

# Injection moulding

## Case study: Bumpers, Peguform, Germany

### Application

- Injection moulding

### ABB Products

- IRB 4400
- IRB 6650



**Working in close cooperation with Peguform, ABB has developed the software MachineSync, which allows short extraction operations on injection moulding machines through the use of robots.**

Time is money. When producing injection mouldings, valuable time can be saved during robot-assisted part extraction when opening and closing the machines. To increase productivity, Peguform Neustadt and ABB have now combined their many years' experience in the automation of extraction processes in a joint development project. ABB's partnership with the Peguform plant at Neustadt an der Donau dates back to the start of production there in 1986, when its robots were first used. Starting with four robots, today some 130 ABB robots perform extraction, handling and processing operations.

### **Both parts benefit**

The long, successful period of cooperation between Peguform and ABB has now come to fulfillment in a project, whose result, namely the development of MachineSync, a software for shortening extraction times on injection moulding machines, has proved its worth in volume production in Neustadt since September 2008. "We wanted this application, to save cycle time, and ABB wanted to supply the software engineering solution to achieve this". That is how it all came about", explained Franz Vogt, the automation expert responsible in Neustadt for the use of robots in production, among other things.



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### Reduce robot wear

Machine Sync also helps to reduce robot wear. The new functionality allows the robot to move safely within the cycle time of the injection moulding machine throughout the opening process. Through the use of MachineSync, the robot follows the mould while it is opening without interrupting its movement. This results in a high level of safety and avoids collisions more effectively than when using the "mould half open" signal to allow the robot to enter, because in this case, although the robot can make an early entry into the machine, it then has to wait until it has opened completely. MachineSync is easily integrated into the robot program.

He added, "we worked very closely together on the synchronization project, because at the end of the day, both companies benefit from it. ABB was able to test the new functionality with us in practice and use our know-how, and it was good for us to be involved in the development".

Machine Sync allows the handling robot to enter the machine when the mould starts to open and leave the machine when it starts to close; the position of the mould is monitored continuously. After the machine has closed, the shelf robot IRB6650S waits above the mould until the machine allows it to enter the open mould; depending on the plastic part - bumper, side cover or instrument panel - a time saving of up to 10% can be achieved. With a three-shift operation running five days a week, the resultant increase in productivity is significant.

### >FACTS

#### About Peguform Group

Peguform is a world-wide supplier of plastic parts and also complete systems and modules for the interior and exterior areas of motor vehicles, e.g. door panels and cockpits or bumpers and spoilers. The company is one of Europe's leading manufacturers of plastic mouldings, with major customers in the automotive industry. In the fiscal year 2007, the Peguform group, with around 7000 employees, achieved sales of 1.4 billion. In August 2008, the take-over of Peguform by the Austrian company Polytec Holding AG, was officially announced.

**Web site:** [www.peguform.de](http://www.peguform.de)