

10 good reasons to invest in robots

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10 ways that robots can make you more competitive



Robots have been proven to deliver a host of benefits in a wide variety of applications. End users introducing robots to their production processes have typically seen a significant transformation in their productivity and efficiency, with higher levels of output, product quality and flexibility amongst the many improvements reported.

The International Federation of Robotics recently revealed the second highest result ever for the number of newly supplied industrial robots across the world, at 112,203. With 1.2 million industrial robots expected to be working in factories by 2010, we have outlined a number of key reasons, plus evidence showing why it's worth investing in robotic automation.

To help you decide whether adding a robot to your process could help boost your competitive edge, ABB gives you ten of the most common benefits enjoyed by robot users. The following pages demonstrate 10 companies world-wide from a range of industries which are enjoying the benefits of robotic technology.

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1

Reduce operating costs

Using robots enables you to reduce both your direct and overhead costs, making a dramatic difference to your competitiveness. Take energy, for example. With no requirement for minimum lighting or heating levels, robots offer a great opportunity to cut your energy bills. Current estimates point to a potential saving of 8% for every 1°C reduction in heating levels, while savings of up to 20% can be achieved by turning off unnecessary lighting.

Robots can also eliminate the costs associated with manual workers, not only in terms of wages, but also additional costs associated with training, health and safety and employee administration.



Robots help UK badge-maker enjoy automatic success over Far East rivals

Leading manufacturer of custom moulded plastic novelties, Characteristix Limited, has boosted its manufacturing performance by over 100 per cent with the installation of an ABB-robot based manufacturing cell at its factory in Wadebridge, Cornwall.

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2

Improve product quality and consistency

With robots you can produce a consistently high quality finishing of materials, as the machine will not suffer from tiredness, distraction or the effects of repetitive and tedious tasks. Their inherent accuracy and repeatability also means that you can count on a high quality finish for every product produced.



ABB robots enable Farama to aim higher for global competition

Farama, a Portuguese producer of components for steel trolleys and automobile plants, introduced its first ABB robot back in 1992. The introduction of the automated production process enabled Farama to expand its product line and freed the company from dependence on subcontractors and vulnerability to poor quality and late delivery times.

The ability to differentiate products and tailor services to the customer have helped the company rise to the global challenge and compete with low-cost providers in China, Turkey and Eastern Europe.

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3

Improve quality of work for employees

With robots you can improve working conditions for your staff. They'll no longer have to work in dusty, hot or hazardous environments. In addition, by teaching them how to use robots they can learn valuable programming skills and do work that is more stimulating.

**ABB Robots increase productivity at U.S based Franklin Bronze and Alloy Inc.**

U.S based Franklin Bronze produces ceramic shells for a multitude of industries ranging from automobiles to door hardware and industrial valves. The company uses ABB's IRB 6600 robot to improve productivity and has already seen positive results as mould protection has increased from 140 to 200 per day.

Staff at the foundry appreciate the impact the shelling system has had on improving their quality of life in the workplace. Not only is the environment cleaner, but the job is also less physically fatiguing. Today, employees have a less hectic workday. Tasks are easier, and the job is less stressful.

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4

Increase production output rates

Robots can be left running overnight and during weekends with little supervision, so you can increase your output levels and meet your client's order deadlines. A robotic solution will not need time away from production for breaks, sickness, distractions or lapses of concentration. Robots now also be programmed to handle new products off-line, ensuring new products are introduced for faster production.

**Australian industrial spray painter transforms output with ABB robots**

Australian company D&M specializes in industrial spray painting. The company installed the first three robotic cells, equipped with spray paint guns in 1998 and saw both productivity and profitability levels rise by 80 per cent.

The D&M production line handles consecutive operations that seamlessly progress through several stages, including four or five paint applications. The robotic line operates a 12-hour shift and has reduced paint consumption by up to 35 per cent.

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5

Increase product manufacturing flexibility

Robots can provide flexibility to your production line. Once the processes you require are programmed into the robot controller, you can easily switch from one to another and maximise your spend investment by using robotics equipment for a variety of products.



ABB robots provide flexible production for Unilever in Germany

Unilever uses ABB robots at its Schafft plant in Ansbach, Germany. Designed with specially developed grippers, the automated solution is making sure that Bifi salamis are packed and packaged quickly and efficiently.

The automated solution is currently used for packing and placing six different varieties of Unilever's Bifi salamis and has already shown a 25 per cent increase in production.

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6

Reduce material waste and increase yield

By using robots, you can vastly increase the quality of your production. You will have more products finished first time to the standard required by your customers, and reduce the amount of breakages and waste produced as a result of poor-quality or inconsistent finishing. With products being produced to such a high level each time, you will gain greater yields.



Robots reduce breakages for Roland Murten's twisted pretzels

Roland Murten AG in Switzerland is using ABB's FlexPicker IRB 340 to individually pack twisted pretzels. A major advantage of using high speed pick robots is that thanks to their precision fewer pretzels are broken than with manual handling.

The speed and accuracy of the robots has reduced the number of broken items from between 10 to 12 per cent down to four per cent, which now enables 134 kilograms of pretzels to be packed every hour.

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7

Comply with safety rules and improve workplace health & safety

Robots can readily take over unpleasant, arduous or health-threatening tasks that may be currently undertaken by manual workers. By using robots, you can decrease the likelihood of accidents caused by contact with machine tools or other potentially hazardous production machinery or processes. They can also help to eliminate ailments associated with repetitive or intensive processes, such as repetitive strain injuries (RSI) and vibration white finger.



Robot cell adds muscle to Svedplan's furniture packing

ABB robotics, together with partner Teamster, has installed a robot-based application solution for Swedish furniture manufacturer, Svedplan. The automated packing solution is flexible enough to handle a wide range of large products, including flat-packed beds and chests of drawers which are often awkward to move.

The installation of five IRB 4400 robots and three IRB 660 robots has increased production by as much as 45 per cent and work conditions have improved for employees without the loss of jobs.

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8

Reduce labour turnover and difficulty of recruiting workers

The high precision demanded by today's industrial processes requires the highest levels of skill and training. With highly skilled manual workers becoming harder and more expensive to employ, robots can provide an ideal alternative. Once programmed for your process, they are ready to begin work with none of the costs associated with recruitment or ongoing training of people. Robots can also offer greater flexibility, both in terms of work patterns and the ability to handle different production tasks.



Italian based MP Filtri lets robots take the heat

MP Filtri, based in Milan, is one of the world's top manufacturers of hydraulic oil filters. The heat, stress and noise of the job takes its toll on employees, giving rise to quality-control issues as well as dangers to the worker. Robots are an increasingly attractive alternative, saving time and money as three robots can be operated by one employee.

Foundry work requires highly motivated, skilled personnel, who are often unavailable or difficult to find. ABB's robots have helped improve productivity and precision whilst reducing the time spent with inappropriate employees. For MP Filtri this has resulted in the percentage of employee turnover from 10 per cent down to two per cent.

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9

Reduce capital costs (inventory, work in progress)

With robots you can reduce the cost of consumables used and reduce wastage. By moving products faster in production, businesses can better predict the production rate and ensure a fast and efficient service is delivered.



Automation partners team up to support agriculture with robotics

Danish ABB partner DanRob has helped develop a new robotics solution to support the Danish-based Kverneland Group. The company provides professional farmers and contractors with high-quality agricultural machines, and has introduced the ABB robot system to help boost efficiency while also reducing tied-up production capital.

Since introducing the robots, Kverneland has reported a drop in production time per part produced from two and a half hours to 45 minutes. In addition, just one operator is needed, compared with three operators before the robot system was installed.

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10

Save space in high value manufacturing areas

Robots can be placed on shelf systems, on walls or even on ceilings. They can also be programmed to work in confined spaces so you don't lose valuable floor space.



ABB robots ensure product diversity for Italian pharmaceutical company

Italian pharmaceutical company, IMA, has introduced a new automated robotic production line to improve production at the plant. The solution, featuring two Flex Picker ABB IRB 340 robots, is enabling the plant to offer a greater product diversity, through a simple change of the pick and place head of the robots.

IMA's solution is also saving the company floor space, as the overall layout of the new machine takes up less space, and can handle a rate of 150 pieces per minute.

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Application by industry

We have a range of robots available for automating your plant process - whether it's for packing food or welding sheet metal we can provide a robot to suit your application. To find out how robots can benefit you click on the relevant sector below.



Automotive

ABB provides a comprehensive range of robotic products, solutions and services for car manufacturers and Tier One companies.

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Packaging and Palletising

ABB offers a broad range of robots and systems for handling of food and beverages, medical products, pharmaceuticals, cosmetics, personal care products and electronic products.

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Metal Fabrication

We have extensive experience in the supply of robots and robotic systems for a range of metal fabrication applications.

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Foundry and Forging

ABB offers a choice of smart and cost efficient automation solutions for most manufacturing processes in the foundry & forging industry.

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Plastics

ABB's broad range of 6-axis robots cater for every conceivable need and can perform a variety of tasks during the plastics production cycle.

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Service and support

ABB's global customer service organisation offers a complete portfolio of services designed to increase productivity and performance. Over 1,500 full trained service engineers and process experts in 35 countries are available to provide service & support for your robots & robot systems.

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Available Packages

Response Package	Maintenance Package	Warranty Package
<ul style="list-style-type: none"> • Priority response • Technical support 24/7 • Field Service Engineer Dispatch 24/7 • Call-Out Fee Waived • Parts Availability 24/7 • Remote Failure Indication and Auto-alert • Remote Support and Problem Analysis • Critical Event Data Collection and Storage • MyRobot Website access • MyRobot Incident & Status Reporting 	<ul style="list-style-type: none"> • Scheduled Preventive Maintenance • Preventive Maintenance Parts and Labor • Maintenance Report • Robot Service Assessment • Priority Response • Technical Support (office hours) • MyRobot Website access 	<ul style="list-style-type: none"> • Full Labor Coverage • Full Travel Cost Coverage • Priority Response • Technical Support (office hours) • MyRobot website access
Optional		
<ul style="list-style-type: none"> • Guaranteed On-Site Response Time • Remote Robot Back-Up – Scheduled or On Demand • Pro-active Critical Event Analysis • Predictive Failure Indication • Robot System Availability Analysis 	<ul style="list-style-type: none"> • Technical Support 24/7 • Parts Availability 24/7 	<ul style="list-style-type: none"> • Technical Support 24/7 • Parts Availability 24/7

All packages have the following available on demand:

- Workcycle Optimization Analysis
- Robot System Availability Report
- SmartSpares™ Inventory Management
- Robot System Availability report
- Condition Based Maintenance



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