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CRITICAL FACTORS IN INDUSTRY 4.0

A Multidisciplinary Perspective

El Colegio de Chihuahua
Institución Pública de Investigación y Posgrado

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CHAPTER 4

Reliability Engineering in Industry 4.0

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Abstract . In the digitalization era, organizations are investing in tools that allow their processes, human resources, machines, supply chains, and products, to be integrated into a global network. This helps the company's improvement and development to increase in a more efficient way. The industry 4.0 (also known as "the fourth industrial revolution") considers the Internet of Things (IT) and how the improvement in technology allows devices or products interconnect to obtain data, analyze and intercommunicate the data to other devices in real-time. Industry 4.0 is based on mechanization, electricity and the internet. Therefore, the fourth industrial revolution, via the IT becoming integrated with the manufacturing environment. Because Industry 4.0 considers the connection of the physical world and virtual world by an internet protocol, the physical-virtual systems will take shape of smarts facilities, smart storage, smart factories, and smart supply chains. This lets us bring improvements in manufacturing through the whole value chain. The source for improvement comes from the process, engineering, material usage, product management and product reliability. Thus, the object of this research is to present a practical reliability methodology that can be integrated into the implementation of the industry 4.0 paradigm.
Keywords: Future Development for the Internet of Things, Industry 4.0, Factors Affecting Industry 4.0.