Sprayed the automated way. Aluminum foundry VDT Vobra has upped productivity and improved work conditions for its workers. How? With with ABB robots in cells from Pomac Automation.

In 1998, German aluminum parts manufacturer VDT Vobra first installed robots for its production with help from system integrator Pomac. Since then, VDT Vobra has begun equipping all its aluminum die-casting machines with 6-axis robots for die spraying and extraction. Pomac Automation, which is based in Tolbert in the Netherlands, is an ABB system integrator that specializes in making dedicated machines and integrating robots for the entire foundry process. And that, says VDT Vobra foundry manager Uwe Heise, is an advantage. “It’s important to us to have one person to talk to about everything,” he says. So far VDT Vobra has four cells from Pomac equipped with ABB robots. Each cell has one robot to spray the die with lubricant and blow-dry it and another to remove the part from the die, confirm that the part really has been removed, dip it in the cooling water and deposit it ready for stamping to remove scrap.

Approaching perfection
The company uses a range of ABB robots, depending on the maximum weights of the parts to be dealt with. Two cells are each equipped with an IRB 1600 die sprayer and an IRB 2400 extractor. Another cell has an IRB 2400 extractor matched with an IRB 140 die sprayer, and two IRB 4400s equip the fourth cell. In addition, there is an IRB 140 die sprayer in a fifth cell, without an extractor. VDT Vobra is not the only company in the world to aim for perfection, with no errors in production, but what makes it different is how it approaches that unreachable target. VDT Vobra has realized that robots help it get closer. “The more I can take the human element out of the system,” says Heise, “the more accurate I can make the production and the fewer variations I have in quality.”
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Service is key
It also means increases in efficiency. VDT Vobra manager Hans-Werner Zünd estimates that a cell produces 15 percent more with robots, not including the improvement in quality. And, says Heise, “it makes the work less strenuous for the staff. They become more like machine supervisors.” In the future, that could mean that two workers could oversee three cells or that additional processes, such as drilling, could be introduced at the foundry stage. Currently that’s all done by CNC machines in a separate step.

High productivity depends on efficient machines and skilled workers, and Pomac contributes to both. Hilbert Poelstra, Pomac sales manager, says, “We have to ensure that their machines work permanently, so we have to be ready to send someone here to deal with problems as soon as they occur.” Klaassens goes even further: “We are integrators,” he says, “who offer a good product and a good service – and perhaps the service is more important.”

FACTS
Benefits
VDT Vobra uses seven robots from ABB in its spraying and extracting – an IRB 1600, two IRB 2400 robots, two IRB 140 robots and two IRB 4400 robots. Benefits include:
- 15 percent increased productivity
- Improved reliability of product quality
- Easy programming and quick turnarounds
- Work becomes less strenuous; staff skill base increases.

Easy programming
Both Pomac and VDT Vobra place considerable emphasis on training operators. Klaassens is bringing a robot to a nearby training center for a weeklong course in programming. “Pomac used to do the training in the Netherlands,” says Zünd, “but this way staff can come back to the factory in the evening if there’s a crisis.” After the course all the operators will be able to program their robots. Says Klaassens: “The programming is based on ABB’s program and is very open. And because we specialize in foundry automation, we can make it exactly right for the needs of the industry. But we must also say that the new ABB programming is very easy to operate.” Heise agrees, “It’s a huge improvement – like night and day.”