



## MAPAL implements tool data management and IoT with SAP HANA Cloud Platform

A medium-size family business, MAPAL has been a leading provider of precision tools for decades. To build on its history of innovation, quality, and cost-efficiency, MAPAL turned to SAP HANA Cloud Platform to enable fast, agile application development and beautiful, intuitive native iOS apps that harness the power of the Internet of Things.

# Executive overview

## Company

The MAPAL Group

## Headquarters

Aalen, Germany

## Industry

Manufacturing

## Products and Services

Leading provider of precision tools and machining solutions

## Employees

4,800 worldwide

## Revenue

€540 Million

## Web Site

[www.mapal.com](http://www.mapal.com)

## Partner

Apple

[www.sap.com/apple](http://www.sap.com/apple)

## BUSINESS TRANSFORMATION

### Objectives

- Manage tool data by digitally linking customers and suppliers
- Make intelligent IoT scenarios and modern, intuitive apps more efficient, transparent, and easy to use
- Improve efficient use of high-precision machining tools

### Resolution

- Open cloud platform, c-Com, built on SAP HANA Cloud Platform, securely combines and maintains all tool data across the tool's life cycle
- Real-time information with an unprecedented, unobstructed view of every single tool and synchronized tool procurement across locations
- Native iOS app facilitates and accelerates the tool managers' work, delivering relevant, real-time info via an interface as easy to use as a consumer app

### Benefits

- Quick and easy implementation of apps for Internet of Things scenarios
- More cost-effective purchasing process and optimized stock levels
- Reduction in unused stock and production downtime

## iOS Apps

Easily build beautiful, user-friendly, native iOS apps

## Internet of Things

Fast implementation of applications for Internet of Things scenarios

## Open

Platform connects to all back-end systems, quickly and simply



“SAP HANA Cloud Platform offers near endless possibilities.”

Dr. Jochen Kress, Member of the Management Board, MAPAL

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# Intelligent IoT and modern apps for the manufacturing industry

German precision tool manufacturer MAPAL has one key objective: manage tool data by digitally linking customers and suppliers, and make intelligent IoT scenarios and modern, intuitive apps more efficient, transparent, and easy to use. To achieve this goal, MAPAL has created c-Com, based on SAP HANA Cloud Platform.

“Managing the data of high-precision special tools for machining metal work pieces and the efficient use of these tools is a big challenge for manufacturing companies,” Dr. Jochen Kress, member of the management board at MAPAL, explains. In 2015, the leading international provider

of high-precision tools and innovative machining solutions generated a revenue of €540 Million and employed 4,800 people.

Considering that tools are classified as C items and make up only a small percentage of the overall purchasing volume, the effort and costs involved in their procurement are disproportionately high. The costs for their storage, setup, and maintenance are also quite substantial. This is because suppliers and the customer’s procurement, logistics and production departments do not have access to a central repository for tool-related master, transaction, process, and inventory data.

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# A digital tool management network

MAPAL wants to resolve this issue with the open cloud platform, c-COM. c-Com is built on SAP HANA Cloud Platform, SAP’s powerful, scalable, secure platform-as-a-service (PaaS) solution, and was created in close cooperation with SAP. Their initial plan was a “data highway” where customers and suppliers would network in true Industry 4.0 fashion and jointly maintain and use tool-related data based on clearly defined guidelines and access rights. Kress coined the term “presuppositionless digitalization” for this approach. The attendees of this year’s German SAP User Group Conference (DSAG) have already been able to experience its benefits.

c-Com combines all data related to a tool in a central SAP HANA database in the cloud where it is securely maintained across the tool’s life cycle. This information is always up-to-date and can be accessed quickly and easily through the cloud solution. Users get an unprecedented, unobstructed view of every single tool and can use these insights to add value to the business in a variety of ways. The procurement of tools can now be harmonized across locations, leading to a more cost-effective purchasing process and optimized stock levels. Users gain a better



**c-COM Data Highway**  
Where customers and suppliers can network in true Industry 4.0 fashion

understanding of excess stock and shortage thus reducing or avoiding tying up capital in unused stock and production downtime. Furthermore, they are able to benchmark locations and to explore options for standardizing and fine-tuning processes.

In turn, suppliers that have developed new services for their tools can offer them to customers via c-Com. They can document their test results and make them available to clients. API management technology ensures that connecting the open platform to a back-end system – either SAP or non-SAP software – is fast and requires minimal effort.



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# Implementing IoT scenarios

This is just the beginning for MAPAL. “With SAP HANA Cloud Platform, we can quickly and easily implement applications for Internet of Things scenarios,” Kress explains. At the DSAG congress, MAPAL presented a native app for Apple’s iOS operating system that they developed in collaboration with SAP and Apple. Built using SAP HANA Cloud Platform, the app facilitates and accelerates the tool managers’ work and helps them to become more efficient. All relevant information about a tool, like the number of grinding processes or downtimes, is available any time and anywhere – visualized on a modern iOS interface that is as easy to use as a consumer app.

A tool manager can see at a glance whether a tool needs regrinding or replacing. If a problem is detected during a visual inspection, he can use the camera to

record it. With the help of the app’s pre-defined text blocks, he can then create a service report and send it straight to the suppliers. As the SAP ERP system is seamlessly linked to the app, it will generate a requisition and turn it into a purchase order at the push of a button if the tool needs replacing.

To guarantee error-free identification and tracking, each tool comes with its own data matrix code. This code creates a “digital twin” of the physical product that links the real world to the virtual world, connecting services and data and allowing autonomous workflows across the value chain. For example, future order processes could be triggered automatically without any manual intervention. “SAP HANA Cloud Platform offers near endless possibilities,” says Kress.

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## Lessons learned and future plans

Kress is also impressed by the agility and flexibility of application development with SAP HANA Cloud Platform. Developing the beta version of c-Com took only six months from kick-off to launch, and creating the mobile app for the tool managers did not require much time or effort either. Both projects are the result of a targeted collaboration of a small team of MAPAL employees and experts from SAP. "In application development we are as agile as a start-up. We can put ideas directly into practice without the need to create a comprehensive specification sheet first," Kress explains.

The huge interest and the number of specific inquiries have exceeded all expectations. As a next step, the platform will be deployed at a well-known pilot customer, along with plans to extend the platform to cover complete C items management.



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