Robots are key to production that is easier on the environment.

Green thinking. Environmental friendliness. Call it what you will, the foundry industry, like most other heavy industries, is under increasing pressure to improve its manufacturing methods. The move is strong towards what many call sustainable production – minimizing the use of natural resources and toxic substances, reducing emissions of waste and pollutants, all so that future generations are not negatively affected by today’s production processes.

Sustainable production is more than just a slogan. Manufacturing processes that use robots can not only save on energy and reduce waste, they can save money.

Sustainable production, however, is not merely a matter of the environment. It is also a matter of cost-savings: It pays to think green. Rising energy prices and the cost of wasting materials affect the bottom line of foundries and their profitability directly.

Indirectly, foundries are affected by automobile manufacturers who are under increasing pressure to produce cars that are more energy efficient. This means primarily lighter parts made of aluminum.
For Pirk, the issue today is not yet new, greener parts and products that are driven by consumer demand. The production process itself is where foundries need to focus.

“Foundries should look into their production process and see how they can make it more efficient in terms of consumption, reducing waste and using recycled energy (heat treatment),” Pirk says. “I’m talking about less power, less compressed air. They need to reduce power peaks. It requires thinking about this issue as Power Management – a more holistic approach that takes all aspects of production into account.”

For ABB, providing foundries with the proper tools for reducing energy consumption is key to the sustainable production problem. “ABB provides products and systems that save energy and help manage factory efficiency,” says Pirk. “From motors, frequency converters, steering systems for furnaces, drives and power management systems, our focus is on better solutions that help companies be smart about how they manufacture parts, whether they are zinc ingots or aluminum suspension arms.”

Greener production isn’t just about power savings, however. Using robots can also help in significantly reducing waste, says Pirk. By providing a consistent quality on a high level that is unachievable any other way, foundries can really reduce the amount of scrap, which means less material circulating, less energy and less capital. Pirk cites the example of Mett, a big Australian supplier to the auto industry, which through the use of robots was able to cut its reject rate from 150 parts per million down to 71 ppm – earning the company a coveted spot as a supplier of the year to automaker GM.

Production is only one area where companies are thinking green. Increasingly, the issue of supply is a key factor – specifically, having suppliers nearby. Which is also in part an energy issue – having suppliers close by means cutting costs on shipping parts around the world. Of course, it is also a matter of practicality. Having suppliers close by, who speak your own language and understand local issues often makes things go more smoothly.

“Having a global presence is paramount,” says Pirk. “As production moves to Brazil, Russia, China, India and other places, manufacturers expect suppliers who can follow them around. They are increasingly relying on companies such as ABB to provide a level of service that hasn’t existed before. They are working much closer with their suppliers to come up with workable solutions, and want longterm partnerships that can follow them wherever they go, something that ABB is ideal at providing.”

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The energy at the heart of ABB
“The need for energy efficiency is huge and immediate, and ABB is dedicated to doing its part. Through almost all its products and services in the automation and power areas, ABB contributes to the more efficient management of energy,” writes Peter Terwiesch, Chief Technology Officer at ABB, in the ABB Review 2/2007.