

THE USE OF ARTIFICIAL INTELLIGENCE IN COBOTS

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Collaborative robots, also called cobots, are robots that interact with human beings. They are becoming increasingly common in our country's different industrial sectors; be it by means of software technology developed in Mexico or of the integration of different domestic robotics components.

Currently, the demand and use of cobots is growing, thanks to the role of Artificial Intelligence (AI) in the interaction between the new autonomous systems, helping to make the coexistence of humans and machines simpler and friendlier, and the work in the productive processes shareable, supportive, and, most importantly, safe.

Cobots main features, which reinforce their usefulness to the future of many industries, are their access to large amounts of information, their ability to recognise human language and voice, their mobility, their dexterity, their advanced sensors, their capacity for automated learning, and their interaction with humans in the work space.

All of the above make cobots very valuable, especially considering the response time, speed, and precision of their movements, which means they can perform highly complex tasks that human hands cannot do.

This is all the result of the AI developments in robotics, which have made it possible for robots to adapt to different work environments and perform several different activities, not only the repetitive ones within a process, but also those that are part of multiple processes, which allows them to learn and adopt new ways of working. In this case, cobots are told what to do, where to do it, and how to do it so that is safe for the human operators working around them.

In other words, unlike traditional industrial robots, cobots use AI to interact and work with humans, which is already a great advantage to learn new processes so that, in turn, they can be used in more work spaces.

These new smart systems are equipped with sensors, cameras, trackers, and controls that enable us to adjust cobots to different industrial activities in a simple, safe, and practical manner without the need to resort to staff members specialised in their programming and operation.

According to ProMéxico's research, internationally renowned experts forecast that, by 2025, the use of advanced industrial robots - or cobots - will boost productivity in many industries by up to 30% and reduce operational costs and human intervention by up to 18% in developed countries.

A Mexican success case is the utilisation of YuMi, a two-arm cobot used for process automation currently used in the assembly lines of consumer electronics to join and connect small pieces.

For all of the above, Mexico will seek to promote the country's technological and advanced manufacturing capacities, especially our domestic capabilities to develop smart systems as well as specialised pieces or assembling.

By harnessing all these advances and implementing cobots into their processes, Mexican companies will benefit from industrial automation, improving quality, price, timing, and resource usage, thus adding greater value to their productivity and costs.

