ABSTRACT

Collaborative Robots (Cobots) in industrial automation

Cobots, commonly referred to as collaborative robots, are a new type of robots that securely collaborate with human workers. Cobots are intended to be flexible, simple to program, and less expensive to buy than conventional industrial robots. Cobots are now being utilized more often in a variety of industries, particularly in small and medium-sized businesses where they are used for activities including assembly, pick and place, and packing. In industrial automation, cobots play a complimentary role to industrial robots. Cobots have the capability to work cooperatively with human employees in more complicated and dynamic environments, whereas industrial robots are best suited for repetitive and labor-intensive activities. Cobots are also a more affordable and widely available substitute for conventional industrial robots, which require specific maintenance and operation expertise. Cobots are thus turning into a crucial part of the modern manufacturing floor, allowing businesses to become more effective and competitive while protecting the safety and well-being of their employees. Even so, as more businesses become aware of the advantages cobots provide, their role in industrial automation is expected to expand. Cobots have the potential to revolutionize the industrial sector and make it possible to build more effective and environmentally friendly factories due to their adaptability, safety, and usability. This review paper analyses the advantages of cobots over traditional industrial robots, including increased safety, flexibility, and cost-effectiveness. The paper also examines the current state of cobot technologies and explores potential future developments in the sector.

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