

COBOTS:

ENABLING A COLLABORATIVE APPROACH TO MANUFACTURING



COBOTS ON THE RISE

Manufacturers are increasingly engaging in automation. In fact, 76% of manufacturers plan to invest in automation in the next three years according to a survey by Manufacturers Alliance for Productivity and Innovation (MAPI).¹ The truth, however, remains that the majority of today's manufacturing tasks cannot be addressed with traditional industrial automation.

Enter the cobot.

Cobots, short for collaborative robots, are flexible, easy-to-program robots that work alongside human coworkers in a production setting. They have the ability to handle shared operator space tasks that cannot be efficiently executed by traditional industrial robots. Add in their increasingly affordable cost, and cobots are a disruptive technology whose potential is only growing.

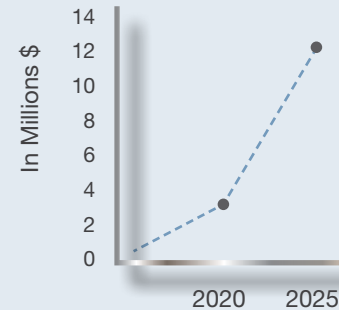


76%

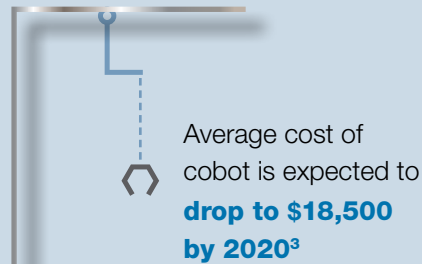
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COBOT TRENDS

In industries beyond automotive—the usual suspect when it comes to employing robotic automation—automation is dramatically increasing. Cobots are a big part of this, with global sales expected to grow to **\$3.1 billion by 2020** and **\$12 billion by 2025**.²



In addition to what cobots offer manufacturers in terms of features and functionality, their competitive cost represents attainable automation:



At a cost much lower than traditional industrial robots, more companies are incorporating automation into production and reaping the benefits.

THE UNIQUE VALUE OF COBOTS

Cobots can easily handle tasks like loading and unloading, sorting, handling, packaging, assembly, and more. Like other robots, they allow companies to automate tasks and reduce repetitive stress injuries. Where cobots rise above other robots is their ability to work in close proximity with humans, enhancing the workforce rather than replacing it. Cobots make for ideal coworkers because they are:



Safer—

can sense when they come in contact with something or someone that shouldn't be there.

More Intuitive—

can be programmed through simple physical demonstration

More Adaptable—

can easily transition between various tasks

More Productive—

can work in environments with close proximity to humans workers where you cannot deploy a traditional robot

COBOTS ARE SAFER

Safety is always a paramount goal with the introduction of a new technology onto the manufacturing floor. The new cobots on the market have safety features that limit speed and force through the use of mechanical compliance or force-feedback detection. With this new technology, the cobot can safely stop the motion when contact is made with a person or object, something that a traditional robot cannot do. This allows cobots to safely operate in the same workspace as humans.



COBOTS ARE MORE INTUITIVE

Traditional robots require highly trained robotic programmers to set their movements. In contrast, many cobots can be easily programmed without extensive training. With a number of cobots, tasks can be set by tablets. Some can even be set by physical demonstration, such as moving their arms in a pattern to program them for repeated motion.



COBOTS ARE MORE ADAPTABLE

Standard industrial robots are often locked behind cages, whereas cobots can be easily moved if they are needed on another part of the floor. Because they don't require bulky, space-consuming safety barriers, they allow companies to reduce assembly lines sizes and make more efficient use of space. Because recent cobots have an emphasis on easy programming, they are adept at switching quickly between various tasks



COBOTS INCREASE PRODUCTIVITY

In applications where robots and humans need to work closely together, combining the complementary skillsets of cobots and human workers leads to tremendous increases in productivity. With cobots handling a wider range of tasks by being able to fit into smaller areas, human workers have more available time to handle tasks of their choosing, and can stay healthier by avoiding repetitive stress injuries.



The future of cobots is not just limited to robotic arms. There are mobile cobots on the market that can autonomously deliver parts to operators and pick up finished assemblies, all while maneuvering safely around any workers or obstacles in their path.

MINI CASE STUDY: COMPANY'S FIRST COBOT

Companies who employ cobots can see increases in productivity, flexibility, and ROI. Here is the success story of one such company:

Company: Small precision machining company

Challenge: The need to select and deploy the company's first multi-purpose cobot

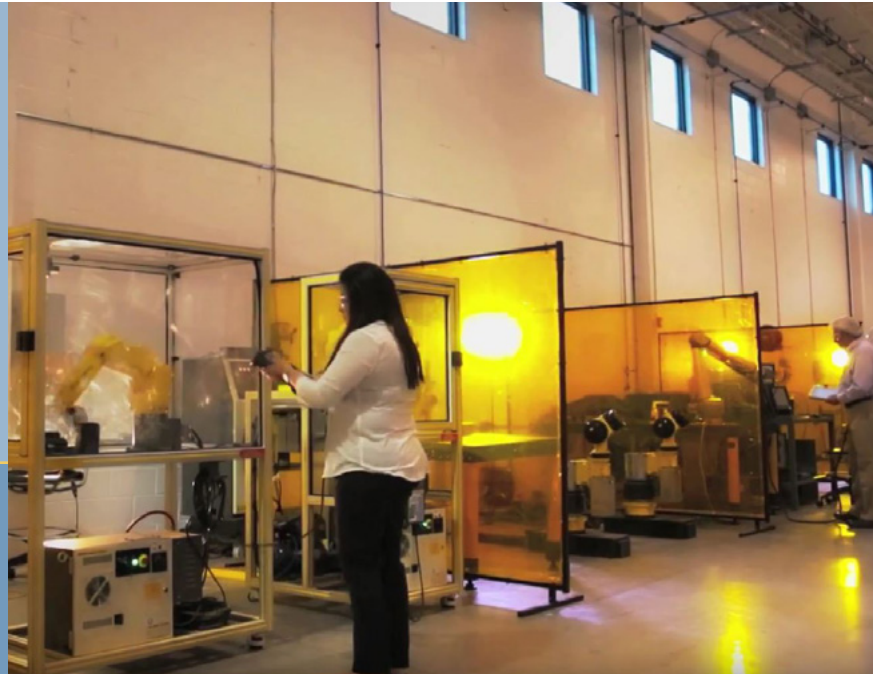
Solution: EWI's advanced automation experts at Buffalo Manufacturing Works helped to ensure successful automation of certain production tasks in the machining environment. EWI continues to support the company's engineers as they explore ways to boost the cobot's utilization and flexibility to achieve increased capacity and production throughput.



TRY A COBOT ON EWI'S AUTOMATION FEASIBILITY FACTORY FLOOR

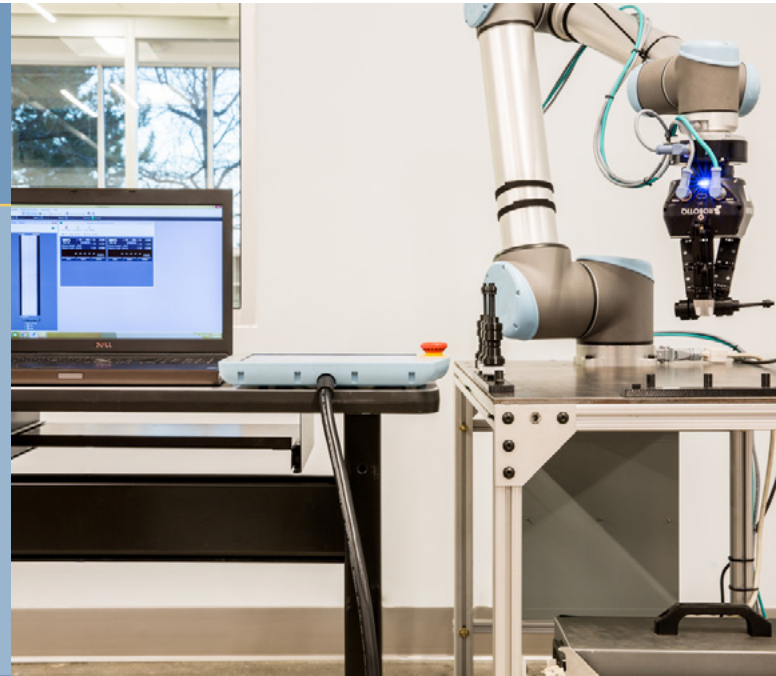
If you are interested in learning how EWI can help you incorporate cobots into your production, we invite you to visit our Automation Feasibility Factory Floor in Buffalo, New York. The Automation Feasibility Factory Floor is a unique toolbox of simulation software, robots, cobots, vision systems, and related automation components that allows us to develop, test, demonstrate, and validate vendor-agnostic solutions in our lab to qualify processes for our clients before they make the significant capital investment required to implement them on their manufacturing floor.

Because EWI is vendor agnostic and experienced with cobots in use across industry, we can make recommendations on the specific type that will best fill the need of the end user.



ABOUT EWI

With deep expertise in cobots, automated inspection, machine vision, and joining automation, EWI provides innovative, industry-driven solutions to enhance process efficiency, improve quality, and reduce operating costs. We develop custom automated process solutions to meet our clients' specific manufacturing needs with an aim to establish a significant competitive advantage. To learn more, contact Ron Brown at **716.710.5530**.



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