



The Company

Heller Machine Tools is renowned in Germany and the world for its century-long dedication to innovation and uncompromising quality. Founded in 1894 to produce metal machining equipment, Heller manufactures multi-head changers, crank and camshaft milling machines, turnkey solutions comprising complex machining centers, and flexible manufacturing systems supplied to customers in the metal working industries worldwide. Heller employees 1,600 in the company's headquarters in Nuertingen, Germany, with an additional 500 in production, sales and service subsidiaries in Germany, the United Kingdom, the United States, Brazil, Mexico, France, and Italy.

The Challenge

Heller delivers a comprehensive range of metal machining solutions including machining centers, multi-head changers, crankshaft and camshaft milling machines as well as complete modular manufacturing systems to the metal working industries. Heller's primary customers are worldwide automotive OEMs and suppliers in addition to machinery businesses that use high performance metal machining equipment. The range of Heller machine tools covers the most diverse production volumes, from prototype production to outputs of more than 500,000 parts per year. Typical products finished on Heller machines are crankcases, gearbox cases, and cylinder heads, but products can also be components for ski lifts, industrial strength printing machines or artificial hip joints. As a major manufacturing company, Heller recognized the need to institute programs for more effective management of custom manufactured products, strict quality guidelines, and complex drawing and documentation processes.

Manufacturing

The Success

- **Full ROI**
Heller realized full ROI on its eMatrix investment in 28 months.
- **Ease of Use**
eMatrix simplified processes and improved customer service.
- **Quality Maintained**
eMatrix enabled Heller to maintain its ISO and QS quality standards.

The Story

The ease-of-use of eMatrix and its ability to enhance the company's processes enabled Heller to rapidly realize full ROI on its investment. eMatrix supports all new product introductions and change processes, upholding Heller's quality practices and initiatives.

More than 50% of Heller's revenue is generated from the production of customer-specific projects that are supplied as turnkey solutions. Heller project engineering encompasses the complete machining process from the design of the rough part to the delivery of the finished part, including definition of the matching cutting technology, development of intelligent clamping concepts, efficient materials logistics and careful use of peripheral technologies that are combined and optimized to meet individual customers' production requirements of high volumes or flexibility. These customized design and manufacturing processes require quick access to existing known good modules as well as efficient change and notification processes to supply up-to-date information to all departments involved.

Exacting quality standards have always been a hallmark of Heller Machine Tools. Heller meets quality standards including ISO 9001, QS 9000 Tooling and Equipment Supplement, and VDA 6 Part 4, a German automotive consortium standard. To support its commitment to quality, the company observes and continually refines an exacting release process for all drawings and documents specifying the components used in Heller's standard machines and customer-specific machining centers and transfer lines.

Documentation management also became an area for concern. Over the years, the company accumulated a massive drawing archive comprising 1.5 million documents covering almost two floors in the company's main office in Nuertingen. In 1993-1994, Heller introduced CAD for generating drawings. With the advent of technology for managing product information and collaborative product development in the second half of the 1990s, Heller began evaluating systems to support the company's new product introduction and lifecycle processes to gain benefits through design-reuse, modularity and quality.

The Solution

Linking Information with Processes

In early 1998, a number of product development applications were evaluated for their ability to manage the company's comprehensive drawing archive and bills of materials (BOMs) managed in legacy systems in addition to supporting quality standards and release processes. Heller needed a solution that would not simply emulate existing paper-based processes. The project team soon realized that the solution of choice should enhance existing processes rather than copy them.

Heller selected eMatrix™ from MatrixOne® for its ability to link information with processes by associating every document to product lifecycle information that would trigger workflows and notification processes to all parties involved in a new product introduction or a change process. eMatrix proved these capabilities successfully in a comprehensive proof-

of-concept. To set a benchmark for success, Heller also engaged consulting firm KPMG to forecast a return-on-investment target date. KPMG estimated Heller would receive full ROI on its eMatrix investment in just over two years

ROI and Quality Goals Realized

Today, all product related information from the digital archive, legacy BOM information, CAD drawings, manuals and documentation are available to 490 users in engineering, production and service. Material master information is available through a bi-directional interface to Heller's SAP R/3 ERP system. The eMatrix digital archive contains 350,000 TIF drawings with an additional 80,000 AutoCAD drawings directly. In addition 230,000 sets of material master data and 130,000 bills of material from Heller's legacy systems are managed in eMatrix. This data can be transferred to and from Heller's SAP R/3 ERP system via a bi-directional link

eMatrix supports all new product introduction and change processes through workflows that ensure production uses only the latest version of every document, upholding Heller's quality practices and initiatives. eMatrix also supports Heller's growing project business, in which complex machining lines are developed according to individual customers' specifications and requirements. Most importantly, Heller was able to fully realize the eMatrix ROI projections made by KPMG.

Faster Response Time for Better Customer Service

Through the digital archive, all drawings and other product related information can be quickly searched and produced through an integrated OCE 9800 document reproduction center. This enhances response times for customer service by making the drawing available at the push of a button instead of searching by product number, making it easier for maintenance staff to provide quick assessments.

Looking Forward

With eMatrix in full production, Heller continues to plan for further deployments. Currently, the majority of Heller's workforce shares information through eMatrix at the Nuertingen facility. Heller is now evaluating the roll-out of eMatrix to the company's production sites in Redditch, United Kingdom; Troy, Michigan, United States; and Sorocaba, Brazil, as well as extending the processes covered by the eMatrix data model.

The Bottom Line

There are a number of additional benefits that cannot be easily quantified and that contribute to making life easier. Heller found the eMatrix-based solution very easy to use, especially when compared to a DOS-based file management system, but the value cannot be quantified.

About MatrixOne

MatrixOne, Inc. (NASDAQ: MONE) is a recognized leader in delivering collaborative Product Lifecycle Management (PLM) solutions. Together with our partners, we provide flexible solutions that unleash the creative power of global value chains to inspire innovations and speed them to market. MatrixOne's more than 625 global customers represent the aerospace/defense, automotive, consumer products, general machinery, high technology, and life sciences industries, and include GE, Procter & Gamble, Philips, Siemens, Agilent Technologies, Johnson Controls, and Honda. MatrixOne is headquartered in Westford, Massachusetts with locations throughout the world.



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