**New study from item on digitalisation in mechanical engineering**

**Is the digital revolution stalling in German companies?**

**Increasing digitalisation in mechanical engineering brings with it great opportunities, but also poses major challenges for companies. To remain competitive in the future, they have to continuously boost their productivity and be able to flexibly adapt their processes. How far has the digital revolution now advanced in the industry? What has changed since 2018, and how do German companies compare with their European competitors? The new study from item provides answers.**

How digital is mechanical engineering in 2020? What is the situation in other countries? Is the digital revolution already complete there? In its new study, item Industrietechnik GmbH provides information about the latest developments in digital engineering. The survey participants were drawn from companies of various sizes that primarily focus on designing and building solutions and factory equipment in the field of mechanical engineering. To ensure the results were comparable to those of the study conducted in 2018 on the future of mechanical engineering, the participants were selected using identical criteria.

**Requirements are rising**

The 2018 study by item on the future of mechanical engineering already showed that digitalised processes and short throughput times were causing tougher requirements when engineering plant and factory equipment. That remains the case in 2020. Due to the high availability of 3D data, customers expect projects to be completed faster. Moreover, there is a greater emphasis on responding quickly and flexibly to requests for changes. The study respondents believe that the workload of engineers will increase in the future, as will the targeted demand for IT skills. For example, 67 percent assume that user skills in numerous software programs will become even more important. Staff will increasingly have to take on coordination tasks and collaborate closely with project partners abroad more and more frequently. This will naturally require appropriate language and communication skills. Intelligent software solutions such as the [[item Engineeringtool](https://item.engineering/DEen/tools/)](https://item.engineering/DEde/tools/) can help with this and create the ideal conditions for successful collaboration. The program allocates each project an internationally unique number, enabling engineers to share their results with partners and colleagues worldwide. The online 3D design software is available in several languages. It simplifies complex engineering tasks and speeds up workflows. Projects can be changed as often as necessary, and the engineering results can be reproduced at any time. Even standard tasks can be completed more quickly than in conventional CAD environments, for example. This results in significant time savings and boosts efficiency.

**Integrate, expand and network**

“In this age of digitalisation and ever smarter products, engineers face the challenge of combining classic elements with new IT components such as sensors, mobile connectivity and hybrid data processing,” says Christian Maasem, Managing Director Center Connected Industry at the RWTH Aachen Campus. The results of the study back this up. In the future, an ideal engineering solution will be expected to allow straightforward import and export of data, among other things. This is the only way to integrate new tools into existing software solutions and make expedient expansions to programs. Building kit systems with modular components offer numerous advantages in this regard. “Cyber-physical building kits and configurators can help quickly and robustly connect relevant technologies to form functional industry systems,” explains Christian Maasem. “As a result, practical use can be made of the potential digitalisation holds, and it can be implemented at the required innovation speed.”

**Creating new business models and securing competitive advantages**

As was seen in 2018, many companies still hesitate to implement wide-ranging digitalisation strategies. So far, it has been more a matter of defining and realising individual measures. However, the participants in both item studies agree that, in the long term, only companies that implement a digital strategy could achieve the level of efficiency and throughput times required on the market. As Michael Riesener, Head of the Center for Systems Engineering at the RWTH Aachen Campus and Executive Senior Engineer at the Laboratory for Machine Tools and Production Engineering (WZL) of RWTH Aachen University, says: “The innovative strength and competitiveness of a company are more dependent than ever on mastering the growing complexity of increasingly digitally connected products.” A paradigm shift is needed, he feels, that will replace the predominantly document-based product development with future-oriented, more capable processes and methods. At the same time, new business fields and forms of cooperation need to be developed. For example, buying in expertise from other companies – or even cooperating with them directly – offers SMEs in particular the opportunity to process even wide-ranging customer orders quickly and efficiently. A necessary part of this is outsourcing worksteps and time-consuming engineering tasks to specialised providers. Appropriate tools will provide the support needed to achieve this work. If companies create ideal engineering conditions, they can meet the growing requirements of the sector. Project timelines can be reduced and engineers can get back to their core tasks.

**Germany is lagging behind in terms of digitalisation**

How far have other European countries gone down the road of digitalisation? To assess the mechanical engineering situation in France, the United Kingdom, Spain and the Czech Republic, item conducted a survey in these countries, too. This showed that both German and French companies feel progress in digitalisation in their countries has been average to poor compared to other countries. In Germany, fear of data theft is a major factor in this. Other countries, by contrast, are less concerned about the fundamental requirements and worries, but focus instead on improving work efficiency and simplifying existing IT solutions. It seems that Germany is being slowed down by a fear of radical change and data misuse. Companies should be quicker to see the opportunities and potential digitalisation has to offer, take a proactive approach and go on the offensive to implement measures that will take them to where they need to be.

The study “How digital is mechanical engineering in 2020?” is available for download at <https://digital-engineering.de/?cnt=cnt1>.

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**Caption 1:** In its new study on digitalisation in mechanical engineering, item sheds light on the situation in Germany and abroad. Both German and French companies feel progress in digitalisation in their countries has been average to poor.

**Caption 2:** The study respondents believe that the workload of engineers will increase in the future, as will the targeted demand for IT skills.

**Caption 3:** In the future, an ideal engineering solution will be expected to allow straightforward import and export of data, among other things.

**About item**

item Industrietechnik GmbH is the pioneer in building kit systems for industrial applications and a partner of the manufacturing industry across the entire globe. Today, the item product portfolio comprises more than 4,000 high-quality components designed for use in machine bases, work benches, automation solutions and lean production applications. The company has received a string of awards for products with ground-breaking industrial design and end-to-end ergonomics.

item is spearheading digital engineering by driving forward the digitalisation of processes with software tools developed in-house. The item Academy offers training at various levels with on-demand training and online courses available in multiple languages.

Headquartered in Solingen, Germany, item has subsidiaries in various countries. Some 900 employees worldwide harness their know-how and passion to develop innovative solutions and services. Twelve sites make sure the company is always close to customers in Germany, with a global logistics chain ensuring swift delivery times for all components.

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