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Sommario/riassunto	This open access book describes a BIM-based toolkit that has been developed according to the latest research activities on building information modelling and semantic interoperability to optimize the building process. It highlights the impacts of using such new tools to fast renovation activities starting from the decision-making and design stages to the construction site management with the possibility to monitor occupants' and owners' feedback during the realization process. In this process, a framework has been developed and implemented to allow stakeholders involved in a renovation project to efficiently compile, maintain, and add data about (i) building elements, (ii) building services systems, (iii) tenants, operators, and owners of the building, and (iv) current and predicted performance of the building from the various data sources available. The framework applies and specializes the existing practices in the Semantic Web, Linked Data, and ontology domain to the management of renovation projects. It has been designed to be open so that any system which implements the

required functions and uses the specified conventions will be able to achieve semantic interoperability with other framework-compliant systems in the renovation domain. Finally, this book represents the validation process of the toolkit that has been held in three demo sites: a social housing building in Italy and two private residential buildings in Poland and Finland. The outcome shows that the toolkit facilitates the renovation process with relevant reductions of time, costs, and energy consumption and that the inhabitants can take advantage of the increase in building performances, quality, and comfort.