MECHATRONICS – A BOON FOR TECHNOLOGICAL DEVELOPMENT

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ABSTRACT

Mechatronics is the combination of Mechanical engineering, Electronic engineering, Computer engineering, Control engineering, and Systems Design engineering in order to design, and manufacture useful products. Mechatronics is a multidisciplinary engineering system design, that is to say it rejects splitting engineering into separate disciplines. Originally, mechatronics just included the combination between mechanics and electronics, hence the word is only the merge between mechanics and electronics. However, as technical systems have become more and more complex the word has been "updated" during recent years to include more technical areas. French standard NF E 01-010 gave the following definition: “approach aiming at the synergistic integration of mechanics, electronics, control theory, and computer science within product design and manufacturing, in order to improve and/or optimize its functionality”. A Mechatronics engineer unites the principles of mechanics, electronics, and computing to generate a simpler, more economical and reliable system. Mechatronics is cantered on mechanics, electronics, computing, control engineering, molecular engineering (from nanochemistry and biology), and optical engineering, which, combined, make possible the generation of simpler, more economical, reliable and versatile systems. The portmanteau "mechatronics" was coined by Tetsuro Mori, the senior engineer of the Japanese company Yaskawa in 1969. An industrial robot is a prime example of a mechatronics system; it includes aspects of electronics, mechanics, and computing to do its day-to-day jobs.