
Chapter 9

Industrial Internet of the Things

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This chapter intends to establish a link between the past and the future of industrial communications and protocols. It includes a summary of the main protocols that are used in instrumentation and control (I&C) networks and the future developments that already started.

It is important to refer that smart sensing capabilities, including adaptability, self-testing, self-calibration, auto-ranging and errors correction capabilities, among others, contribute to improve the accuracy and the performance of industrial measurement systems and to promote interoperability of sensing units and industrial devices. Implementation of these capabilities in industrial instruments, from different manufacturers, is very important, regarding instrumentation and measurement solutions for industrial applications, since it enables cost reductions in the maintenance and operation of I&C systems and promotes the quality of the manufactured products.

Finally, in the last part of the chapter, the main goals, challenges and threads of the Industrial Internet of the Things (IIoT) will be focused, addressing not only the field of the manufacturing industry, usually known as Industry 4.0, but also the large number of features that become available when Internet networking is extended to the factory floor.

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