

Case Study: Emixa



Emixa

Digital transformation experts accelerate Industry 4.0 initiatives using innovative technologies powered by HP Z8 High-Performance Workstations

Emixa was provided loaned HP products from HP.

A recent Deloitte study revealed that 86% of surveyed manufacturing executives believe that smart factory solutions will be the primary drivers of competitiveness in the next five years.¹ Such technology will advance manufacturers' progress against challenges including skilled labor shortages, improved efficiencies, and enhanced sustainability.

Sven Rademaker, Head of Innovation and Ecosystems at Emixa Industry Solutions, observed, "We've been talking about digital transformation for 30 years. Now, the AI revolution is accelerating that vision and making it real."

Emixa, a fast-growing Netherlands-based consulting firm, is helping its manufacturing customers successfully navigate digital transformation and maximize the return on their technology investments. Bjorn Hoeven, Pre-Sales Consultant at Emixa, shared, "Our teams develop innovative ideas and translate those ideas into designs for products or production systems to drive efficiencies and competitive advantage."

EMIXA

INDUSTRY

Technology

OBJECTIVE

Deliver cutting-edge solutions to transform and optimize customers' manufacturing operations

APPROACH

Harness powerful HP Z8 Workstation to run compute-intensive digital twin and robotics simulation software



Cutting-edge tools such as digital twin and real time robotics are formidable instruments in Emixa's arsenal—but using them demands tremendous compute power. Z by HP has flattened that hurdle.

"HP Z8 Workstations have made the impossible possible," Rademaker highlighted.

A trusted way to work

With up to two NVIDIA RTX™ 6000 Ada Generation GPUs, the HP Z8 tackles processor-intensive machine learning and visualization projects with ease. "Computing used to be CPU-based but the transition to GPUs is creating more possibilities," Rademaker said. "The cloud is an option, of course, but it can become very expensive very quickly."

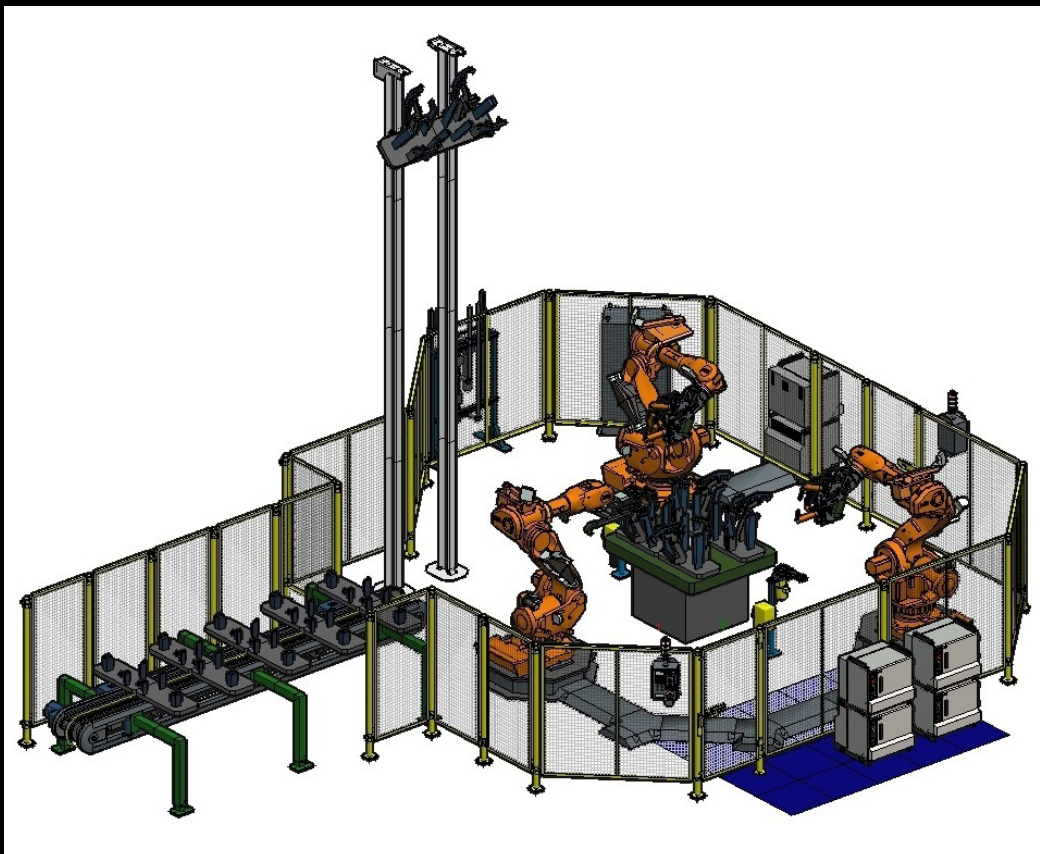
NVIDIA RTX-powered AI workstations equipped with one or more NVIDIA RTX 6000 Ada GPUs provide incredible performance for local desktop AI training and inference work or augmenting data center and cloud resources for larger AI workloads.

He continued, "Furthermore, if we want to upload customer IP to train an AI model in the cloud, customers aren't always comfortable with that. The HP Z8 Workstation delivers the confidence of a local workstation to test technologies in a safe, scalable way."



“HP Z8 Workstations have made the impossible possible”

SVEN RADEMAKER
Senior Managing Consultant, Emixa



Speeding time-to-value

A supplier of automated production systems to the automotive industry, Emixa is accelerating the move to autonomous factories utilizing Siemens Tecnomatix for factory plant simulation, digital twins, and robotics to optimize manufacturing processes.

Digital twins, created in NVIDIA Omniverse™, allow companies to create physically accurate virtual replicas of unique objects, processes, and environments, all constantly in sync with real-world data inputs and powered by AI. With digital twins, factory floors and production lines are created faster and with higher fidelity. Rademaker explained, “The value of digital twins is that the environment is 100% virtual, meaning the companies don’t need to invest in a lot of physical prototypes and they can experiment and iterate much faster.”

The twins also enable collision-free robotic motion. “With Realtime Robotics, we can plan robot trajectory on the fly to ensure the fastest collision-free route and deploy more robots in the same

space,” Hoeven elaborated. Simulations are then downloaded to the robots, resulting in faster cycle times—which lowers costs, maximizes productivity, and improves competitiveness.

IT MATTERS

- Slash robot programming time 80%
- Trim customer cycle times 17%
- Ensure security of customer IP with local model training
- Compute- and memory-intensive apps run easily on multiple cores and NVIDIA RTX GPUs

BUSINESS MATTERS

- Deploy designed-for-AI workstations to meet customer objectives
- Enable adoption of new technologies to advance smart factory initiatives
- Advance internal sustainability initiatives and meet customer targets

“The HP Z8 Workstation is flexible, accessible, and secure”

BJORN HOEVEN
Pre-sales Consultant, Emixa

However, trajectory optimization requires massive computing power and demands very high internal memory usage. With up to 1TB DDR5 memory, the HP Z8 Workstation handles such memory-intensive tasks with ease.

Rademaker disclosed, “Before, it simply was not feasible to run these types of tasks. With the HP Z8 Workstation, now we can.”

Tangible benefits

The results speak for themselves. Emixa has reduced customer cycle times by up to 17%. For

example, a cell of four robots could weld 112 points in 60 seconds. By optimizing the robotics, Emixa customers can weld those in 50 seconds instead. And as Rademaker emphasized, “Cycle time is money.”

Additionally, Z by HP is fast-tracking robot programming time. Hoeven described, “We have to teach the robot where to go and what to do, which we used to do by hand and that required eight hours per robot. For a corporate car manufacturer with 200 robots, that equates to 200 days of programming time. Now, we are able to reduce that time by 80%, from 200 days to just 20 days—a huge time savings.”



“Z by HP with NVIDIA GPUs will play a pivotal role in delivering compute power on the shop floor, enabling manufacturers to leverage cutting-edge AI technologies in new ways to transform their businesses”

SVEN RADEMAKER
Senior Managing Consultant, Emixa

Looking ahead

As the promise of Industry 4.0 becomes increasingly imperative to manufacturing customers, Rademaker predicted that all factories will be autonomous in the future, commanding massive compute power, both in the cloud and locally. He remarked, “Z by HP with NVIDIA RTX GPUs will play a pivotal role in delivering compute power on the shop floor, enabling manufacturers to leverage cutting-edge AI technologies in new ways to transform their businesses.”

Future-ready performance

The team at Emixa appreciates the possibility-enabling powerful performance offered by the HP Z8 Workstation. “Z by HP solutions are optimized

for compute-intensive jobs such as training AI models and running the digital twin platform,” Rademaker summarized.

Hoeven added, “The HP Z8 Workstation is flexible, accessible, and secure. Instead of a server that requires a significant IT investment and all the disparate resources and expertise needed to work in the cloud, now we have all that power under the desk.”

Rademaker pointed out that Z by HP will accelerate sustainability efforts in addition to financial efficiencies: “Moving physical tasks into the virtual world delivers huge sustainability benefits, by reducing material usage, eliminating errors and waste, and decreasing the toll on humans. We can do a lot more with much fewer resources.”

ABOUT EMIXA

Emixa offers its clients innovative, high-quality, full-service solutions in the field of Digital Transformation, with a special emphasis on the manufacturing industry. Focused on the trends driving ‘Industry 4.0,’ Emixa specializes in implementing Siemens (PLM), SAP (ERP), and Mendix (Low Code Applications) complemented with Management Consulting, Integration Solutions, and Data & Analytics practices. Emixa operates in the Benelux, the United Kingdom, Ireland, Germany, and Switzerland.

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¹Source: 2024 manufacturing industry outlook | Deloitte Insights

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