

Digital Twins in the Built Environment

Fundamentals, principles and applications

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About the Book

Digital Twins in the Built Environment offers a new, comprehensive, systematic and clear view of digital twin development in the architecture, engineering, construction and facilities management sectors. It will help you to uncover the implementation and development of digital twins work and understand how to operate and maintain digital twin assets, buildings and cities.

Using a structured approach, the book explains how to create and use digital twins effectively including principles, system architecture, data structure and creation methods for the five layers needed (data acquisition, data transmission, digital model, data/model integration, and services). This is underpinned with real life cases studies of digital twin implementation at asset, building and city levels, revealing every angle that a digital twin can take.

This book will cover

- the definitions and principles of digital twins
- overviews of typical digital twin implementations
- system architecture of digital twins
- five layers of the developed architecture: data acquisition, transmission, digital modelling, data/model integration, and services
- extension with other technologies
- practical cases at asset, building and city levels.
- This book is an essential read for built environment professionals including asset owners, consultants, facility managers, contractors, designers, policymakers and researchers.



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