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DIGITIZATION DONE RIGHT

Don't vanish into a cloud of pixels!

Insights from CIMSOURCE

Switching from analog to digital manufacturing is like the leap from film cameras to smartphones.

Your customers use Smartphones - DON'T MISS OUT!

CIMSOURCE
DIGITAL TOOL SERVICES

DIGITIZATION
OF THE METAL CUTTING INDUSTRY

by Dr. Götz Marczinski

The experimental phase in digitization is over. The widespread scepticism about new media and digital forms of work has been overtaken by reality. To this end, we have conducted a trend analysis in the CNC tooling industry and summarized it in 4 theses.

THESIS 1

Virtual product selection and process validation (simulation) will become standard, but will not make field service obsolete.

The "customer journey," that is the potential customer's path to the product, will begin on the Internet. The reduced personal contacts resulting from digitization will lead to a weakening of traditional customer loyalty. Digital alternatives to personal product presentation and instruction will make the difference. Digital product availability will drive purchase decisions. However, we are convinced that the final, decisive step will still be supported by a real life person. A qualified field rep willing and capable to “go the final mile”.

Digital product availability goes well beyond online catalogs and the corresponding download options for product data as offered by all tool manufacturers today. Even impressive tool selection wizards, as offered today by some tool manufacturers, are only part of the story. Solutions are needed for all conceivable channels of the information supply chain.

THESIS 2

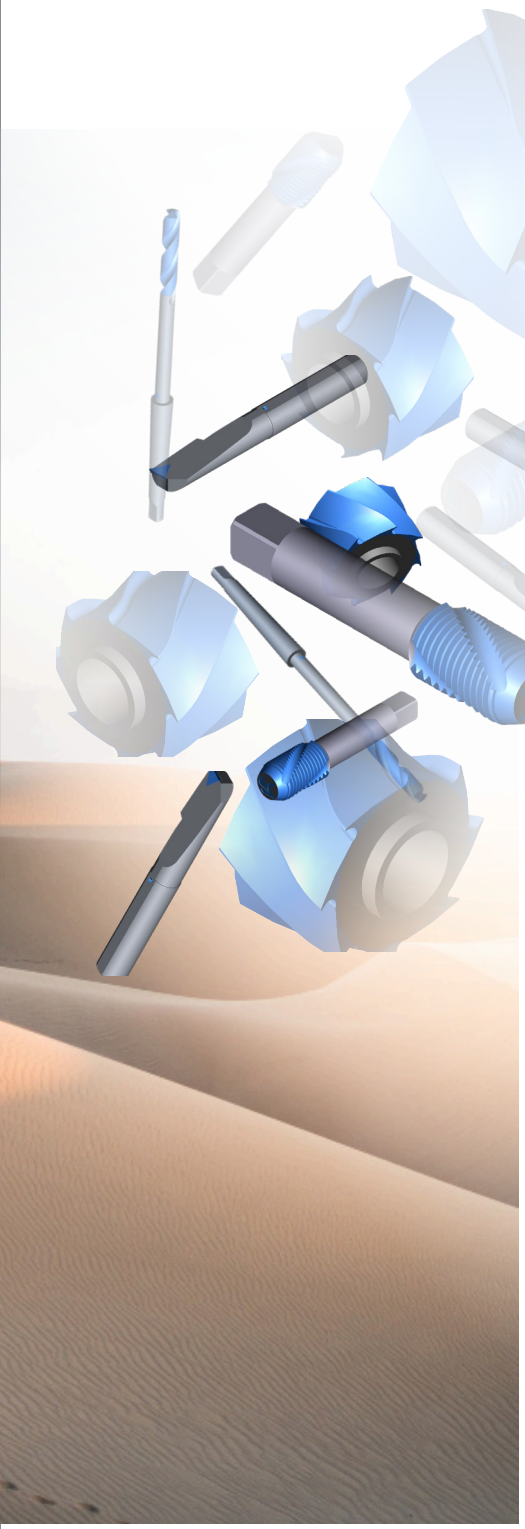
We will see "Information Supply Chains" comparable with distribution logistics of the physical tools

From the customer perspective, we distinguish the "e-commerce" channel from the "CAM" channel. Via the former, product data is mainly needed for the re-procurement of tools or of alternative tools for established machining tasks. The "CAM" channel provides process planners with the necessary data to help decide which is the appropriate tool for a specific machining task.

The product data management required for this should be organized like a "shipping department".
The product data must be available in the required data formats for direct shipping or for equipping the online stores of the distribution partners. Ideally, data provision should be organized as a "drop shipment", that is the required data is generated by the tool manufacturer at the time it is needed. The product data is practically "made to order" from the "central warehouse".

Because here is a decisive difference to real logistics. A data set, like the digital twin of a tool, can be "shipped" any number of times.

A physical tool can be shipped only once. The "delivery capability" of the "central warehouse" is determined by the technical equipment of the shipping logistics. The SalesSupportServer (3S) from CIMSOURCE is perfectly designed for the required “make to order” process.



THESIS 3

Cross-company collaboration is necessary.

To ensure digital product availability, the information supply chain must be organized on multiple tracks for the various sales channels. This requires cross-company solutions. We believe it is unrealistic for a tool manufacturer to have a competitive advantage solely through its product data. From the customer's perspective, uniform product data is much more desirable.

The cross-vendor collaboration required for standardization is not new. On the other hand, the cross-vendor collaboration together with software providers for CAM- and TM-systems, sure is. Because industrial practice reveals again and again that there are limits to standardization. With ToolsUnited, CIMSOURCE offers a "managed service" to tackle precisely this challenge.

Take a look at Google, the embodiment of the manufacturer-independent search. What the Google crawlers don't find, most likely the customer won't find either. And to increase the probability of Google hits requires open solutions for the crawlers. In practice, this means not hiding product data behind "registration barriers". The probability for Google hits increases substantially with networking beyond the company's own boundaries. The goal must be to disappoint as few search queries as possible.

THESIS 4

The Internet will become the source for market intelligence and for tool application data.

The statement "data is the new oil" is the driving force behind many a digitization strategy. But it is necessary to differentiate: In practice, it's not about product data, but is about meta-data. "Who searched for what?" is the central question.

It's about user profiles, it's about market data needed for focused customer targeting. It is important not to lose direct contact with the customer.
It is about to obtain information that can be used to optimize the "customer journey" to one's own product. It is a question of information for sales planning and of information optimize campaigns.

This requires web analytics, ideally again in a broader context than the company's own website (see p. 8 of this CCA).

Customers will also search for and find machining data and application guidelines on the Internet, albeit in the somewhat more distant future. Internet of Things (IoT) platforms will collect the data for this. Corresponding research projects with cloud-based tool management systems point in this direction. The mass collection of use cases will facilitate machine learning processes that can make realistic suggestions for machining tasks with the help of pattern recognition.

CONCLUSION & RECOMMENDATION

Digital product availability is becoming mission critical. Tool manufacturers must organize the availability of the digital twins in an agile and flexible manner accordingly.

The provision of product data to online sales partners should be done in return for user profiles and "market intelligence" data.

DIGITIZED DATA VS. DIGITAL DATA

- A **digitized tool catalog** means a technician has to scroll through a PDF, manually copy specs into the CAM system — prone to errors and slow.
- A **digital tool database** means the CAM system automatically pulls the right tool based on geometry, material, and availability — fast, reliable, and scalable

Digitized Data	Native Digital Data
• Scanned images, PDFs, or static digital versions of physical documents (e.g., catalog pages)	• Structured, machine-readable data designed for automation and integration
• Human-readable only	• Machine-readable and computable
• Cannot be searched, filtered, or directly used by software	• Can be processed, queried, and connected across systems
• Example: A scanned tool catalog in PDF format	• Example: A database of tool specs with fields like diameter, material, cutting parameters,

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CIMSOURCE Digital Tool Services is a privately held German company with subsidiaries in the Japan and US.

CIMSOURCE DIGITAL TOOL SERVICES

www.cimsource.com

CIMSOURCE Inc.
401 Hall St.
Box 32
Grand Rapids, MI 49503

CIMSOURCE GmbH
Kasernenstraße 22
52064 Aachen
Germany