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Sommario/riassunto	This handbook, now as second edition, continues to comprehensively cover the cutting-edge trends and techniques essential for the integration of nondestructive evaluation (NDE) into the changing face of the modern industrial landscape. In particular, it delves into the

marriage of NDE with new techniques in e.g. data mining and management, cloud computing, autonomous operation, AI for data analysis and decision making, as well as cyber security, highlighting the potential for cyber-physical controlled production and discussing the myriad possible applications across many different industries. The Handbook of NDE 4.0 centers around the Industry 4.0 philosophy – the next generation of industrial production encompassing all aspects of networking across all industrial areas. It discusses the adaptation of existing NDE techniques to emerging new technological areas, such as 3D printing, via the introduction of cyber systems into the inspection and maintenance processes. In addition, the handbook covers topics such as the management and processing of big data with respect to real-time monitoring of structural integrity and reliable inspection of individual components. Remote NDE to include competence not available on-site will be a potential technique to increase reliability of NDE inspections by integrating additional specialist inputs into the decision process by methods such as telepresence, thereby better leveraging the scarce resources of senior inspectors into industrial inspections at multiple sites. The handbook also includes non-technical topics of direct relevance to leadership, management, and adoption of this new philosophy. The handbook houses a wealth of essential information to help academics, industry professionals, regulatory bodies, and entrepreneurs navigate through this burgeoning new field. The material in this handbook is presented with the intention of ultimately improving human safety through reliable inspections and dependable maintenance of critical infrastructure, while also enhancing business value through reduced downtime, affordable maintenance, and talent optimization. The content is positioned to inspire NDE professionals to think broadly in terms of their role as continuous value add rather than discrete decision support. This second edition contains many new chapters, and half of all chapters were revised from the 1st edition, based on the engagement of authors through global platforms such as the ICDNT Specialist International Group on NDE 4.0 and the International conference series on NDE 4.0.