1. Record Nr. UNINA9910424616703321 Autore Getuli Vito **Titolo** Ontologies for knowledge modeling in construction planning: theory and application / / Vito Getuli Firenze, Italy:,: Firenze University Press,, [2020] Pubbl/distr/stampa ©2020 Descrizione fisica 1 online resource (152 pages): illustrations Collana Ricerche. Architettura, pianificazione, paesaggio, design Disciplina 690.028563 Construction industry - Data processing Soggetti Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references. Nota di contenuto Preface 9 -- List of Abbreviations 13 -- Glossary 15 -- Part one | Theory 25 -- 1. Ontologies 27 -- 1.1 Basic Concepts 27 -- 1.2 Ontology representation languages 32 -- 1.3 Ontology development environments 34 -- 1.4 Ontology visualization 38 -- 2 Knowledge Management in construction 41 -- 2.1 Expert System methodologies 41 -- 2.2 Expert Systems for construction planning 45 -- 2.3 Ontology-based modelling in AEC Industry 53 -- 2.4 Construction workspaces management in AEC Industry 56 -- Part two| Application 63 -- 3. A Knowledge Base to support Construction Planning 65 -- 3.1 Ontological structure of the Knowledge Base 67 -- 3.2 Modelling domains 70 -- 4. Construction Scheduling Ontology 75 -- 4.1 Specification of modelling objectives 75 -- 4.2 Overall framework of the Scheduling Ontology 75 -- 4.3 Topological structure 78 -- 4.4 Specification of the entities 81 -- 5. Construction Space Ontology 93 --

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## Sommario/riassunto

Nowadays, there is an increasing recognition of the value of knowledge management in the construction projects and ontology-based semantic modelling is seen as an important means of addressing this problem, even if a knowledge-base which maps the construction planning and scheduling domains, in a formal and machine-readable way, is still missing. Addressing this issue, the book is divided in two parts. Part I, theory, is a theoretical introduction of on ontologies concepts and expert systems. Part II, application, presents a research of ontologies development for semantic modelling of construction scheduling, workspace, product and time domains. The last chapter presents the architecture of an ontology-based expert system, to show how ontologies can support automated planning mechanisms.