Automating aluminum automotive parts. To compete globally as a specialist component manufacturer, it takes the right combination of skill, automation and foresight.

Alteams-Stilexo is part of the Alteams Group of Finland, but much of the technology that gives the company its competitive edge has been sourced from ABB and automation development partner SVIA. After starting out producing stands and racks for hi-fi and television sets, the company switched to producing automotive components, such as electronic component casings for airbag units. Previously, casting and deburring of components was done manually. Today, these processes are fully automated, along with machining, plating, moulding, testing, quality assessment and some assembly work. The company’s Swedish production sites feature nine die-casting cells, each with three robots – a mix of 6-axis IRB 4400s and smaller IRB 140s for picking, placing, loading and deburring tasks. “One of the big advantages with robots is that they allow for continuous production within a hot environment,” says Per Jansson, vice managing director at Alteams-Stilexo. The molten metal used in the casting process reaches temperatures of around 700 degrees Celsius.
The involvement with SVIA began with a single product project, to supply an order from the automotive industry that needed to be produced in very high volumes to high-quality tolerances. The big advantage with SVIA, Jansson recalls, was its offering of a combination of vision technology and robots. A key offering where these technologies are united is SVIA’s Multiflex product, a standardized system for automatic feeding of unsorted parts using a robot and a vision system.

“Multiflex is a simple concept, but an amazingly capable system,” says Peter Karlsson, SVIA’s marketing and sales manager. Manufactured components are unloaded onto a series of belts, which are driven at different speeds in order to separate the parts. The final belt passes under a vision camera, which “talks back” to the robot, so the robot can pick the part. Using this system, all parts can be gauged and quality-checked automatically before being individually coded and sent for packing in customer-specific packages. Even rejected parts are coded individually, so that line managers can identify exactly why they were rejected. The system can also change rapidly between parts – usually within a few minutes.

**Five-second cycle time**
Multiflex systems are present on a number of Alteams-Stilexo’s production lines, including the manufacturing of PCB housing boxes destined for automotive lighting systems. “We produce this casting with eight cavities and 12 dimensions,” says Jansson. “That would have meant an enormous amount of follow-up in statistical process control. That’s why we went for this solution. We built in 100 percent inspection of these parts with vision technology and the gauge.” The technology allows for a cycle time of five seconds per item; some 30,000 pairs of castings for the boxes are produced each week.

“It simply would not have been possible – in this part of the world, anyway – to match industry production requirements and our business needs without using this kind of technology,” says Jansson. “We needed something like this in order to make the part efficiently and to ensure the survival of the business in this location.”

**FACTS**
**Benefits**
Alteams-Stilexo points to a number of advantages of using the IRB 4400 and IRB 140 robots for picking, placing, loading and deburring of aluminum parts for the telecommunications industry:
- Short cycle times of only 5 seconds
- Tough robots can handle difficult environment with intense heat
- Vision inspection of 100 percent means little need for follow-up time on checking parts
- Industry production requirements are met that wouldn’t be possible without the system

![Some 30,000 PCB housing boxes for automotive lighting systems are produced weekly.](image-url)

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