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Sommario/riassunto	The sustainability of the built environment can only be achieved through the maintenance planning of built facilities during their lifecycle while also considering social, economic, functional, technical, and ecological aspects. Stakeholders should be conscious of the existing tools and knowledge for the optimization of maintenance and rehabilitation actions in consideration of the degradation mechanisms and the risk of failure over time. Knowledge concerning the service life prediction of building elements is crucial to the definition, in a rational and technically informed way, of a set of maintenance strategies over the building's life cycle. Service life prediction methodologies provide a better understanding of the degradation phenomenon of the analyzed elements, enabling the relation of the characteristics of these elements and their exposure, use, and maintenance conditions with their performance over time. This SI intends to provide an overview of the existing knowledge related to various aspects of "Life Cycle Prediction and Maintenance of Buildings". Relevant topics to this Special Issue include: Methodologies for service life prediction of buildings and components; Maintainability of buildings and components; Serviceability of building elements; Maintenance and repair actions of buildings and components; Definition and optimization of maintenance policies; Financial analysis of various maintenance plans; Whole life cycle costing; Life cycle assessment.