



easyE4 and XV300 HMI PLC: Eaton's winning duo that have digitalized MTS's equipment

Location:

Bancole di Porto Mantovano
(MN), Italy

Challenge:

Digitalizing and modernizing existing equipment with an innovative technological solution, enabling remote management and control, reducing production downtimes and streamlining inventories.

Solution:

The easyE4 and XV300 HMI PLC duo has been implemented to set up and monitor machinery.

Results:

The company has been able to offer modern, digitalized equipment that uses the IoT and Big Data to receive and manage information accurately and quickly, even from remote locations. What's more, commissioning equipment with easyE4 and the XV300 operator panel takes an average of three hours less than it did previously.

"Thanks to the new integration, we can now produce 15% more machines in the same time frame than we could in the past."

Luigi Dieghi, Design Manager at MTS Elettronica Srl.

Background

Founded in 1996, MTS Elettronica Srl designs and manufactures AC/DC and DC/DC power conversion equipment primarily for the industrial and tertiary sectors, and also provides assistance in the field of uninterruptible power supplies. Over the years, the company has been able both to develop a strong commercial presence throughout Italy by collaborating with strategic and renowned customers in the energy sector, and to enter the international market through exporting machines to the United Arab Emirates, Chile, Ethiopia and Costa Rica.

Its expertise enables MTS to offer targeted, state-of-the-art products, supported by innovative technologies that make the solutions highly reliable.

MTS is also renowned for its customer focus and highly flexible production structure, which allows it to design and manufacture customized, next-generation equipment that is increasingly aimed at meeting the specific needs of both the market and designers. Indeed the company manages all stages of the research and development process internally, thus guaranteeing 360° knowledge and mastery of the product, continuity of support and constant quality improvements to the equipment.

Challenge

MTS's mission is to design and develop state-of-the-art, reliable solutions in the field of DC backup power supplies, customizing them to meet customers' specific needs and expectations. In order to pursue this goal and gain a competitive edge on the market, the company therefore recognized how important and necessary modernizing its solutions was.

The immediate challenge it had to face was optimizing the time to market using professional solutions that are already available on the market and that have been



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pre-engineered, tested and validated for easy, rapid integration into existing systems. Additional (but no less important) drivers that motivated the company to change were ensuring greater reliability and reducing its inventory.

Making these goals a reality required launching a comprehensive digital transformation project, which involved digitalizing the company's equipment via innovative technology upgrades.

Solution

Recognizing the importance of being able to rely on a flexible and customer-oriented approach, as well as on a professional partner with whom it had already been working—mainly in the electromechanical field—for over 20 years, MTS chose Eaton for this project to digitalize and modernize its existing electrical equipment.

Following careful analysis of MTS's needs, Eaton investigated and suggested integrating a complete, revolutionary solution into the company's equipment: the easyE4 smart relay in combination with the XV300 HMI PLC panel.

"Having also evaluated proposals from other market players, we chose Eaton for its reliable, professional, state-of-the-art solutions, and due to the trust earned during our previous collaborations. We had spent two years looking for a partner capable of modernizing our systems with an innovative and flexible solution, and we were impressed by the revolutionary capabilities of easyE4, which is much more than just a control relay. After discovering and appreciating this new smart relay, we immediately embarked on the project, which we completed within six to eight months," said Luigi Dieghi, Design Manager at MTS Elettronica Srl.

Work therefore commenced on digitalizing the company's equipment, which still has MTS electronic circuit boards to interface the Eaton automation devices with the power management system.

In particular, easyE4—Eaton's next-generation smart control relay—has made it

easier for MTS to perform monitoring tasks. Extremely versatile and flexible, easyE4 enables equipment to provide accurate information about the entire system. The data collected is then promptly and securely transferred to the cloud in order to monitor the condition of the machine or for preventive maintenance. Thanks to the integrated web server, the data provided by the smart relay is automatically converted into HTML5-based web pages and displayed on the XV300 HMI PLC.

"Excellent performance, including high execution speed, expandability, integrated web server and Modbus TCP/IP, are just some of the smart relay's cutting-edge features we have appreciated most," continues Dieghi.

The XV300 HMI PLC panel improves human-machine interaction and simplifies system management, as well as offering simplicity comparable to that of a smartphone thanks to the extremely intuitive user interface. Furthermore, the XV300 HMI PLC offers advanced graphics and allows operations to be loaded very quickly, even when the pages are highly detailed.

Eaton's duo with integrated connectivity has therefore enabled equipment to be managed remotely and allowed any problems to be solved promptly, thus limiting production downtime: Indeed professionals can program, modify and monitor the entire system—smart relay and panel—at any time and from any location.

Eaton's solutions have met MTS's expectations of digitalization so well that the company's entire industrial range of UPSs for DC applications—which accounts for 80% of the company's production—is now equipped with the easyE4 control relay and the XV300 HMI PLC touch panel.

Results

Integrating Eaton solutions into MTS's equipment has advanced the company's digital transformation process — MTS now boasts systems and machinery that are modern, smart and competitive. This modernization journey has brought tangible benefits



from a technology, process-management and cost perspective, reducing the time to market by 50% compared to starting from scratch.

The ability to control the machines remotely—made possible by Eaton's duo—has created new opportunities for remote management: MTS is now able to communicate with the equipment and intervene in a timely manner if necessary.

"Although only a short time has passed since we started offering this modernized equipment, the initial results indicate that, thanks to the new integration, we can now produce 15% more machines in the same time frame than we could in the past," Dieghi concludes.

Machine testing times are considerably faster as well. Today, commissioning a piece of equipment with easyE4 and the XV300 operator panel takes around



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three hours less than it used to with the previous version, which is identical but not digitalized. What's more, the benefits relating to warehouse management are considerable too. Thanks to Eaton's duo, MTS has reduced the number of items

it keeps in stock in favor of greater simplicity and better overall organization of the order. And that's not all: Significant improvements have also been seen in the technical drawing stage, which is now much simpler and more intuitive.



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