WINTOOL

Five serious theses on
the way to Industry 4.0

DO YOU LOVE YOUR MASTER DATA?

MORE MOTIVATION
FOR QUALITY
MASTER DATA!

Master data is of central importance
to the future of business.

At TCM we have experienced in our daily
work that this topic does not receive the
attention it deserves. We want to change
that. The five theses we are presenting here
are intended as a guide, as a tool to help you
define your own point of view and recognize
your weak points.

Master data is closely linked to digitalization
– both will play a crucial role. Many are aware
of this. So, all that is missing is the courage
to take the first step towards quality master
data. It's easier and faster than you'd expect!

Manfred Kainz
TCM International, CEO

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01 WHAT ON EARTH IS DIGITALIZATION?

Industry 4.0 is not available from the rack.
Where are we positioned? Where are we going? - Digitalization requires reflection on your ideas and goals, and last but not least on the processes.

02 TODAY, MASTER DATA IS A BURDENSOME OBLIGATION.

Tomorrow it will be necessary for survival.
Show me your master data, and I'll tell you where you stand. The analysis of the current state is fast. But then you have to: Get out of the comfort zone!

03 A PICTURE SAYS MORE THAN A THOUSAND WORDS.

Transparency and standardization are the adjustment screws for success.
See the bigger picture. Only clear and meaningful key figures provide an overview of your own processes.

04 100 PERCENT DATA QUALITY IS ONLY JUST GOOD ENOUGH.

Effort comes before success and not just in the dictionary.
Top-data quality means continuous work. No reason to panic: Once you get involved, it's much easier than before.

05 DIGITALIZATION REQUIRES LEADERSHIP.

Doing it as an "afterthought" won't suffice.
Digitalization is not a switch that you flip. It requires the commitment of everyone involved. And clear decisions by management.

WHAT ON EARTH IS DIGITALIZATION?

INDUSTRY 4.0 ISN'T AVAILABLE FROM THE RACK.

Digitalization – a big topic with an equal lack of focus in its definition. What exactly are we talking about when we use that irritating word digitalization? For some it is the same old same old in a new box. ("We've always been doing it anyway!"), For others, it is the long-awaited starting signal into a new era ("It requires disruptive changes!"). In between, there are more or less ambitious efforts to use the topic for their own needs. So, is digitalization ultimately whatever companies want it to mean?

This much is certain: manufacturing companies cannot avoid placing digitalization in an expanded context. The system of production - machines, control and auxiliary systems of various types, as well as the human factor - have not changed structurally, but neither the operation of the plants nor the necessary services are possible without access to the online services of the respective manufacturers. An improved infrastructure, especially more bandwidth for Internet connections, has enabled new applications and faster response times. The formerly isolated production area has long since been networked with the world.

The consequences are well known: new potential in production, new markets and increased competitiveness. Anyone who ignores this development, can be out of the game quickly. Wonderful new digital freedom? Not quite. Because more freedom means less and less security. And that can hurt a lot quickly: Data loss, uncontrolled data flow to the outside, virtual attacks ... the range of risks is large. Awareness among employees, on the other hand, and investing in security helps. Then, digitalization can do what we expect it to do.

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Digitalization – thought of in the widest possible context – however, starts much earlier. The question is not how to master Industry 4.0 (Does anyone really know how Industry 2.0 works?). The question is how to master your own processes.
And this mastery begins fundamentally with the master data of a company.

"It's not the strongest species that survives, not even the smartest, but the one that best responds to changes."

Prof. **Wilfried Sihn,** CEO Fraunhofer Austria Research GmbH, quoting Charles Darwin

Example 01

If you ask the participants of symposia, if master data in the company are important, then almost all of them answer yes. If you ask whether the quality of this data is good in their own company, then almost all of them answer no.

TODAY, MASTER DATA IS A BURDENSOME OBLIGATION.

TOMORROW, THEY WILL BE NECESSARY FOR SURVIVAL.

"What's your idea of master data?" - What appears at first glance to be the crucial question of digitalization is, on closer inspection, only the follow-up question of a far more extensive occupation with the production engineering processes. Wherever industrial production, automation, in short modern production is concerned, the question must be: "Are you in control of your processes?"

In most cases, sufficient technology is available to improve manufacturing processes. So, the technology is there. What is important in the first place, however, is the quality of the processes. As a result, every company has to confront a whole series of uncom-

fortable questions - ideally in time and for themselves, at least — before someone else asks them: "Are we aware of our processes in the mechanical manufacturing?" "Are they transparent?" "Do we control them in normal operation, and can we control them in exceptional cases?"

Digitalization also means taking a look at the data quality in the company - and with the most critical possible view. The motto is not: "Let's take a look sometime, then we'll see", it's "Get out of the comfort zone!" Because whoever talks about master data is speaking about quality. To the contrary, the picture that sometimes presents itself in the company is questionable: the most varied article numbers and specifications from various systems torpedo any meaningful use. A reliable process cannot be derived from this.

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So, there is no way around it. Dealing with the current system and data landscape requires a critical approach. This is how you can set up a solid foundation on which digitalization can build in order to survive in the fast-paced market, to implement automation efficiently internally, and to be externally connectable.

Example 02

TCM has developed a tool management analysis process that checks the quality of the master data within two to three days. The objective view from the outside is completely and shows ways in which the data quality can be increased.

"The analysis process of TCM shows very well where you stand. Strengths and potentials are presented clearly, and recommended actions are suggested. This helps to set the course and make the right decisions for the future."

Richard Wieser, Head of Components Production, Motor Factory HATZ

A PICTURE SAYS MORE THAN A THOUSAND WORDS.

TRANSPARENCY AND STANDARDIZATION ARE THE ADJUSTMENT SCREWS FOR SUCCESS.

A recurrent partner of digitalization is transparency. And that has its reasons. Ultimately, manufacturing processes can only be optimized if they are transparent. The diversity and variety of systems - planning systems, simulation systems, production systems etc. - must be recorded transparently. Or, in the old-fashioned way, you have to get an overview in order to keep track of things. But how does that work?

One example: There are quite a few companies that use thousands of different cutting tools. The result is a jumble of equivalent products or with only slightly changed specifications that are used from different suppliers.

If you take a look at the underlying process, you end up with the stock value or the inventory turnover rate. And now it gets interesting: If you also look at which tools were not even moved in a certain period (about a year) - so-called "slow movers" - you quickly realize that a lot of unproductive capital is just sitting around.

This situation can be avoided – if you do not lose the perspective! This is precisely where transparency and standardization help. They are the best adjustment screws to raise awareness and thus change the situation. For example, if programmers have access to up-to-date, qualitative data about those tools that are actually used in production and also in stock, it enables them to derive a more binding planning process. Work is done with what is available and released, with those tools that have also been cleared in the system. All a question of the overview ...

And one more thing: Those who define clear and meaningful key figures at the process level, have a useful guide for the next steps. It is only later that key figures are derived such as tool costs per production hour. Once again, an old fashioned saying: just take one step at a time.

Example 03

Three practical observations:
- 50 percent of companies cannot give a clear statement about tooling costs related to production behavior.
- 90 percent maintain tool data redundantly.
- 100 percent have room for improvement in the inventory, but they do not use it due to the lack of transparency and clear key figures.

"The basis for a vital CIP process is the standardization of routine work. The higher the degree of standardization in the company, the higher the quality and the shorter the turnaround time. As a consequence, the costs decrease. Furthermore, more time remains to work on the future of the company."

Armin Decker, Operations Manager and Authorized Signatory of J. D. Neuhaus

100 PERCENT DATA QUALITY IS JUST ENOUGH.

EFFORT COMES BEFORE SUCCESS. AND NOT ONLY IN THE DICTIONARY.

Let's just stay with the topic of success: It will come, but not overnight, and not automatically. Qualitative master data, end-to-end systems and reliable processes require real work - an effort, however, that pays off!

Once this new data quality has been achieved, an essential basis for optimized processes has been created. This level must be absolutely maintained, because it is not about a one-time success, or a a "one-time cleaning up" of the data disorder. The hard-won solutions in the production environment must also be able to permanently meet the quality demands that have been achieved! No one would trust an assistance or navigation system that only worked 90% of the time. Why should this be different in production processes?

To return to the example of cutting tools, the aim is to ensure that all the data required for the next step in the process is available in the required quality and to the required extent when creating a cutting tool. Let's call the scope the „golden record" of the tool. This "Golden record" ensures that all specialist departments are informed and involved right from the birth of the data creation. Cross-system analyses are possible at any time, since uniform and consistent part numbers and specifications are used.

This closes the large gap between the isolated solutions.

At the same time, it is ensured that it is also possible to use economically sound basic data (disposition data, consumption data, cost statements) to make production-related statements (where is which tool used, which cutting values are used on which machines?). Each system usually has its own

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unique purpose in the software landscape. All these systems are allowed to speak their own "dialect", but each of these systems will speak a defined standard in the future - digital English, if you like.

Example 04

Tool data can today be imported online via cloud systems and portals. However, the quality of this data is often so poor, that each record has to be checked manually. This puts every automated data transfer into question.

"'Data gaps? We'll have the summer interns do that!'– An unmistakable sign that the importance of master data quality is not understood."

Markus Temmel,
Managing Director, TCM

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DIGITALIZATION REQUIRES LEADERSHIP.

DOING IT AS AN "AFTERTHOUGHT" WON'T SUFFICE.

Although it has been said several times, digitalization is work – but work that is worthwhile. After all, anyone who has been successful has dealt intensively with their data, the underlying system landscape and the processes that have been used. This has a decisive consequence: digitalization requires leadership! It cannot be prescribed, switched on or delegated. Rather, it is an attitude that must be anchored throughout the corporate DNA. Only then will the challenge be understood, only then will the right decisions be made and then these decisions will become visible as successes, namely:

- No redundancy, which the customer does not pay for and which paralyzes the organization
- No gaps and missing data quality that undermine transparency and significance
- No restriction to interpret the data pool and to find new business models
- No problem to make new technologies like AI even more effective and much more.

What is required is the courage to take the first step. Once this is taken, each successive step is faster to implement - a dynamic is set in motion and success becomes visible, which in turn increases the approval and acceptance within the company. And slowly, but steadily, the digitally driven corporate change reveals its full potential.

The result is what you never expected: You will come to love your master data!

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Example 05

Software-driven projects are usually started with great enthusiasm by the management. It is the implementation and empowerment at the operational level, as well as consistent project application and monitoring that is often the bottleneck in its adoption. If you can combine both, you have already gone halfway to the success of the project.

"It is not the IT department that is responsible for the successful implementation of a digitalization strategy. It is the process owners who have to be won over. And it is the task of top management to win people over in the companies!"

Manfred Kainz,
CEO, TCM

ABOUT TCM

As experienced tool managers, we at TCM are also users of our own product and software solutions. In order to develop our products, we think backwards from the chip. In doing so, we repeatedly ask ourselves what needs to be done to produce the chip easier, more accurately or faster - because that ensures the decisive competitive advantage for us and our customers. Just thinking about digitalization is not enough. In the end, you have to use it for your own production.

We are constantly learning from our customer projects and together with our customers. Every day we are confronted with a wide variety of demands. Various materials that need to be machined, diverse production structures and batch sizes, as well as various software environments, challenge us. All of our findings flow into the further development of our solutions.

This is precisely what has helped us to gain a central insight: high master data quality is the prerequisite for the success of a digitalization strategy!

We are happy to pass on this experience and, together with you, take the first step to evaluate the digital potential in your company. We will accompany you from the concept to its practical implementation, so that you are one step ahead of your competitors.

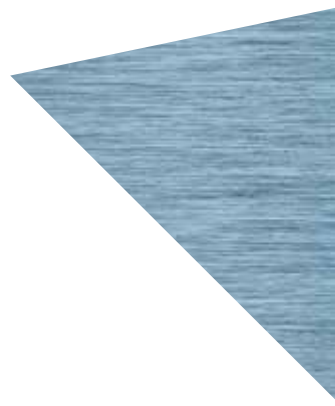**Markus Temmel,**
TCM International, Managing Director

https://www.tcm-international.at/produkte/tool-management-analyse/

FIVE SERIOUS THESES ON THE WAY TO INDUSTRY 4.0

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