



COLLABORATIVE ROBOTICS

FOR EVERY INDUSTRY



UNIVERSAL ROBOTS

AUTOMATION FOR EVERY INDUSTRY

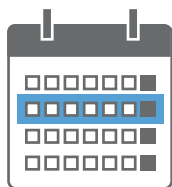
01

Collaborative robots are specifically designed to work side-by-side with humans. Their versatility allows them to be used in a wide range of applications in any production or packaging environment. Cobots can also be deployed as welcome helpers in other fields such as medicine and research. Their easy set-up and programming provide an ideal opportunity for tackling growth challenges and mastering rapid changes even without robotics expertise. Discover the infinite possibilities of collaborative robotics.

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COBOT BENEFITS

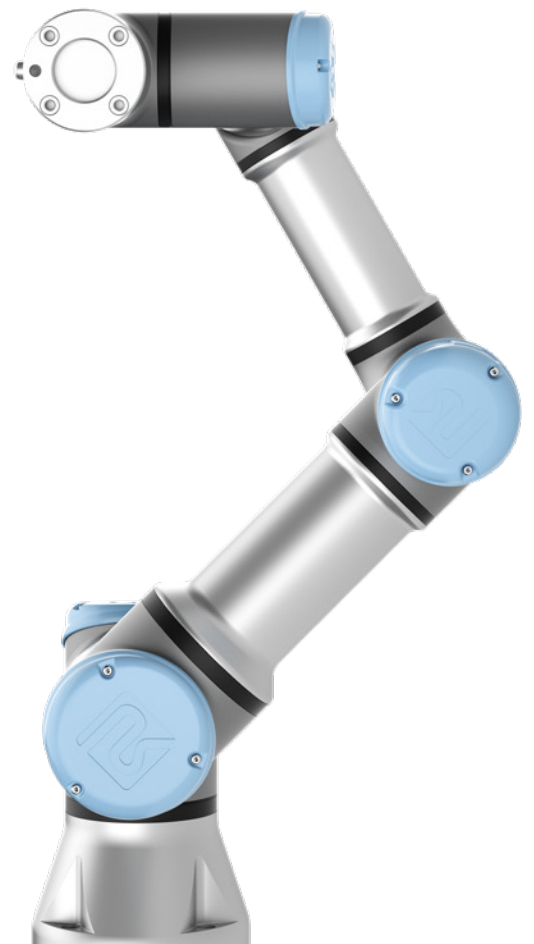
Collaborative robots (cobots) provide highly attractive automation opportunities for a wide range of applications and production facilities.



WEEKS

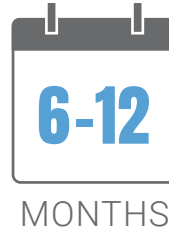
FAST IMPLEMENTATION AND PROGRAMMING

Cobots from Universal Robots can be implemented quickly. Our cobot arms can be easily deployed and programmed in-house for a new task in weeks, not months.



INCREASED PRODUCTIVITY AND COST-EFFECTIVENESS

Collaborative robots cut production costs and increase productivity by keeping processes constantly running. Cobots are easy to reprogram and redeploy for different tasks without changing production layouts. This flexibility helps deliver fast ROI, with cobots routinely delivering payback within six to twelve months.



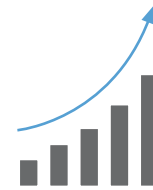
PRECISION AND QUALITY

Cobots have high levels of repeatability, featuring down to ± 0.03 mm (30 micron) for precise, around-the-clock consistency. This enables precision assembly and metrology applications such as vision-guided parts inspection.



EFFICIENCY AND WORKFORCE OPTIMIZATION

Collaborative robots relieve employees from monotonous, time-consuming tasks, giving them more time to focus on activities with higher added value. While human workers perform tasks ideal for their skills, cobots can perform physically demanding and dangerous activities, protecting workers from health risks due to poor ergonomics, unfavorable environments, repetitive stress, or injury from heavy or sharp workpieces.



SAFETY AND COLLABORATION

Our cobots are equipped with a certified force limiting safety system, that causes the cobots to automatically stop operating if they encounter obstacles in their route. That means the cobots can work beside employees without the need for safety guarding after risk assessment.

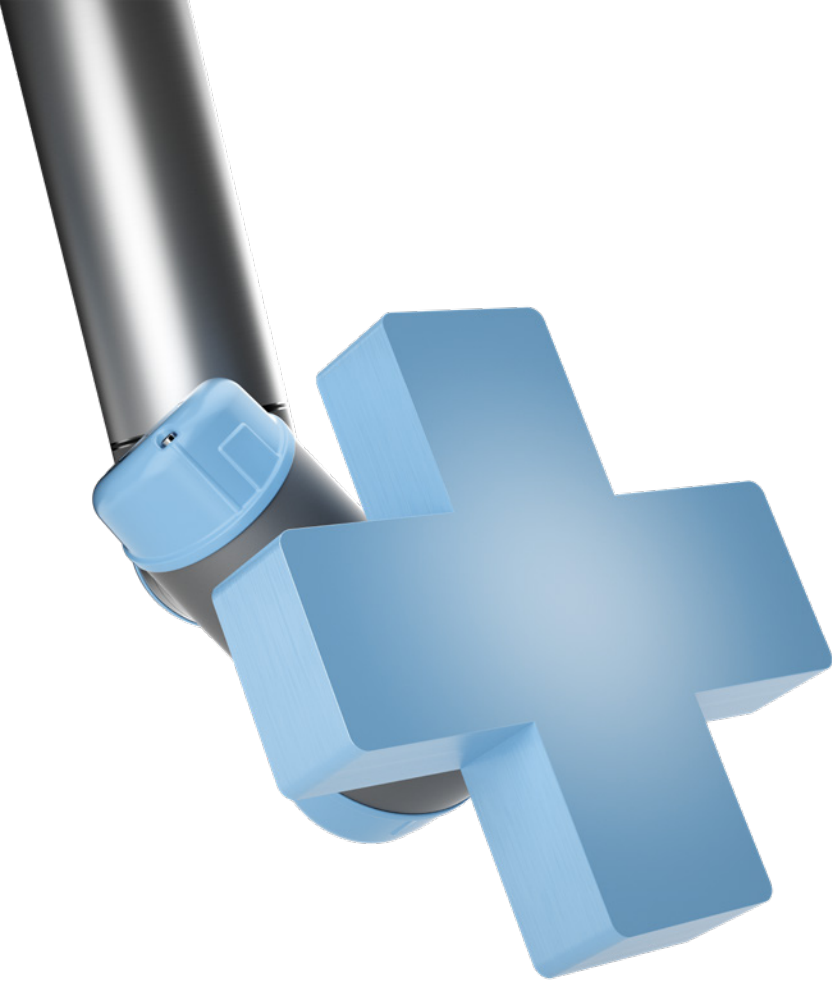


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HUMAN-ROBOT COLLABORATION CAN HAPPEN ANYWHERE

Our cobots are suitable for automating a wide range of processes in nearly any production environment. They also handle complex and challenging tasks with ease, such as:





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THE IDEAL COBOT CONFIGURATION FOR YOUR NEEDS

The UNIVERSAL ROBOTS+ (UR+) ecosystem ensures smooth integration of third-party innovative peripheral products and software to match your requirements for highly specific robot applications.

UR+ solutions are certified for our cobots and provide plug-and-produce compatibility for guaranteed immediate deployment.

UNIVERSAL ROBOTS+



**READ THESE
CASE STUDIES FROM
A RANGE OF INDUSTRIES
AND SEE FOR YOURSELF**

05



COMPREHENSIVE LOGISTICS

Comprehensive Logistics in Youngstown, Ohio is the leading logistics and contract manufacturing provider to two of North America's largest automotive enterprises. With suspension, powertrain, and interior component assembly lines, quality is critical.

THE CHALLENGE

At the Comprehensive Logistics assembly line, engine parts move on a conveyor with 60-second takt time for each station, leaving no room for error. Each sub-assembly for the steering-gear wire harness must be inspected to ensure that it is flawless, as any assembly error could cause a loss of power steering – a life-threatening failure. But industry-wide, manual inspection is only about 80 percent efficient. The company needed repeatable quality using an automated system but the stationary camera system the company implemented couldn't reach tight spots and wasn't as repeatable as required.

THE SOLUTION

The solution had to support Comprehensive Logistics' up-time requirements, be simple to use and had to integrate easily and safely with the processes and people on the line. The ceiling-mounted UR10 collaborative robot from Universal Robots is equipped with a vision camera and moves quickly between inspection points, snapping a picture of each connection before it folds itself back up and waits for the next engine to inspect.

THE RESULT

For two years since installing the robot, which operates in two- or three-shift operations around the clock, there have been no interruptions in production. ROI was achieved in less than four months, and the company has seen 100 percent quality from the UR robot.

»We looked at Universal Robots and quickly realized that this was a cost-effective, light-duty robot that could move a sensing camera to the right positions safely and repeatably. The dexterity of the Universal Robot enables it to get underneath where the mission-critical points are and be 100 percent successful.«

Mike O'Keefe
Value-Added Assembly Superintendent

[See the video case study](#)



EVCO PLASTICS

EVCO Plastics in DeForest, Wisconsin is a custom injection molder that also does 3D printing, assembly, and packaging of parts for small medical devices to large panels for agricultural vehicles.

THE CHALLENGE

Being located in a region with low unemployment means that EVCO had trouble staffing its third shift, and manning cells with repetitive and tedious tasks was especially hard. This was limiting the company's production abilities.

THE SOLUTION

EVCO Plastics has deployed two UR5 and two UR10 cobots that are mounted on wheels to be moved around the factory floor to manage assembly and packaging tasks. The UR5 cobot is deployed in an intricate assembly task with multiple steps that human operators sometimes missed. Now, the process runs consistently, with rejects identified immediately. A UR10 cobot works next to Cartesian robots that demold parts and place them on a conveyor. The UR10 picks up the parts and packages them using the cobot's built-in palletizing wizard. A second UR10 harvests plates in EVCO's 3D printer farm, which can now run 24/7 without human intervention as long as build plates are available. Both applications take advantage of the cobots' built-in force-torque sensing as well as the extensive UR+ platform for plug-and-play certified peripherals.

THE RESULT

ROI was achieved in six to nine months. Adding to the quick payback is savings on workers' compensation from a lower rate due to reduced repetitive strain injuries. The company has been able to take on a wider array of projects, including small-batch orders, which previously weren't cost-effective.

»The biggest difference between hard automation and collaborative robots is the set-up time. These cobots interface well with many products—UR has really been on top of continuously improving compatibility, which was really important for us.«

Jason Glanzer
Automation Engineer

[See the video case study](#) 



AIRCRAFT TOOLING

Aircraft Tooling Inc. (ATI) in Dallas, Texas is a repair center for the aviation industry, with processes including High Velocity Oxygen Fuel (HVOF) and plasma spray.

THE CHALLENGE

The company initially looked at traditional industrial robots but found that the cost was much too high, the robots were too bulky and required safety guarding that didn't fit in existing spray cells, they couldn't easily be moved between cells, and were difficult to program.

THE SOLUTION

While the company liked what they saw in cobots — including the cost (about half of traditional robots), safety features, usability, and portability — they weren't sure they could operate reliably in the spray booth's hot, dusty environment. Soon convinced, ATI mounted a long-reach UR10 from the ceiling to keep the floor clear and to give workers plenty of space. Programming was easy, and was completed in just about four hours.

»We're looking into adding a vision camera so we can have the robot perform quality inspection of coated parts, locating areas that needs an extra coating. There are so many things we can do with these robots, that we have only started to explore.«

Juan Puente
Thermal Spray Supervisor with ATI

THE RESULT

The UR10 proved its durability. Sealed against dust and rated for extreme temperatures, the cobot has operated continuously for more than three years with no breakdowns or preventive maintenance required. In addition, the cobot handles the recoil from the spray gun without bouncing, even at the highest pressure setting.

[See the video case study](#) 

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OUR COBOTS AT A GLANCE



UR3e Small is beautiful

Our UR3e is a tabletop robot. Weighing in at just 11 kg (24 lbs), the UR3e is ideal for light assembly and workbench automation at payloads of up to 3 kg (6.6 lbs). Focus on the big picture and leave the UR3e to work on the details.

UR5e The multi-tasker

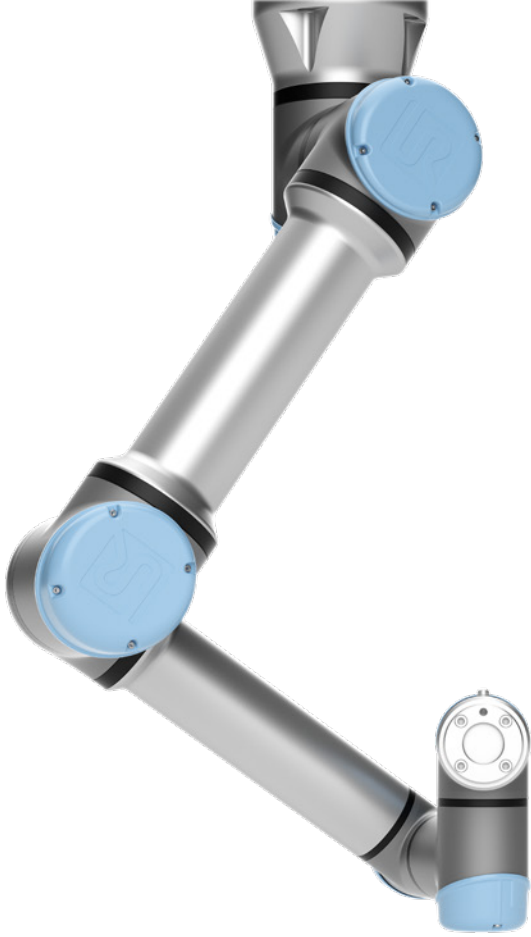
The UR5e has the inner poise to keep size and performance in perfect balance. The cobot combines a payload of 5 kg (11 lbs) and a reach of 850 mm (33.5 in), giving it enough versatility to tackle a wide range of applications with ease. Balance and versatility are the main strengths of our all-rounder.

UR16e Built to do more

Our highest payload cobot is ideal for handling heavier payloads or several parts at once. The 16 kg (35.2 lbs) payload is more than any other cobot in this reach class of 900 mm (35.4 in).

UR10e The workhorse

The UR10e offers the ideal combination of reach and payload, boasting a reach of 1.3 m (51.2 in) and a generous payload of 10 kg (22 lbs). The UR10 cobot has a reach comparable to a human operator.



ASK OUR EXPERTS

TO FIND OUT MORE
ABOUT AUTOMATING
USING OUR COBOTS

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