partitions sections have been heavily revised and developed. New Cost Models are included: a laboratory, a car park and an updated London Office. More plant prices have been separated out in the measured works section. As well as an overhaul of prices, several new items have been added, including: Foamglas insulation Carlite waterproof concrete and an expanded range of stone flooring ... along with the standard features you have come to expect from Spon's A&B: 20,000 prices for the most frequently specified items, the majority with labour constants and detailed build-ups. Hundreds of alternative materials prices for the more unusual items. Detailed guidance on wage rates, daywork, cost limits and allowances, property insurance and professional fees, plus useful formulae, design criteria and trade association addresses. Updated, free of charge, two or three times a year – see inside for registration details. Updates are available online at www.pricebooks.co.uk

This book tackles the complex topic of implementing innovation and the successful application of advanced technology in the construction industry. It provides a practical guide for the transformation of the industry by detailing appropriate and effective implementation methods, required skill sets and structural changes necessary to facilitate the practical and innovative application of technology. The construction industry is behind other industries in its level of innovation and adoption of technology, and is of critical importance to many of today's global challenges, such as

climate change, global warming and resource scarcity. There is therefore a need for smarter and more efficient ways of managing available resources. This book elaborates on how the innovative application of technology could offer hope for the construction industry in it's imperative to rise to current and future global challenges. It includes the real-world case studies of innovative projects that go beyond the current state-of-the-art academic research, and have improved productivity, quality and performance in the construction sector. This book provides readers from both industrial and academic backgrounds with a comprehensive guide on transforming the construction industry with the efficient and effective implementation of technologies and modern methods of construction.

Privatizing Dispute Resolution

Research Companion to Construction Economics

A Forward Looking Approach to Project Management

Australian Guidebook for Structural Engineers

Proceedings of the Sixth International Symposium on Life-Cycle Civil Engineering (IALCCE 2018), 28-31 October 2018, Ghent, Belgium

Airports, Water Ports, Rail, Buses, Taxis, and Finance

This open access book offers a summary of the development of Digital Earth over the past twenty years. By reviewing the initial vision of Digital Earth, the evolution of that vision, the relevant key technologies, and the role of Digital Earth in helping people respond to global challenges, this publication reveals how and why Digital Earth is becoming vital for acquiring, processing, analysing and mining the rapidly growing volume of global data sets about the Earth. The main aspects of Digital Earth covered here include: Digital Earth platforms, remote sensing and navigation satellites, processing and visualizing geospatial information, geospatial information infrastructures, big data and cloud computing, transformation and zooming, artificial intelligence, Internet of Things, and social media. Moreover, the book covers in detail the multi-layered/multi-faceted roles of Digital Earth in response to sustainable development goals, climate changes, and mitigating disasters, the applications of Digital Earth (such as digital city and digital heritage), the citizen science in support of Digital Earth, the economic value of Digital Earth, and so on. This book also reviews the regional and national development of Digital Earth around the world, and discusses the role and effect of education and ethics. Lastly, it concludes with a summary of the challenges and forecasts the future trends of Digital Earth. By sharing case studies and a broad range of general and scientific insights into the science and technology of Digital Earth, this book offers an essential introduction for an ever-growing international audience.

Activating Urban Waterfronts shows how urban waterfronts can be designed, managed and used in ways that can make them more inclusive, lively and sustainable. The book draws on detailed examination of a diversity of waterfronts from cities across Europe, Australia and Asia, illustrating the challenges of connecting these waterfront precincts to the surrounding city and examining how well they actually provide connection to water. The book challenges conventional large scale, long-term approaches to waterfront redevelopment, presenting a broad re-thinking of the formats and processes through which urban redevelopment can happen. It examines a range of actions that transform and activate urban spaces, including informal appropriations, temporary interventions, co-design, creative programming of uses, and adaptive redevelopment of waterfronts over time. It will be of interest to anyone involved in the development and management of waterfront precincts, including entrepreneurs, the creative industries, community organizations, and, most importantly, ordinary users.

Tender prices performed strongly again in 2016, with a provisional rate increase of 10.3% versus a year earlier. SPON'S CIVIL ENGINEERING AND HIGHWAY WORKS PRICE BOOK 2017 from AECOM gives costs for both general and civil engineering works and highway works. It provides a full breakdown of labour, plant and material elements, with labour rates updated. It is an essential component of infrastructure estimating maturity, benchmarking and cost intelligence, and gives sound guidance for estimators, contractors and clients. This 31st edition incorporates a comprehensive review throughout: Plant and materials have increased, though not as significantly as labour rates. Some item descriptions have been revised to reflect prices in the global market. And in detail: A revised structure for manhole construction to show detailed build-up. New prices for pre-cast manholes with monolithic precast concrete bases. Updated rail supply and installation rates and a few more added items. Revised piling rates and descriptions. Highway pipe rates adjusted to reflect current market specifications and materials. Revised steel works prices to reflect deflation in this sector. Use the access code inside the front cover of the book to get set up with internet access to this edition until the end of December 2017. We now provide a VitalSource® ebook, giving a versatile and powerful online data viewing package. In a time when it is essential to gain 'competitive advantage' in a congested market, this price book provides instant-access cost information and forms a one-stop reference. ... along with the standard features you have come to expect from SPON'S CIVIL ENGINEERING AND HIGHWAY WORKS PRICE BOOK: for budgeting: estimating principles, on-cost advice, method-related charges for resource costings: labour costs, plant costs, material prices for rapid cost information: approximate estimates, dayworks, cost indices for plant and labour allowances: production rates, outputs, man hour constants for detailed pricing: unit costs with full breakdown, or specialist prices, with advice on item coverage, waste allowances and comparative costs for incidental advice: tables and formulae, technical information, professional advice updated, free of charge, two or three times a year - see inside for registration details. Updates are available online at www.pricebooks.co.uk

Sustainable Construction Technologies: Life-Cycle Assessment provides practitioners with a tool to help them select technologies that are financially advantageous even though they have a higher initial cost. Chapters provide an overview of LCA and how it can be used in conjunction with other indicators to manage construction. Topics covered include indoor environment quality, energy

efficiency, transport, water reuse, materials, land use and ecology, and more. The book presents a valuable tool for construction professionals and researchers that want to apply sustainable construction techniques to their projects. Practitioners will find the international case studies and discussions of worldwide regulation and standards particularly useful. Provides a framework for analyzing sustainable construction technologies and economic viability Introduces key credit criteria for different sustainable construction technologies Covers the most relevant construction areas Includes technologies that can be employed during the process of construction, or to the product of the construction process, i.e. buildings Analyzes international rating systems and provides supporting case studies

Planning and Design for Inclusive, Engaging and Adaptable Public Spaces

Tools, Trends, and the Impact of Disruptive Technologies

Companies Handbook of the Stock Exchange of Singapore Ltd

Sustainability in Energy and Buildings 2020

Life-Cycle Assessment

Spon's External Works and Landscape Price

This book discusses the role of public-private partnerships in global transportation infrastructure. Seen as a way to provide vital services in an era of shrinking government budgets, public-private partnerships have become an increasingly important part of travel infrastructure worldwide. This book describes and analyzes the structure of various models of PPPs in various countries, evaluating their effectiveness, and drawing policy implications for future use. Written by leading international researchers and practitioners in the transportation field, each chapter is a case study on the adoption, implementation, and outcome of transportation services in different municipalities. Taken together, these diverse case studies provide an integrated framework for evaluating and using PPPs. Providing rigorous empirical analysis of PPPs in transportation, this volume will be of interest to researchers in public administration, political science, and economics as well as practitioners and policymakers involved in establishing and monitoring PPPs in transportation.

Singapore Country Study Guide Volume 1 Strategic Information and Developments - Everything you need to know about the country - Geography, history, politics, economy, business, etc.

Construction Cost Handbook Singapore 2017 Improving the Performance of Construction Industries for Developing Countries Programmes, Initiatives, Achievements and Challenges Routledge

This book is the essential guide to the pedagogical and industry-inspired considerations that must shape how BIM is taught and learned. It will help academics and professional educators to develop programmes that meet the competences required by professional bodies and prepare both graduates and existing practitioners to advance the industry towards higher efficiency and quality. To date, systematic efforts to integrate pedagogical considerations into

the way BIM is learned and taught remain non-existent. This book lays the foundation for forming a benchmark around which such an effort is made. It offers principles, best practices, and expected outcomes necessary to BIM curriculum and teaching development for construction-related programs across universities and professional training programmes. The aim of the book is to: Highlight BIM skill requirements, threshold concepts, and dimensions for practice; Showcase and introduce tried-and-tested practices and lessons learned in developing BIM-related curricula from leading educators; Recognise and introduce the baseline requirements for BIM education from a pedagogical perspective; Explore the challenges, as well as remedial solutions, pertaining to BIM education at tertiary education; Form a comprehensive point of reference, covering the essential concepts of BIM, for students; Promote and integrate pedagogical consideration into BIM education. This book is essential reading for anyone involved in BIM education, digital construction, architecture, and engineering, and for professionals looking for guidance on what the industry expects when it comes to BIM competency.

Programmes, Initiatives, Achievements and Challenges

Law, Economics and Policy

Trends and Limits

Spon's Civil Engineering and Highway Works Price

The Routledge REITs Research Handbook

Routledge Handbook of Integrated Project Delivery

This book contains the proceedings of the 12th KES International Conference on Sustainability and Energy in Buildings 2020 (SEB20) held in Split, Croatia, during 24–26 June 2020 organized by KES International. SEB20 invited contributions on a range of topics related to sustainable buildings and explored innovative themes regarding sustainable energy systems. The aim of the conference is to bring together researchers, and government and industry professionals to discuss the future of energy in buildings, neighbourhoods and cities from a theoretical, practical, implementation and simulation perspective. The conference formed an exciting chance to present, interact and learn about the latest research and practical developments on the subject. The conference attracted submissions from around the world. Submissions for the Full-Paper Track were subjected to a blind peer-review process. Only the best of these were selected for presentation at the conference and publication in these proceedings. It is intended that this book provides a useful and informative snapshot of recent research developments in the important and vibrant area of sustainability in energy and buildings.

‘An essential reference for everybody concerned with the calculation of costs of mechanical and electrical works.’ – Cost Engineer ...riding with the UK construction industry. Spon's Mechanical and Electrical Services Price Book 2017 continues to be the most comprehensive and best annual services engineering price book currently available, providing detailed pricing information across the full range of mechanical and electrical services, together with higher-level costs for a diverse range of

systems and different building applications. Use the access code inside the front cover of the book to get set up with internet access to this 2017 edition until the end of December 2017. We now provide a VitalSource® ebook, giving a versatile and powerful online data viewing package. Using a combination of NRM1 and NRM2 as the measurement standards, this edition includes the following new and significantly developed items: WiFi equipment FP 600 cable Wireless fire alarms and a much enhanced clock section All the standard features you have come to expect from SPON'S MECHANICAL AND ELECTRICAL SERVICES PRICE BOOK are also included, considered essential for today's services cost professional: detailed materials prices, labour constants, labour costs and measured work prices for mechanical and electrical works, from above ground drainage to automatic transfer switches, and circuit breakers to sprinkler systems an extensive Approximate Estimating section for quick, rule-of-thumb pricing of mechanical or electrical installations, together with elemental services costs for different types and standard of buildings full details of wage rates, daywork and cost indices on a national and Central London basis. an overhauled index and guidance notes updated, free of charge, two or three times a year – see inside for registration details. Updates are available online at www.pricebooks.co.uk Other titles in the SPON'S Price Book Series SPON'S ARCHITECTS' AND BUILDERS' PRICE BOOK 2017 SPON'S CIVIL ENGINEERING AND HIGHWAY WORKS PRICE BOOK 2017 SPON'S EXTERNAL WORKS AND LANDSCAPE PRICE BOOK 2017 Price Net: £160.00 (UK only)

This book documents the experiences, development, and prospects of the construction industry in numerous developing countries. It will provide a strong base of reference for countries looking to improve their construction industries as part of their wider economic development programme. The opening chapter presents a strategic overview of the contents of the book, and each country-specific chapter is structured to consider the legal and policy frameworks, administrative infrastructure and procedures, and implementation mechanisms, as well as the experiences, current activities, and future plans and programmes with respect to construction industry development in each country. The concluding chapter looks forward and considers the implications of future trends for the construction industries in developing countries and the actions which will be required to address them. Chapters cover: India, Singapore, Chile, South Africa, Tanzania, Malaysia, Botswana, Ghana, Uganda, Indonesia, China, Croatia, and Eswatini. Readers will learn about the wealth of comparable stories from global coverage from the detailed country-specific cases. Building on important scholarly works in the field, this book is essential reading for academics, researchers, and policy makers in built environments, economics, construction management, infrastructure management, and the wider construction industry. This timely Research Handbook investigates the radically transformative impact of the Belt and Road Initiative (BRI), addressing key questions regarding its economic, political and strategic consequences: what does the Chinese government hope to achieve with the BRI? How have recipient states responded? And what are its potential opportunities and risks?

Singapore Country Study Guide Volume 1 Strategic Information and Developments

Handbook on East Asian Economic Integration

Construction Cost Handbook

Routledge Handbook of Planning and Management of Global Strategic Infrastructure Projects

Improving the Performance of Construction Industries for Developing Countries

Spon's Mechanical and Electrical Services Price Book 2018

This book is designed to help practitioners and students in a wide range of construction project management professions to understand what building information modelling (BIM) and big data could mean for them and how they should prepare to work successfully on BIM-compliant projects and maintain their competencies in this essential and expanding area. In this book, the state-of-the-art information technologies that support high-profile BIM implementation are introduced, and case studies show how BIM has integrated core quantity surveying and cost management responsibilities and how big data can enable informed decision-making for cost control and cost planning. The authors' combined professional and academic experience demonstrates, with practical examples, the importance of using BIM and particularly the fusion of BIM and big data, to sharpen competitiveness in global and domestic markets. This book is a highly valuable guide for people in a wide range of construction project management and quantity surveying roles. In addition, implications for project management, facilities management, contract administration, and dispute resolution are also explored through the case studies, making this book essential reading for built environment and engineering professionals.

This volume contains the papers presented at IALCCE2018, the Sixth International Symposium on Life-Cycle Civil Engineering (IALCCE2018), held in Ghent, Belgium, October 28-31, 2018. It consists of a book of extended abstracts and a USB device with full papers including the Fazlur R. Khan lecture, 8 keynote lectures, and 390 technical papers from all over the world.

Contributions relate to design, inspection, assessment, maintenance or optimization in the framework of life-cycle analysis of civil engineering structures and infrastructure systems. Life-cycle aspects that are developed and discussed range from structural safety and durability to sustainability, serviceability, robustness and resilience. Applications relate to buildings, bridges and viaducts, highways and runways, tunnels and underground structures, off-shore and marine structures, dams and hydraulic structures, prefabricated design, infrastructure systems, etc. During the IALCCE2018 conference a particular focus is put on the cross-fertilization between different sub-areas of expertise and the development of an overall vision for life-cycle analysis in civil engineering. The aim of the editors is to provide a valuable source of cutting edge information for anyone interested in life-cycle analysis and assessment in civil

engineering, including researchers, practising engineers, consultants, contractors, decision makers and representatives from local authorities.