

Windows, IntervalZero RTX Solution Increases Performance and Lowers Costs by 30%

ISAC – Solutions for Industrial Automation



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IntervalZero Customer Overview:

Italy-based ISAC offers high-performance, versatile solutions for plant automation and supervision systems.

ISAC's solutions include both CNCs (Controlled Numerical Computers) and PACs (Programmable Automation Controllers) and provide PLC, axes management, operator interface and communication in a single environment.

The company has been in business since 1994.



Challenge:

ISAC's biggest challenge was in maintaining the proprietary hardware and software of their controllers. ISAC's initial architecture comprised a standard PC with Windows for the operator interface and proprietary hardware and software for real-time capabilities. Maintaining and updating the proprietary hardware and software was expensive and time-consuming, and the approach was not aligned with ISAC's strategy to deliver innovative, flexible and standard solutions for Industrial Automation.

Key requirements for ISAC's new design included a reduced bill of materials; reduced maintenance and engineering costs; and improvements in machine yields, quality and throughput. All this without compromising their ability to innovate



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The IntervalZero RTX Solution:

In researching its options ISAC considered a number of options in delivering the hard real-time and determinism that was required. A PC-based solution with Windows, complemented by IntervalZero RTX software for the real-time capabilities, quickly emerged as the top choice.

ISAC selected RTX because it allowed for the existing C code that had been developed for the proprietary operating system to be moved to a Windows PC platform, while also allowing for increased levels of determinism and hard real-time performance.

As a result, ISAC surpassed their goals. By eliminating proprietary hardware and by using powerful X86 processor resources for computing, they significantly reduced their bill of material.

By using Windows the operator interface and Windows/ RTX for the control logic (axes management, communication, PLC), ISAC reduced their maintenance and engineering costs.

Also, using MS Visual Studio for developing the Win32 and RTX codes of their application, ISAC reduced its overall costs by 30%.

Finally, the Windows/RTX solution implemented by ISAC provides ample opportunity for innovation. Today, the company's Achille model, which is based on Windows XP Embedded/RTX, can handle up to 128 axes. Plus, with multi-core chipsets and the new Symmetric Multiprocessing, (SMP) capabilities in RTX 2009 SMP, which offers the ability to dedicate up to 7 cores for the control logic, ISAC sees a future of significantly increased scalability and performance.

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