

Thinking about manufacturing automation?

Five questions to help you decide.

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Make sure you're asking the right questions.

If you're faced with increasing competition, a talent shortage, or the challenges of low-volume, high-mix production, manufacturing automation can be a game-changing solution.

Before you write it off as too difficult or too expensive, explore the answers to these five questions:



Do I need to automate?



What are my options?



Can I afford to automate?



What processes can I automate?



Are robots right for me?

Our short workbook will guide you through the most important considerations for getting started with manufacturing automation.



Do I need to automate?

Start by putting aside any pre-existing ideas about the cost or complexity of robotics. Let's start with an impartial look at the business challenges you have which can be solved by automating manufacturing processes.

Possible business challenges:	Yes	No
Competition is tough and I need new ways to cut costs		
I need to improve product quality		
I need to reduce waste – in time, materials, or both		
I need more flexibility to adapt to changing product demand		
I'm struggling to fill positions for repetitive manual jobs		
Temporary workers aren't reliable or take too much time to learn our processes		
Repetitive or dangerous processes are impacting my workers' health and safety		
I need to grow my business without overextending		

If you answered yes to one or more of these issues, then new technologies in manufacturing automation can be part of your solution.





What are my options?

Robotics for manufacturing typically falls into one of two categories: traditional industrial robots and cobots. Check off the elements that most closely meet your needs.

Industrial robots	✓	Collaborative robots	✓
I have space for large, fixed equipment		I have limited space on my floor	
I need high-volume, high-speed production		My processes and volume requirements can be accomplished at about the same speed as a human worker	
I need to automate dangerous or high-speed processes that require a safety cage to protect workers		I need to automate processes that take place alongside human workers following risk assessment	
I don't need flexibility to change processes or product line automation		I need flexibility to automate a variety of processes with minimal downtime for changes	
I have programming and integration expertise in-house		I need a solution that is straightforward for existing employees to use after training	



Cobots are a lightweight, flexible and moveable solution for many manufacturing needs.



Can I afford to automate?

If you're just getting started with automation, this is a reasonable question. Any automation solution is an investment. However, your return on that investment will be a lot faster with a cobot than with traditional robotics because cobots are so much easier to implement, and quicker to deploy at full production speeds.

Typical Robot Cost Components	UR Cobot Cost Components*
Hardware	Hardware
End-of-arm tooling	End-of-arm tooling
Specialist expertise	FREE essential online training for common processes
Programming/Integration	A range of additional instructor-led online or in-person training to meet your business needs
Software license	Expert advice from distributors, certified training partners and systems integrators for complex deployments
Three-phase power infrastructure	Plugs into existing power outlet
Safety guarding such as fencing, light curtains and safety scanners	Based on risk assessment of the cobot application, a majority of UR cobots operate "cage-free" with no additional safety guarding

*depending on the application



Many common cobot processes can be programmed and operated by your frontline workers after free online essential training.

Instructor-led online or in-class modules from a certified provider can help your team confidently use cobots for more advanced tasks or to meet specific business needs.

Want to realize the full benefits of automation more quickly? Expert advice is available from distributors, certified training partners and systems integrators for complex deployments or when a bespoke approach is needed for your tooling and programming.

The hard costs are easy to quantify. But don't forget to add some other very real numbers to the equation:

- What could I save on hiring/training/turnover expenses?
- How much could I increase production?
- What new products or projects could I take on?
- How much could I increase my profit margin by using my workforce differently?
- How much would I save with improved health and safety?



A better question might be, "Can I afford NOT to do this?"



What processes can I automate?

Cobots can automate many different applications. They're small and lightweight, so they can be easily moved around your shop floor with minimal disruption to work cells or floor space. They're straightforward to program for common tasks after our free online training.

What can I automate?	✓	✓
Pick and place		Mounting
Packaging and palletizing		CNC loading/unloading
Polishing		Assembly
Analysis and testing		Screw-driving
Repetitive, manual processes		Gluing and dispensing
Injection molding		Welding
Quality inspection		Jobs that don't need human dexterity, critical thinking, or on-the-spot decisions
Machine tending (press brakes, laser marking, bending, stamping, etc.)		



Click to quickly visualize your own process in action with our Application Builder.



Analysis and testing



Pick and place



Injection molding



Machine tending



Quality inspection



Screw-driving



Assembly



Gluing and dispensing



Packaging and palletizing

Cobots are ultra-flexible tools that can automate all these processes and more. The cobot can increase consistency and precision and remove workers from injury risks in repetitive or strenuous processes.



Are cobots right for me?

I need a solution that...



Is affordable, with minimal extra costs

Will fit on my shop floor without bulky safety fencing

Is easy for existing employees to set up and teach

Can be quickly moved to new processes or product lines

Can replace human workers in high-turnover, hard-to-fill positions

Can fulfill undesirable jobs in today's tight labor market

Lets me move employees from low- to high-value activities

Will pay for itself within months – not years

Will provide savings I can reinvest into new products and channels

Will support new processes and more advanced applications in the future



Ultimately, the best way to find out if cobots are right for you is to see one in action.



[Click](#) to hear from other manufacturers about how cobots revolutionized their businesses.

Get yourself one step closer to a decision.

Cobots are an ideal productivity tool for any manufacturer who's facing the challenges of increasing costs, global competition, and ongoing skilled labor shortages. Find out more about how you can grow your business, improve productivity and quality, and provide better and safer working conditions for your employees.

About Universal Robots

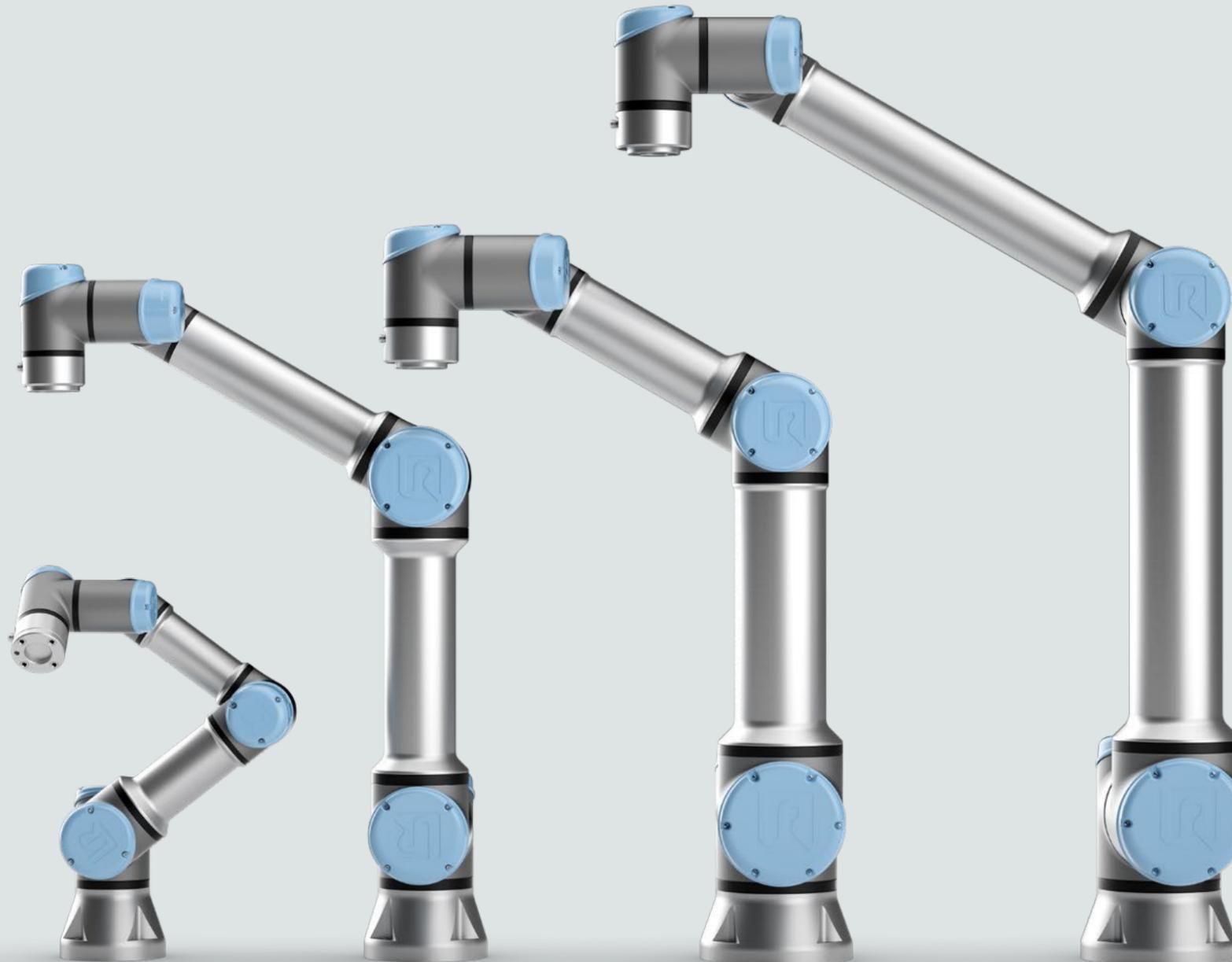
Universal Robots aims to empower change in the way work is done using its leading-edge robotics platform.

Since introducing the world's first commercially viable collaborative robot (cobot) in 2008, UR has developed a product portfolio including the UR3e, UR5e, UR10e, and UR16e, reflecting a range of reaches and payloads. Each model is supported by a wide range of end-effectors, software, accessories and application kits in the UR+ ecosystem. This allows the cobots to be used across a wide range of industries and means that they can be flexibly redeployed across diverse tasks.

The company, which is part of Teradyne Inc., is headquartered in Odense, Denmark and has offices in the USA, Germany, France, Spain, Italy, the Czech Republic, Romania, Russia, Turkey, China, India, Japan, South Korea and Mexico.

Universal Robots has installed over 50,000 cobots worldwide.

For more information, please visit www.universal-robots.com



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