

IntervalZero

RTX Customer Success Profile
Industrial Automation

IntervalZero RTX Delivers 100% Performance Boost For Newlast Group's Industry-Leading Machines



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RTX 2009 SMP Customer Overview

Founded in 1996 and headquartered in Tortona, Italy, Newlast is the world-wide leader in developing Computer Numeric Control (CNC) machinery for the shoe industry. Since its inception, Newlast has developed innovative solutions to simplify and streamline their customers' workflow and to increase production capacity.

In 2008, Newlast set out to revolutionize the blade cutting of leathers and synthetic materials. Their efforts have met with success. Today, Newlast is delivering next-generation technology – for both cutting tables and last machines – that will enable the company to maintain its global leadership position. IntervalZero's RTX 2009 SMP software, which extends the Microsoft Windows operating system to deliver determinism and hard real-time, is a key component of the Soft-Control Architecture that is powering Newlast's industry-leading machines.



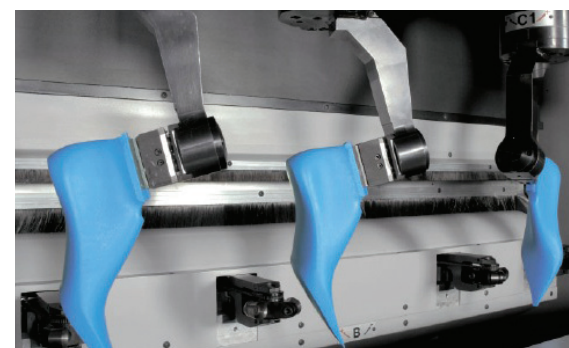
Windows/RTX 2009's performance delivers the greater precision that gives Newlast clear product differentiation and a distinct competitive advantage in their target market.

Challenge

Newlast designs the complete machine, including the numerical control (CNC). Their CNC is then used in all their different machines – both the cutting tables and last machines to produce models that will be used to produce the shoes.

Newlast's previous CNC architecture was based on two dedicated systems – a PC running Windows for the complex Human Machine Interface (HMI), and a separate system for the hard real-time and control requirements. The second system required dedicated hardware, and a proprietary, C-language operating system.

With PC architectures becoming more and more powerful, Newlast began to investigate options for moving their control logic to the PC. An additional motivator for the company to seek an alternative to the status quo was that their dedicated hardware was becoming obsolete and was also very, very expensive compared to a PC.



The Search & The Solution

Newlast's search centered on two technologies:

- IntervalZero's RTX 2009 SMP, which is an extension of the Windows OS, has symmetric multiprocessing capabilities, and delivers the control and hard real-time that was required.
- Linux RTAI: The Linux operating system with a real-time extension

Newlast quickly narrowed their focus to RTX for several reasons: Newlast's existing complex HMI application was already running on Windows; and they had concerns about the many challenges of dealing with device drivers for Linux. Importantly, they wanted to maintain focus on their core business, not on maintaining an OS – Linux RTAI in this case.

Newlast selected IntervalZero's RTX for its CNC logic and today uses RTX 2009 SMP and Windows running together on a single dual-core PC to deliver a very rich HMI with 3D visualization and handle all the precision-control logic.

In fact, the new Soft-Control Architecture is enabling better performance. Where Newlast's cycle time was 2 ms with the previous architecture, with RTX, they are easily achieve 1ms – 100% better performance.

Of course better performance enables the greater precision that gives Newlast clear product differentiation and a clear competitive advantage over competitors.

IntervalZero & The Power of Soft-Control Architectures

Founded in 1980 and based in Waltham, MA, IntervalZero is market leader in Soft-Control Architectures, which streamline and simplify development of complex systems in markets ranging from Industrial Automation, to Digital Audio, to Medical Systems.

By leveraging x86 technology and symmetric multiprocessing functionality (SMP), and by extending Microsoft Windows with IntervalZero's RTX software, Soft-Control Architectures deliver hard real-time or deterministic capabilities and significantly reduce reliance on FPGAs and DSPs.

In 2009, IntervalZero was Microsoft Embedded Software Vendor of the Year in both North America and in EMEA. IntervalZero also has offices in Nice, France and a global network of distributor Partners.