

1. Record Nr.	UNISA996552368703316
Titolo	Toxic truths : Environmental justice and citizen science in a post-truth age // ed. by Thom Davies, Alice Mah
Pubbl/distr/stampa	Manchester : , : Manchester University Press, , [2020] ©2020
Descrizione fisica	1 electronic resource (352 pages)
Soggetti	Social impact of environmental issues Pollution & threats to the environment Sociology & anthropology Impact of science & technology on society
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	This electronic version has been made available under a Creative Commons (BY-NC-ND) open access license. Debates over science, facts, and values are pivotal in the struggle for environmental justice. For decades, environmental justice activists have campaigned against the misuse of science, engaging in community-led citizen science that champions knowledge produced by and for ordinary people living with environmental risks and hazards. However, post-truth politics have threatened science itself. Toxic truths examines the relationship between environmental justice and citizen science, focusing on enduring issues and new challenges in a post-truth age. The volume features a range of community-based participatory environmental health and justice research projects that seek to establish different ways of sensing, witnessing, and interpreting environmental injustice. From struggles in American hog country and contaminated indigenous communities, to local environmental controversies in Spain and China, this volume examines political strategies for seeking environmental justice. With international, interdisciplinary contributions from distinguished authors, emerging scholars and community activists,

Toxic truths is essential reading for those seeking to understand the cutting edge of citizen science and activism around the world.

2. Record Nr.	UNINA9910760293103321
Autore	Fottner Johannes
Titolo	Construction Logistics, Equipment, and Robotics : Proceedings of the CLEaR Conference 2023 // edited by Johannes Fottner, Konrad Nübel, Dominik Matt
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2024
ISBN	9783031440212 3031440218
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (222 pages)
Collana	Lecture Notes in Civil Engineering, , 2366-2565 ; ; 390
Altri autori (Persone)	NubelKonrad MattDominik T
Disciplina	690.06
Soggetti	Construction industry - Management Industrial engineering Production engineering Robotics Construction Management Industrial and Production Engineering Robotic Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Preface -- Conference Organization -- Contents -- Construction Logistics -- Construction Logistics - An Underrated Topic and an Educational Gap in University Teaching -- 1 Introduction -- 1.1 Construction Logistics - What is It? -- 1.2 The Practical Relevance of Construction Logistics -- 1.3 Construction Logistics in Science and Teaching -- 2 Exemplary Lecture at TUM -- 2.1 Basic Structure -- 2.2 Real-World Examination Project for Advanced Understanding -- 3 Conclusion -- 3.1 Needs to Teach Construction Logistics for Real-World Projects -- 3.2 Limitations of the Lecture Concept -- Appendix -- References -- A Journey to High Efficiency Construction (with Smart

Logistics) -- 1 Introduction -- 2 Research and Methodology -- 3 Dysfunctional Systems in Construction -- 3.1 Living in a Silo (What is a Silo?) -- 3.2 Everything is a Perspective (What is Tangible and What is Intangible?) -- 3.3 Part-Whole Paradigm (What is a Network?) -- 4 End-to-End Supply Chain for Construction Sites -- 4.1 Macro Lens - Smart City, Urbanisation, Megacities -- 4.2 Micro Lens - Time, Quality, Cost Problems on Site -- 5 Networking of the Systems -- 5.1 Dimensions of Construction Logistics - Urbanising Building -- 5.2 Dimension of Space - Linking Transport to the Site -- 5.3 Dimension of Time - Linking Construction Schedules to Material Flow -- 5.4 Dimension of Stakeholders - Linking the Production Value Chain -- 6 Facing the Dilemma with Constant Change -- 6.1 Our Playground - Putting Ourselves into the Heart of the Process -- References -- A First Approach to a Semantic Process Model for Enabling an Information Flow for Reuse of Building Materials -- 1 Introduction -- 2 Background and Related Works -- 2.1 Robotic Deconstruction Process -- 2.2 Ontologies in Construction -- 3 Methodology -- 3.1 Scope and Competency Questions -- 3.2 Reuse of Existing Concepts. 4 Outlook -- 4.1 Robotic Implementation -- References -- Applicability of a Serious Game Framework for Construction Logistics -- 1 Introduction -- 2 Literature Background -- 3 Description of the Elaborated Framework -- 4 Application of the Framework via an Example -- 5 Summary and Further Research -- References -- Smart Contract-Enabled Construction Claim Management in BIM and CDE-Enhanced Data Environment -- 1 Introduction -- 2 Related Work -- 2.1 ICT-Enabled Construction Claims Management -- 2.2 Blockchain and Smart Contract for Data Integrity and Process Tracing -- 3 Methodology -- 4 Case Study -- 5 Conclusion -- References -- Automated Productivity Evaluation of Concreting Works: The Example of Concrete Pillar Production -- 1 Introduction -- 2 Background -- 2.1 Construction Monitoring -- 2.2 Vision-Based AI Methods in Construction -- 3 Productivity in Construction -- 4 Proposed Solution -- 5 Conclusion -- References -- Adaptive BIM/CIM for Digital Twinning of Automated Shotcreting Process -- 1 Introduction -- 2 State of the Art -- 2.1 BIM in Digital Twins -- 2.2 Shotcrete Digitalization -- 3 Proposed Shotcrete Automation -- 4 Adaptive BIM/CIM Models -- 4.1 Requirements -- 4.2 Adaptive Modeling and Interoperability Considerations -- 5 Conclusion -- References -- Using Digital Models to Decarbonize a Production Site: A Case Study of Connecting the Building Model, Production Model and Energy Model -- 1 Introduction -- 2 From Digital Models to Digital Twins -- 2.1 Building Model -- 2.2 Production Model -- 2.3 Energy Model -- 3 Methodology -- 3.1 Case Study -- 4 Results and Discussions -- 5 Conclusions -- References -- Construction Equipment -- Evaluation of Different IIoT Transmission Technologies for Connecting Light Construction Equipment in Outdoor Areas -- 1 Introduction -- 1.1 Initial Situation -- 2 State of Science. 2.1 Theoretical Background and Definitions -- 3 Method and Evaluation -- 4 Results: Applying the Technology to the Use Case -- 4.1 Multiple Operation Scenarios: LoRaWAN -- 4.2 Cellular Transmission -- 4.3 Bluetooth Low Energy -- 5 Discussion and Conclusion -- References -- Investigation of Data Transmission Between Construction Machines and Attachment Tools via OPC UA Technology -- 1 Introduction -- 2 Related Works -- 3 Concept for Inter-communication of Mobile Construction Machines and Their Attachment Tools Using OPC UA -- 4 Timing and Data Loss Experiments -- 4.1 Experimental Design -- 4.2 Measurement Results -- 5 Results Discussion -- 6 Conclusion -- References -- Activity Recognition for Attachments of Construction

Machinery Using Decision Trees -- 1 Introduction -- 1.1 Motivation -- 1.2 Related Work -- 1.3 Relevance and Objective -- 2 Methodology -- 2.1 Class Definition -- 2.2 Data Collection -- 2.3 Data Preparation -- 2.4 Classification Model -- 3 Results -- 3.1 Model Accuracy -- 3.2 Comparison Among Attachment Classes -- 3.3 Comparison to Other Machine Learning Algorithms -- 4 Discussion and Conclusion -- 4.1 Conclusion -- 4.2 Limitation -- 4.3 Outlook -- References -- How is the Profession of Excavator Operator Changing? The Demands of Digitalization and Automation of Construction Machinery from the Operator's Point of View -- 1 Introduction -- 2 State of the Art -- 3 Analysis of the Technological Transformation -- 3.1 Level 1 Past/Present -- 3.2 Level 2 Present -- 3.3 Level 3 Present/Future -- 3.4 Level 4 Future -- 3.5 Challenges Due to Digitalization -- 4 Summary -- References -- Introduction of an Assistant for Low-Code Programming of Hydraulic Components in Mobile Machines -- 1 Motivation and Introduction -- 2 State-of-the-Art in Analyzing and Assisting Low-Code Development -- 3 Concept of a Programming to Develop Low-Code. 4 Prototype of the Programming Assistant -- 5 Evaluation in User Study -- 6 Conclusion and Outlook -- References -- Decarbonizing Construction Material Supply Chains: An Innovative Approach to Intermodal Transportation -- 1 Introduction -- 2 Literature Review -- 2.1 Green Transportation in the Construction Material Supply Chain -- 2.2 Combined Transportation -- 2.3 A Novel Load Carrier Design -- 3 Methodology -- 3.1 Description of the Scenarios -- 3.2 GHG Emission Quantification -- 4 Results and Discussion -- 4.1 Results -- 4.2 Discussion -- 4.3 Limitations -- 5 Conclusion -- References -- Embedding RFID Tags into Modular Textile Floor Coverings and Integration in BIM -- 1 Introduction -- 1.1 Background and Problem Statement -- 1.2 State of the Art -- 2 Methodology -- 2.1 Concept -- 2.2 Implementation -- 3 Embedding Passive RFID Tags into Modular Carpets -- 4 Conclusion and Outlook -- References -- Construction Robotics -- Status Quo of Construction Robotics: Potentials, Applications and Challenges -- 1 Introduction -- 2 Analysis of Construction Processes -- 3 State of the Art in Construction Robotics -- 4 Regulatory Situation with Automated Construction Processes -- 5 Conclusion -- References -- Levels of Digitalization for Construction Machinery on the Connected and Automated Construction Site -- 1 Introduction -- 2 The Automation Pyramid -- 3 Levels of Digitalization -- 3.1 Level 0: Process Level -- 3.2 Level 1: Device Level -- 3.3 Level 2: Monitoring and Control Level -- 3.4 Level 3: Manufacturing Operations and Management -- 3.5 Level 4: Corporate Level -- 4 Using ISOBUS as a Process Control Communication in Construction Machinery -- 5 Using OPC-UA for a Site Execution System -- 6 Summary -- References -- Synthetic Data Generation for the Enrichment of Civil Engineering Machine Data -- 1 Motivation and Problem Statement. 2 Related Work and Contribution to Current Research -- 3 Concept for Machine Trajectory Data Generation -- 4 Evaluation and Discussion -- 4.1 Use Case: Diaphragm Wall Grab -- 4.2 Reference Trajectory -- 4.3 Deviating Trajectories -- 4.4 Discussion and Enrichment of Real Machine Data -- 5 Conclusion and Further Work -- References -- Advancing Construction Efficiency Through Collaborative Robotics: A Scalable Multi-agent-Based Logistics Solution -- 1 Introduction -- 2 Literature -- 3 Method -- 4 Expected Results -- 5 Outlook -- References -- Agent-Based Simulation Model for the Real-Time Evaluation of Tunnel Boring Machines Using Deep Learning -- 1 Introduction -- 2 Literature -- 3 Concept -- 3.1 Update Inputs of the Simulation Model with the Deep-Learning Prediction -- 4

Implementation -- 4.1 Deep-Learning Model -- 4.2 TBM Simulation Model -- 5 Case Study -- 6 Results -- 7 Conclusion -- References -- A BIM-Integrated Robotics Application for Color Spraying in Construction -- 1 Introduction -- 2 Proposed Approach -- 3 Application -- 4 Conclusion -- References -- A Digital Twin Model for Advancing Construction Safety -- 1 Introduction -- 2 Related Work -- 2.1 Current State of Construction Safety and Level of Information Technology -- 2.2 Digital Twins and Data Acquisition Under Typical Construction Project Constraints -- 3 The Digital Twin for Construction Safety -- 3.1 Construction Site -- 3.2 Digital Twin for Construction (DTC) -- 3.3 Digital Twin for Production Planning (DTPP) -- 3.4 Construction Site Interface (CSI) -- 3.5 Digital Twin for Construction Safety (DTCS) -- 4 Implementation Example -- 5 Conclusion -- References -- Author Index.

Sommario/riassunto

This book gathers peer-reviewed contributions presented at the International Conference on Construction Logistics, Equipment and Robotics (CLEaR), held at the TUM Academy Center Raitenhaslach near Munich, Germany on October 09-11, 2023. The contributions encompass three main themes, construction logistics, equipment and robotics, and cover a diverse range of topics such as supply chain management , process management , LEAN and industrialized construction , production systems, BIM and digital twin , sensoric and embedded systems , zero emission and sustainability, autonomous machines , IIoT and collaborative machines , autonomous mobile robots , computer vision and perception systems , cloud/edge computing , and human robot interaction. They explore the latest findings in the field of construction industry, and discuss new perspectives and practices that will strengthen the role of construction logistics as part of the Industry 4.0. .
