



# Injection Moulding

## Case study: Bumpers, Plastal, Sweden

### Applications in Plastics

- Cutting/Finishing
- Glueing/Sealing/Dispensing
- Flaming/Painting
- Assembly
- Packing/Palletizing
- Inspection/Quality control
- Machine Tending

Since the first thermoplastic product was made in Sweden 1940, the Plastal Group has become a leader in the European autoplastics industry, focusing on bumpers, interior parts and decorative plastic parts for passenger cars as well as interior modules for light commercial vehicles.

### A NEW ORDER EVERY 90 SECONDS

Bumpers have always been an important part of a car's character — from the earliest motorized carriages through the heavy-metal period to the current era of light, high-durability structural plastics. Riding this trend toward less steel and more plastics, Plastal has grown to become a leading supplier of surface-treated, injection-moulded plastic components to the European automotive industry. Its production plant in Gothenburg, Sweden, sequence-delivers bumper systems to Volvo Car's adjacent factory. Every 90 seconds Plastal receives a new set of specifications for a particular car. Eight hours later the completed bumper is delivered — fully painted and ready for mounting.

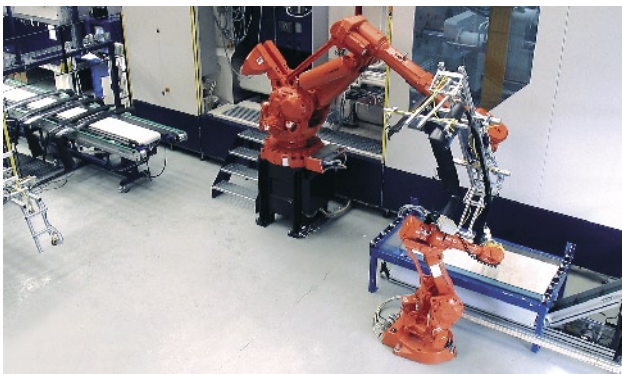
Plastal's first thermoplastic products were manufactured as early as 1940. Since then the company has evolved into a world-class supplier of exterior and interior modules for both trucks and cars. The factory in Gothenburg's Arendal area — previously internationally recognized as a state-of-the-art shipyard building 100,000-ton super tankers during the 1960s — was opened in 1998 when Volvo began manufacturing its S80 model there. Today, Volvo dominates Arendal, and its models V70, V70XC, S80 and XC90 require a daily production of approximately 2,000 front and rear bumpers. The bumpers are injection-moulded, masked, spray-painted, mounted and sequence-delivered according to a continuously generated schedule provided by an information system.

Plastal presently uses 18 ABB robots, 14 of which are paint spray units, in its Arendal plant. At the beginning of 2004,

two additional robots were installed in a joint cell supplied by Animex, the plastics automation production specialists. The larger robot serves the injection-moulding machine and maneuvers the bumpers into positions that allow the smaller robot to reach and trim off excess plastic.



"Previously we used dedicated single-task fixtures to trim parts after moulding," says Emil Arnesson, Plastal's head of moulding production technology. "But now, with these more flexible robots, it's easy to implement program changes when a model is altered or a new version is introduced. We save both time and money, compared with buying a brand new trimming fixture. Together with Animex, we've created a team that ensures smooth handling of the new versions that regularly appear. This allows us to maintain top levels of competence and competitiveness."



### Facts about Animex, Sweden

Animex AB, founded in 1985, offers system solutions and peripheral equipment to the plastics industry including everything from handling raw materials to prepacked components. Xflex is the name of the module based system for flexible automation.