A detailed introduction to the “Industry 4.0” revolution

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Abstract

Until today, three industrial revolutions have occurred over time; starting from that of the late 1700s (note for the use of the “machine steam”) to the advent of the first computers in factories (1960-1970), they have brought a radical change not only in the production in the industry, but also in the society. Technology has never stopped innovating. This increasing evolution has been and is still sustained by the man, who seeks progressively advanced tools that improve her/his existence.

This chapter is devoted to the theme of Industry 4.0 and all aspects related to it; starting by the birth and the meaning of the term, the author illustrates all those technologies that have significantly determined the beginning of the fourth revolution, describing their characteristics, their potential and some methods of use in the industrial field and social sphere. Furthermore, important topics such as ethics, privacy and security will be considered, in a reality where all data are shared and saved in remote.

Keywords: Industry 4.0, Evolution, Technology, Science, Informatics, Robotics, Automation, Reality.

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