E-maintenance and Intelligent Maintenance System - transformation through Industry 4.0

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E-Maintenance and Intelligent Maintenance have advanced the state of the art in Industrial Maintenance and enabled past achievements as mainstreaming of remote, Web-based and smart maintenance solutions. The advent of emerging Information Technologies (IT), such as Cloud Computing, Big Data and Analytics, drive a transformative paradigm shift; furthermore, emerging Operational Technologies (OT), such as advanced automation, increasingly employing smart and collaborative robots and drones, and advanced manufacturing, such as additive manufacturing, are increasingly bridged via Internet of Things technologies to the IT world. The convergence of such technologies are key drivers in changing the way maintenance and repair operations as well as logistics support are organized and executed. On the whole, advanced future maintenance systems will be enabled by a blend of emerging IT and OT. While this transformation is technology–driven, the real impact is on the increasingly visible business transformation in the field of Maintenance. These opportunities bring additional challenges. Exactly how issues related to maintenance decision-making, maintenance service delivery and logistics support will be handled still deserves significant research effort. Overall, the contribution of this speech will be a reflection on the current research and industrial innovations supported by the digital transformation and on the advancement of Maintenance Engineering and Management in the era of the 4th Industrial Revolution.

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