

XV400: Production of Italian Delicatessen Products



At its new Brianza factory in Garbagnate Monastero in the province of Lecco, the Italian company Fratelli Beretta is using an automation solution that is based on product and communication standards. The company strategy aims to move away from proprietary solutions towards interoperable units. From receiving an order to production, logistics and control, open communication systems are required to ensure short and problem-free work flows, as well as increasing production reliability, quality and efficiency.

Open communication standards such as Ethernet TCP/IP form the backbone of Fratelli Beretta's new plant that was commissioned in 2004. The installation covers three floors with a total area of 15,000 square metres. The final constellation implements a draining and curing process at the hundred cells in place, and these are controlled by HMI-PLCs from the Moeller XV 400 series.

HMI or HMI-PLC: It's the Compact Flash that decides, not the hardware

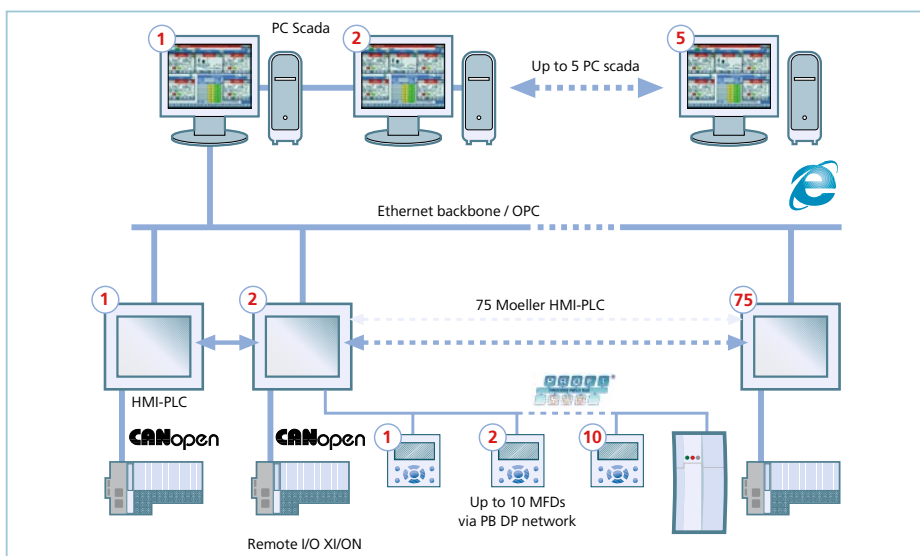
The XV400 series provides automation solutions that are scalable, flexible and cost-efficient. The series is based on one hardware platform, with an interchangeable Compact Flash card that determines whether HMI or HMI-PLC functions are implemented. The required software function is simply added to the XV400 basic unit via the Compact Flash card, as well as an optional communication card.

XV400 devices are available either as infra-red or resistive touch devices with 5.7" STN color, 10.4" or 12.1" TFT color displays. The infra-red touch screens also feature a scratch-proof safety glass front. The basic units come with a RISC-CPU (32-bit, 400 MHz) and integrated interfaces such as RS232, USB, Ethernet 10/100 MBit and CAN. One (5.7" device) or two (10.4" and 12.1" devices) communication slots can take a variety of different communication boards such as the multi-protocol



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THE COMPANY

The Beretta brothers have been active in the food industry since 1812. For over five generations they handed down their experience and recipes for the production of high quality sausages and pork products. The family run business now has 600 employees. Fratelli Beretta S.p.A. has its headquarters in Trezzo d'Adda and in its ten plants processes approximately 27,000 tons with more than 300 single products. This ranges from salami to mortadella, from the renowned Parma and San Daniele ham to würstel and the DOP certified Salami Brianza.

communication board with MPI, Profibus DP master or slave, and DeviceNet, thus enabling a wide range of communication and networking options.

Three software packages for any user and any application

Moeller offers two software packages for exclusively HMI applications: Galileo or XSoft-EPAM. Galileo is an easy-to-use Windows-based graphical configurator.

XSoft-EPAM is a Moeller add-in that is integrated in Microsoft Excel. For HMI-PLC applications, the XSoft-Professional PLC programming tool is used in addition to the visualization tool. This CoDeSys-based programming tool supports the multi-tasking capabilities of the HMI-PLC in compliance with IEC 61131-3. The complete package, together with the Compact Flash memory cards of 32 MB to 512 MB, ensure that XV400 devices can be used flexibly – whether as an HMI unit, HMI-PLC solution, panel with a gateway function or as a connection to the management level via Ethernet.

Free web, FTP and OPC client server

The IT functionality of the HMI-PLC XV400, both in terms of hardware and software, were the decisive factors in Fratelli Beretta's choice of device. The HMI-PLC, for example, comes with a free web, FTP and OPC client server as standard, making remote maintenance and visualization easy to implement with

XV400. Every visualization application created with XSoft-EPAM is thus automatically web-enabled. In this case, a Java applet is loaded that generates a 1:1 image of the visualization in any standard Java-compatible browser, thus supporting remote operation of the system.

For Fratelli Beretta the option of networking a total of number 75 XV400 touch displays via Ethernet was equally important. This ensures reliable data exchange between the different PLCs and the five SCADA display/control stations, whilst also transparently integrating the Movicon Millennium supervisor unit from Proge into the system.

Open and flexible communication to the field level

The field devices exchange their data with the PLCs via two standard communication networks: CANopen and Profibus DP. This is where Moeller's XI/ON modular remote I/O system is used. DF5/6 series frequency inverters, DIL series remote switches, as well as PKZ motor-protective circuit-breakers complete the range of additional electromechanical components in the system.

Ten MFD-Titan micro PLCs from the Moeller easy range are installed on the local level. With a full-featured 132 x 64 pixel graphic display they provide problem-free interaction between man and machine inside the production cell. The MFD-Titan multi-function display combines the functions of a display and operator unit in one device, meeting all

the relevant industrial standards. MFD-Titan has an optional backlight and meets the high protection requirements of IP65.

Quicklink ID:

CONCLUSION

The various XV400 devices can also be controlled directly from a remote SCADA station using a graphical emulation software. It provides an exact replica of the graphical display contents on the supervisor PC. Process phases can thus be controlled remotely and any modifications to the field microcontrollers can be carried out. Fratelli Beretta now has transparent access to all production, control and logistics operations. The systems have an open design and offer problem-free communication beyond hierarchical limits. For Fratelli Beretta, the new plant is a showcase project for its demanding and quality-conscious customers.

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