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Nota di contenuto	Contents; Note on editors; List of contributors; Note on Think Lab; Acknowledgements; Foreword - Virtual worlds, virtual prototypes, and design; Introduction - Virtually there. . . ?; PART 1 DESIGN, ENGINEERING AND MANUFACTURING CHALLENGES; 1 Emerging paradigms and models in digital design - Performance-based architectural design; 2 Algorithmic design optimization; 3 VR or PR: Virtual or physical reality?; 4 Digital affordances: Emerging knowledge and cognition in design; PART 2 CHALLENGES FOR IMPLEMENTATION: FROM VIRTUAL THROUGH TO CONSTRUCTION 5 One Island East, Hong Kong: A case study in construction virtual prototyping6 The virtual building: A designer's perspective; PART 3 CHALLENGES FOR VISUALIZATION AND SIMULATION; 7 Planning and scheduling in a virtual prototyping environment; 8 Reshaping the life cycle process with virtual design and construction methods; 9 Virtual prototyping from need to pre-construction; 10 The need for creativity

enhancing design tools; PART 4 CHALLENGES FOR INFORMATION AND KNOWLEDGE MODELLING; 11 Context-aware virtual prototyping; 12 nD modelling, present and future  
13 Interoperable knowledge: Achievements and future challenges14 Knowledge management systems in the future; PART 5 OTHER CHALLENGES: AGENT TECHNOLOGIES, SECURITY, REGULATIONS AND MANAGEMENT CONTROL; 15 Future agent-driven virtual prototyping environments in construction; 16 The nature of virtuality and the need for enhanced security in the virtual world; 17 The future of virtual construction and regulation checking; 18 Virtual prototyping of financial flows as a form of management control; PART 6 VISIONS, ROADMAPS AND FUTURE SCENARIOS  
19 VR - Roadmap: A vision for 2030 in the built environment20 Future collaborative workspaces for the construction industry; 21 The future organization: Sustainable competitiveness through virtual prototyping; Index

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## Sommario/riassunto

This book brings together some of the best practitioners and thinkers from around the world to discuss the likely future of information and communication technologies for the construction industry. It addresses a range of innovative developments, state of the art applications, research work and theoretical arguments with regard to the use of virtual technologies in design, construction and procurement. From a future oriented perspective, the book presents what can be expected from the next generation of these technologies.

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