

NDE for the 21st century: industry 4.0 requires NDE 4.0 (Conference Presentation)

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ABSTRACT

Industry 4.0 stands for the fourth industrial revolution that is ongoing at present. Industry 4.0 is a terminology preferred used in Europe to characterize the integration of production and communication technologies, the so called “smart factory”. The first industrial revolution was the mechanization of work. The second was mass production and the assembly line. While the third revolution was the computer integrated manufacturing. Industry 4.0 encompasses the complete networking of all industrial areas. Lowering costs and efficient in-time production will be possible also for low numbers of very unique parts for example by additive manufacturing (3D printing). A significant aspect is also quality and maintainability of these sometimes unique structures and components. NDE has to follow these trends, not only by adapting NDE techniques to the new technologies, but also introducing the capability of cyber systems into the inspection and maintenance processes. The requirements and challenges for this new technological area will be discussed. Chances for applications of new technologies and systems for NDE will be demonstrated online.

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