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Photos ABB

# Five islands in a sea of flexibility

**A leading player in the international hydraulic crane sector, the Italian Fassi Group chose ABB systems and definition software for the production of welded components.**

> Often, whenever something big needs lifting, Fassi hydraulic cranes are called in to do the job. The Fassi Group is a holding company with four manufacturing units that export products to some 50 countries worldwide.

“This commercial diversification brings with it a great need for manufacturing flexibility,” explains Managing Director Giovanni Fassi, “This is due in part to the regulations involved, but it is mainly due to the practices adopted in individual countries.

“Thus, manufacturing flexibility is essential for us,” he continues. “The process of manufacturing hydraulic cranes is extremely painstaking, given the precision with which they must operate, and it brings with it a level of process control that is thorough, to say the least. If you imagine the risks to the operator if our product is not completely perfect, you can easily understand this fanatical attention to detail.”

This is the reasoning that drove the Fassi Group to improve its welding plants, seeking out manufacturers able to guarantee manufacturing quality and excellent aftersales service.

The decision to improve a manufacturing plant does not stop at the purchase of a robotized welding system; a series of accessories, mainly software tools, is also required to streamline plant performance.

The Fassi Group turned to ABB to undertake the automation process. The cooperative venture dates back to 2000, when Fassi bought a welding system made up of one robot working along one travel line and driving two lathes. And in 2005, Fassi bought a new system with a twin-axis positioner. This new system is capable of carrying out the entire welding process involved in the manufacture of columns and unloading the finished components ready for painting. The load capacity of each of the two positioners is 750 kilograms; the robot used for the welding is a model 2400 L.

**This single robot** system with manipulators is complemented by the Robot Studio, a software system that performs a series of vital functions to simplify the work of the Fassi engineers. Using simulation software, the Robot Studio can be used to check the true feasibility of a welding job at the design stage. The software creates a virtual representation of the welding island and calculates the paths taken by the various robotized island components before sending online instructions to the island. The Fassi Group is also licensed to use Virtual Arc, a program that optimizes the offline welding process, and thus benefits productivity.

The welding process at Fassi involves a wide range of different-sized components, from parts weighing one or two kilograms each to others weighing up to 700 kilograms. These components can be made without problem on the welding islands, partly due to the fact that the machinery has been physically programmed offline to ensure that no problems arise over process verification or optimization. Apart from anything else, the offline programming system allows the Fassi Group to organize all the feasibility studies, programming and processing for the various components in work

## > FACTS

### Benefits of the ABB software

- Robot Studio simulation software used during the design stage checks feasibility of a welding job and sends online instructions to the robotized island, saving time, avoiding downtime and waste.
- Virtual Arc optimizes the offline welding process and benefits productivity.





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units that may be situated at different sites.

“Our relationship with ABB,” Fassi concludes, “started off on the right footing, and we have always worked well together. We have decided not to leave Italy; we would rather invest in systems that help us reduce our costs in order to maintain our competitiveness. Altogether we have five ABB systems. The island we bought last year, for example, offers us enormous flexibility. It is also fast, simple and easy to use, and we are making full use of it. It is very important to work with a company such as ABB that is able to guide you through the process of change in the various workshop areas. In Italy we have always found people who are prepared to respond to their customers’ needs in every situation. This is an essential aspect of customer relations that makes you feel as though your investment is being managed effectively at every stage.” ☉

#### >FACTS

##### The Fassi Group

The family-owned Fassi Group of Albino in Val Seriana is a typical Italian company, set up in a spirit of enterprise and a desire to capitalize on market needs. These needs were imposed by the radical changes that shook Italy during the period of industrialization between the end of World War II and the 1960s, before the market reached the form it is in today.

The Fassi family business dates back much further than this, however. It originally began as a timber-trading company local to Val Seriana, which developed into a goods haulage service and then a body manufacturing business. The switch to engineering came about with the transition from logistics to bodywork and, more specifically, to tipper trucks, special trailers and conversions.