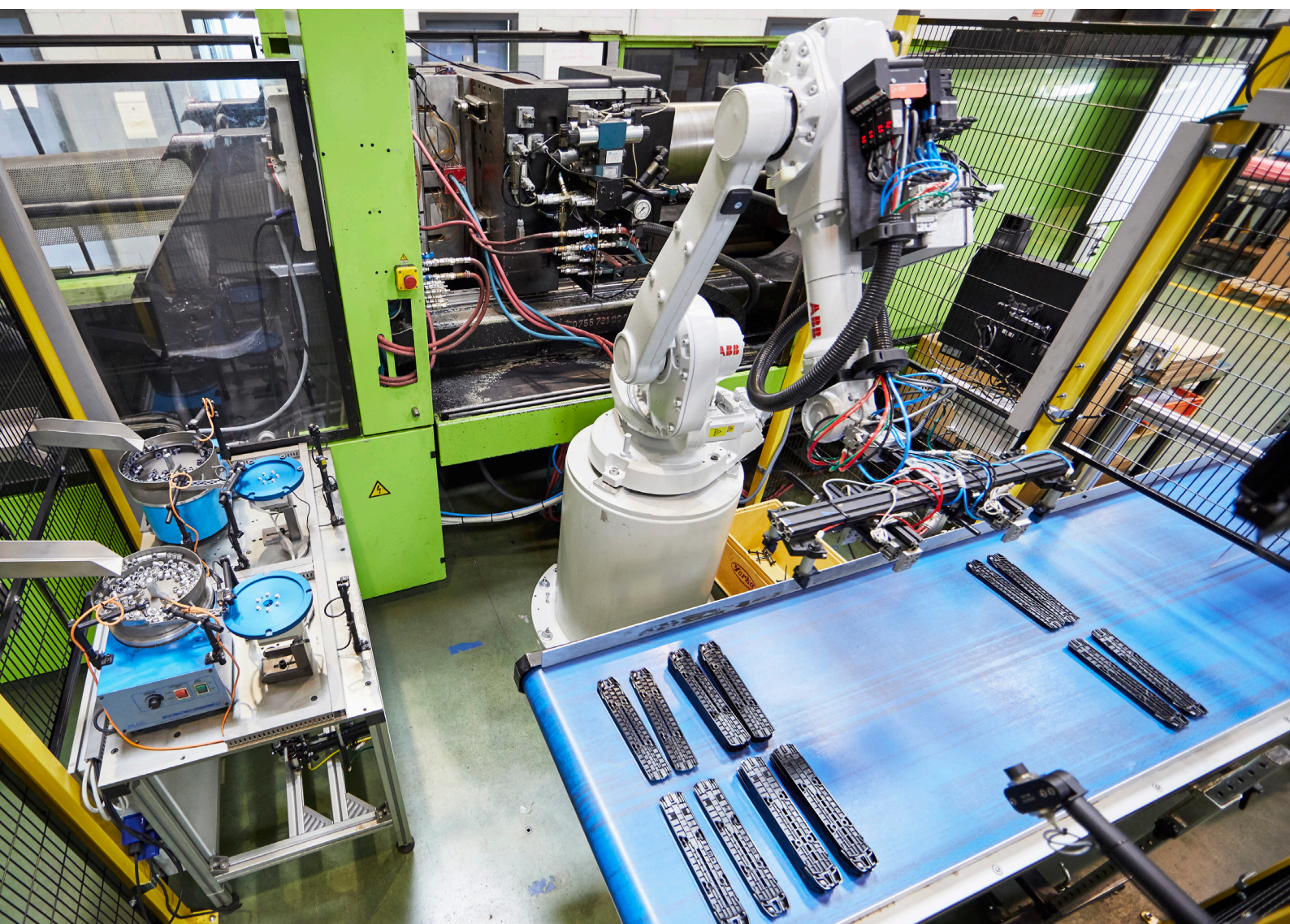


CASE STUDY

# Array Plastics

Simplicity and speed



# Simplicity and speed: ABB robots give Array Plastics the production line edge

The need for faster part-changing as well as mass customization are changing the way plastics processors operate today. Array Plastics is one manufacturer taking advantage of ABB robot solutions to improve the flexibility and efficiency of its plastic injection core processes.

With its headquarters and production centers in Barcelona, Spain, Array Plastics has been producing plastic parts and assemblies for customers in the automotive and industry sectors in Europe and Mexico since 1992.

Array Plastics is faced with a challenging marketplace that has become increasingly complex and competitive. The trend towards low volume manufacturing with shorter runs requires production agility. At the same time, Array must maintain high quality while producing a wider array of molds and products with more complex forms.

Array's need to balance flexibility with quality apply to many of the company's specialties including technical plastic parts, optical lenses and light guides, ultrasonic and vibration welding, automatic assemblies and Physical Vapor Deposition (PVD) vacuum metallization. The ability to retool quickly and easily is essential and each robot cell must

cover a maximum of tasks. Array Plastics relies increasingly on robot solutions to improve its processes and efficiency in order to maintain high quality while meeting more diverse customer needs.

## Production efficiencies

Along with the 25 linear robots used on the production line, the flexibility of motion sequences delivered by three ABB articulated robots – one IRB 1200 and two IRB 1600 models – has provided Array Plastics with important efficiencies during loading and unloading of parts from the mold.

Chief Technology Officer of Array Plastics Guillem Ausió explains, "When unloading molding machines, traditional linear-axis systems have some limitations. ABB's 6-axis robots are able to carry out additional tasks like very flexible camera inspections, overmolding metallic inserts and cutting or packing – all within a single cell."



Array Plastics' three automated cells operate with small and medium-sized injection-molding machines (IMM) and, according to Guillem, full benefit of the robot's advantages can be taken, even with the small IMM.

#### **Faster product changeovers**

ABB's flexible robot solution provides speed and agility when implementing a new cell or programming and installing a new part, these helps minimize downtime for Array. Changing a process step or implementing a new part is typically carried out with the help of the supplier or a trained specialist. Using ABB's graphical wizard, however, operators are guided through every step of the process and require no special training beforehand. "Using the wizard, our regular engineering staff is now able to carry out loading and unloading tasks as well as most additional post-processing operations," confirms Guillem. "That makes it very easy to implement changes to fulfill new customer requirements or industrialize new products."

It takes between just two and three days to implement an entire new cell at Array Plastics and only a few hours to replace and program a new tool for the robot – an important consideration for the company that works four shifts, six days a week.

ABB works closely with plastic processors to develop tailored robot solutions and its portfolio for the plastics and rubber industries includes both a wide range of robots as well as after molding solutions. Application packages for IMM tending, dispensing, gluing, clipping; ultrasonic welding, flaming, etc. improve equipment uptime and cycle times while providing more predictable production flows.

Today all ABB Robots are also ready to connect to the industrial internet to make use of advanced, cloud-based services that improve performance and reliability.

#### **Increased competitiveness**

For Guillem it is clear, "The industry 4.0 connection and the interaction between the robot, injection molding machine and production software will increase productivity and competitiveness. So, it is our intention to automate as many processes as possible within the injection cell. We will increase the number of robots used in injection molding machines as well as increasing the number and complexity of the operations they carry out immediately after injection."

—  
01



ABB's graphical wizard (01) enables regular engineering staff to easily implement changes to fulfill new customer requirements or implement new products (02).



—  
02

For us, simplification means ease of use while keeping flexibility in mind. And ABB's state-of-the-art robots and software solutions meet these criteria 100%.

---

[www.abb.com/robotics](http://www.abb.com/robotics)

#### **Additional information**

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB.

© Copyright 2019 ABB. All rights reserved.  
Specifications subject to change without notice.

9AKK1074920452 Rev.A January 2019

