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Nota di contenuto	Embedded Commissioning of Building Systems; Contents; Chapter 1 The Motivation for Building Evaluation; 1.1 Building Types According to Technology; 1.2 Costliest Building Failures; 1.2.1 Cost of Silent Failures; 1.2.2 The Most Expensive and Prevalent Market Commodity; 1.3 Building Evaluation; 1.3.1 Post-Occupancy Evaluation (POE); 1.3.2 Simulation-Based Evaluation; 1.3.3 Commissioning Building Energy Systems; 1.4 Emerging Practices and Opportunities; References; Chapter 2 Embedded Commissioning; 2.1 Commissioning Energy-Consuming Capital Projects. 2.1.1 Significance of Energy Consumption in Capital Projects 2.1.2 Building Commissioning (BCx); 2.2 Current Challenges and Opportunities in the AEC Sector; 2.2.1 Performance Emphasis; 2.2.2 Stakeholder Awareness; 2.2.3 Integration of Design and Operations of Capital Projects; 2.2.4 Building Information Modeling: The Digital Platform for CPD; 2.3 Dawning of a New Practice in the AEC Sector: ECx; References; Chapter 3 Institutional Structure and Practice of Building Commissioning in the Digital Era; 3.1 The Global Scope of Building Commissioning. 3.2 Institutional Structure in Building Commissioning 3.2.1 European Union Countries; 3.2.2 Pacific Rim Countries; 3.2.3 BCx Standards in United States and Canada; 3.3 Emerging Requirements for BCx in the Information Age; 3.3.1 Modeling; 3.3.2 Standardization; 3.3.3 Interoperability; 3.3.4 Cost of Interoperability; References; Chapter 4

Product and Process Models for Building Commissioning; 4.1 The Need for Product and Process Models in Building Commissioning; 4.2 Capturing the Building Commissioning Process in a Flowchart; 4.2.1 Process Model Terminology; 4.2.2 BCx Process Description. 4.2.3 Significance of the ECx Model 4.3 Capturing Embedded Commissioning Information in the Product Model; 4.3.1 Identifying BCx Data; 4.3.2 Developing the Product Model; References; Chapter 5 Building Information Modeling: Current Practices in Building Evaluation Models and Updates; 5.1 Introduction; 5.2 Utilization of BIM in Evaluating Facilities During Preconstruction; 5.2.1 Using BIM for Energy Analysis During Design; 5.2.2 Using BIM in Building Code Compliance Checking; 5.3 Using BIM in Evaluating Facilities During Construction. 5.3.1 Using BIM for Coordination of Building Systems and Specialty Trades 5.3.2 Use of BIM and 3D Imaging Techniques for Construction Quality Control; 5.4 Using BIM in Evaluating Facilities Throughout Their Life Cycle; 5.4.1 Utilization of BIM for Traditional Commissioning Activities; 5.4.2 Using BIM for Fault Diagnosis of Building Systems; 5.4.3 Using BIM in Planning of Maintenance Tasks; 5.5 Evolution of BIM and the Need for Information Updating; References; Chapter 6 As-Is Modeling: Capturing Existing Spatial Conditions Using Laser Scanners; 6.1 Introduction.

Sommario/riassunto

In today's digital, green, and consumer driven marketplace, it is critical to be knowledgeable about the latest approaches, tools and systems that can help you seamlessly and reliably conduct building performance verification assessments. This groundbreaking book provides you with a solid understanding of the underpinnings of embedded commissioning (ECx) as the overarching building evaluation approach. You find a review of significant and emerging approaches within ECx, including product models, process models, BIM (building information modeling), laser technology based modeling, mapping between
