

Deburring

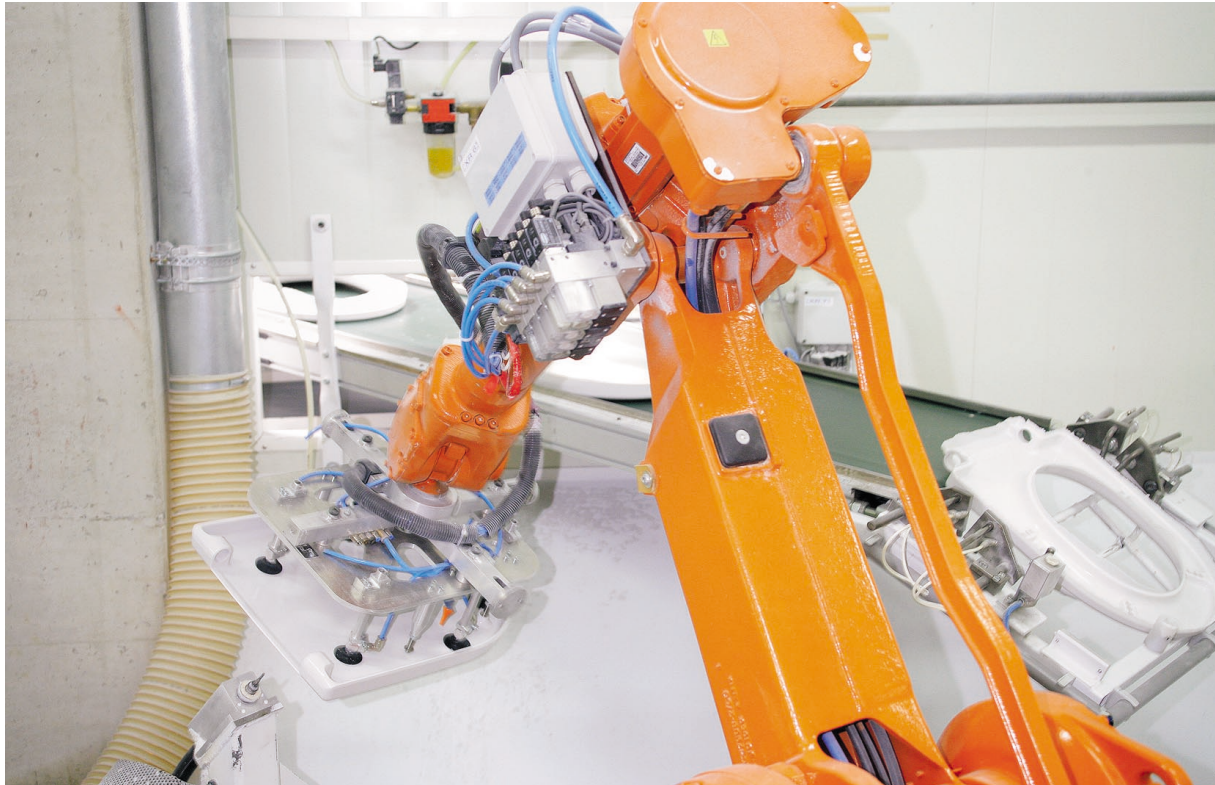
Case study: Toilet seats, MKW, Austria

Applications

- Machine Tending
- Deburring

Products

- IRB 2400
- IRB 4400



Family-owned MKW company has long integrated industrial robots to expand globally and become a cutting-edge leader in a market niche which has gone high-tech: toilet seats.

In 1960, a tiny metal and plastics processing firm was established in Weibern in Upper Austria with just a few workers. In the meantime, MKW Kunststofftechnik (MKW Plastics) has emerged as the undisputed market leader in Austria for toilet seats, a major player in Western, Central and Eastern European markets, and a global exporter to Middle Eastern and Asian markets. Its 380 employees post annual revenues surpassing 37 million euro, manufacturing 1.5 million duroplastic or thermoplastic toilet seats and 1 million square meters of powder coated surfaces annually, along with bathroom, toilet and kitchen accessories made of plastic, metal and wire as well as moulds, tools and functional components for windows and sunblinds. Major multinationals such as Internorm, Actual,

Gaulhofer, Laufen, Villeroy & Boch, Bosch, Neff and Siemens rank among its customers.

Forerunner in robotics

In part, this impressive success story is due to exploiting state-of-the-art plastic injection moulding technologies, in-house design, mechatronic and programming capabilities and innovative strength along with production and cost optimization measures. However, a crucial breakthrough in the toilet seat segment was first achieved when MKW became an Austrian forerunner in the use of industrial robots in the year 1987. At that time, MKW personnel still did the final grinding and processing of the toilet seats manually. Achieving uniform quality was a major issue, staff costs and the

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level of discarded waste materials were high, and up to 20 percent of production time was lost to interruptions in the production process. Today, MKW uses IRB 2400 and IRB 4400 robots supplied by ABB Robotics. Over the last two decades, the robots have helped MKW achieve a six-fold increase in revenues and a five-fold rise in toilet seat production. Production cycle time was cut by one fifth, total waste material has dropped to 2 percent, machine shutdown time is now close to zero, and each injection moulding machine requires significantly less man power than three years ago. "Our investments in ABB robots have paid off handsomely and given us a clear-cut competitive edge," says Hannes Danner, managing director of MKW.

Wide product range

Moreover, the robots have provided the basis for MKW to keep pace with a rapidly changing business environment. Two decades ago, the product portfolio featured five types of toilet seats, available in a handful of colors. Today, MKW manufactures 50 different varieties in 30 colors, catering to virtually every taste, wish and price category. Rising living standards, increasingly sophisticated consumer demands, changing fashions and tough international competition now force the company to design and produce 15 new models of toilet seats each year, and develop completely new product lines every two to three years. The robots ensure the level of precision needed to integrate

these new technologies and functions, and can be reprogrammed to manufacture a new model in 15 minutes.

MKW is not resting on its laurels. It is looking to expand even more to the high-growth markets of Central and Eastern Europe, which now account for 30 percent of its revenues, and further expand its partnership with ABB Robotics Austria. "The cooperation with ABB in project implementation is comprehensive and efficient, and the after-sales service is excellent, above and beyond normal standards," says Stephan Raab-Obermayr, Automation Manager at MKW. This year, MKW is once again a high-tech trendsetter, becoming one of the first companies in Austria to use ForceControl Machining, from ABB. The new generation of ABB robots featuring sensitive intelligence allowing the robot to adapt to the surface contour and consistency of the materials, will allow for a more perfectly deburred rim and more precise polishing, eliminate the need for manual finishing work and the constant readjustment of robots, and save up to 30 percent in overall finishing costs.

> FACTS

MKW Plastics at a glance

- Headquarters: Weibern, Austria
- Locations: Haag am Hausruck (Austria), Presov (Slovakia), Ermolino (Russia)
- Revenues: EUR 37.2 million
- Employees: 380
- Number of ABB robots: 14
- Web site: www.mkw.at

Benefits of robot production

MKW has seen significant improvements by using ABB robots in their production:

- Production cycle time reduced by 80 percent
- Employees per plastic injection moulding machine reduced by 66.7 percent
- Programming time reduced by 80 percent
- Safer working environment