

CASE STUDY: INDUSTRIAL AUTOMATION

Solution: Gateway solutions
Country: Italy
Company: C.I.A. Automation and Robotics
Summary: Anybus® X-gateways provide robots with connectivity to several industrial networks such as for example Profibus and DeviceNet.



The effects

- ✓ Instant connection to any network.
- ✓ Quick set-up time.
- ✓ Easy to connect to other networks later on.

"This need for flexibility in diverse design conditions led us to try HMS products, which we appreciated immediately because they are particularly comprehensive and can be used to interface different kinds of machines, even pre-existing machinery."

Angelo Galimberti,
Director of C.I.A. Automation and Robotics.

Automation: a 'must' to be able to compete on the global market

C.I.A. Automation and Robotics has extensive experience in the field of advanced automation, proposed as a strategic tool to increase the competitiveness of Italian companies in the world. It offers advanced technologies such as laser scanners, stereoscopic vision equipment and systems that can reproduce a die and copy it directly, automatically recomposing the scanning scattergrams, a very differentiating solution. As most of C.I.A. Automation and Robotics applications are specific, they have to interface different kinds of devices in their automatic systems that use different communication protocols. They have chosen HMS's Anybus X-gateway which enables them to adapt to any communication protocol easily.

"We have produced automation systems, testing benches and machinery managed by PLCs and Scada systems for the foodstuffs, chemical, glass, plastics, metalworking, metallurgical and automobile industries", explained Mr Angelo Galimberti, the sole director of C.I.A. Automation and Robotics. "As well as many other applications, such as robotised stations for servo-mechanical machinery, palletisation lines, assembly lines and processing lines such as for handling, cutting, hot and cold pressing, welding, tacking, induction, brazing, deburring, etc."

C.I.A. operates in a modern environment with a covered production area of 2300 sqm, equipped with the latest equipment and machine tools. The commercial and administrative offices and the mechanical and electronic design departments cover an area of 750 sqm. The company has two-dimensional, three-dimensional, electrical and electronic CAD systems and programming software for all the main kinds of PLCs, robots and supervisors.

A staff of engineers and mechanical, electronic and IT technicians develop all the projects and write the documents which are filed according to CE standards, while a group of specialised technicians and fitters carry out the assembly, testing and any maintenance of all the equipment produced. C.I.A. is a certified company with a computerised system which can guarantee the immediate retrieval of any information from any of its systems quickly and easily even after several years have passed.

High value added

"Our company is involved in industrial automation in general and with robotised automation in particular", Mr Galimberti said. "We produce a number of different systems for a vast range of applications. For example, we operate in sectors ranging from the pharmaceutical industry to packaging, foodstuffs, the mechanical sector, and so on." "Almost all our applications are specific to some extent, because we deal with special equipment, produced ad hoc according to the customer's specific requirements", continued the director of C.I.A. "So we are like system integrators, since we design and integrate automation systems intended for all over the world." Some examples of applications implemented in various sectors can be seen on the company's website (www.ciaautomazione.it).

During the recent BIMU (the biennial machine tools fair) held in Milan last October, C.I.A. Automation and Robotics was represented on the ITIA CNR (National research council) stand, where it showcased some highly innovative systems characterised by the use of advanced technologies such as laser scanners, stereoscopic vision equipment and systems that can reproduce a die and copy it directly, automatically recomposing the scanning scattergrams. "No other company in Europe can offer this technology, which we have patented together with CNR", Mr Galimberti stressed. "Ours is a long-standing collaboration relationship. We have funded some of CNR's research and have produced robotised stations for various kinds of processing, while some of CNR's researchers have been involved in innovative developments and mathematical calculations. Even in the simplest of applications, such as the robotised loading/unloading of machine tools, we work with the same level of attention which has enabled us to develop these high-level applications."

The value added of C.I.A.'s solutions is above all in its ability to automate production cycles using advanced systems so as to make Italian companies competitive on the world market. It is a well-known fact that it is currently practically impossible to compete with factories in the East or China without automation: our labour costs are much too high and this is one of the reasons that many companies are moving their production overseas. With its automated systems, C.I.A.

Automation and Robotics is trying to ensure that certain processing activities, which would not otherwise be feasible to carry out manually in Italy because they require too much manpower, can compete with similar activities provided by far eastern countries.

Opting for flexibility

C.I.A. Automation & Robotics got to know about HMS products and especially the line of Anybus-X-Gateway converters a few years ago, through a supplier of automation components. "We started using HMS devices in our applications almost straight away", explained Mr Galimberti, who added: "Very often, we have to interface different kinds of devices in our automatic systems that use different communication protocols. For example, we typically use robots with DeviceNet interface and PLCs with Profibus interface. This need for flexibility in diverse design conditions led us to try HMS products, which we appreciated immediately because they are particularly comprehensive and can be used to interface different kinds of machines, even pre-existing machinery."

Before opting for HMS products through EFA Automation, the exclusive distributors for Italy of HMS's GATEWAY solutions, the Albiate-based company also assessed what other suppliers had to offer. Selection criteria centred around the functionality and flexibility of the devices in particular, but the performance/price ratio was also part of the equation. The technical and economic features of the HMS Anybus family came out on top and C.I.A. has effectively adopted these devices on a permanent basis.

"We have produced various equipment with Profibus master PLCs and DeviceNet slaves, or with DeviceNet master PLCs and Profibus slaves, and so on", said Galimberti. "HMS products have enabled us to resolve and simplify a number of these applications. The protocols we use the most are Profibus and DeviceNet, which cover almost 90% of the cases we deal with involving robots and PLCs."

He added that C.I.A. was satisfied with the performance of HMS products and that no major problems were encountered. "I believe that we will continue to find space for HMS products in our future applications, whenever we need to interface system parts that use different communication protocols", concluded the director of C.I.A. Automation & Robotics.

Learn more on www.anybus.com or www.ciaautomazione.it



Anybus X-gateways

Anybus X-gateways allow two different networks to talk to each other. In simple terms you could say that it is a real-time translator between any two networks. Gateways solve important industrial communication issues for system integrators working with industrial network design and offer a quick and easy way to connect two otherwise incompatible networks.

HMS Industrial Networks develops and manufactures state-of-the-art hardware and software for industrial communication. Products are marketed within the categories Embedded Solutions, Gateways and Remote Management. HMS was founded in 1988, is headquartered in Halmstad, Sweden and is listed on the NASDAQ OMX Nordic Exchange in Stockholm, ISIN-code: SE0002136242. Anybus[®] is a registered trademark of HMS Industrial Networks AB, Sweden, USA, Germany and other countries. Other marks and words belong to their respective companies. All other product or service names mentioned in this document are trademarks of their respective companies.

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