

1. Record Nr.	UNINA9911018642803321
Autore	Cantagallo Cristina
Titolo	Digitization of Built Heritage : Approaches and Methods for Data Acquisition, Analysis, and Intervention / / by Cristina Cantagallo, Valentino Sangiorgio, Humberto Varum, Francesco Fiorito, Fabio Fatiguso
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2025
ISBN	9783031965982
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (XV, 283 p. 150 illus., 114 illus. in color.)
Collana	Digital Innovations in Architecture, Engineering and Construction, , 2731-7277
Disciplina	690.06
Soggetti	Construction industry - Management Cultural property Archaeology Building information modeling Natural disasters Construction Management Heritage Management Building Information Modeling Natural Hazards
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Creating a Digital Identity Card of the Building Heritage: Data Collection, Digitalization, and Processing -- Knowledge of the Built Heritage -- Multi-Scale and Multi-Risk Analysis of Built Heritage -- Risk Mitigation Strategies: Conservation, Maintenance and Intervention -- Automation of the Risk Analysis for Built Heritage -- Conclusions.
Sommario/riassunto	This book presents a comprehensive framework for applying digital technologies to heritage conservation. It begins by developing a knowledge path of cultural heritage buildings through methods such as 3D laser scanning, photogrammetry, and Heritage Building Information Modeling (HBIM), and then leverages this data for the assessment and management of both rapid- and slow-onset disasters. To this purpose,

multi-scale vulnerability and risk-assessment methodologies, particularly concerning seismic and climate change hazards, are used to support the planning of risk-mitigation strategies to protect heritage buildings from sudden and long-term threats. Adopting a multidisciplinary and multi-scale perspective, the volume bridges the gap between architectural knowledge, structural analysis, and environmental risk management. It offers a practical and replicable model that integrates both traditional and innovative methods, aiming to preserve historical and cultural value while addressing contemporary conservation challenges. Furthermore, the proposed framework supports the creation of a centralized digital platform, empowering heritage professionals, policymakers, and communities to make informed decisions regarding mitigation strategies. By combining technological innovation with established methodologies, this book provides tools and resources for safeguarding heritage buildings for future generations.
