Infopaper

AUCOTEC

Issue 1 | 2020

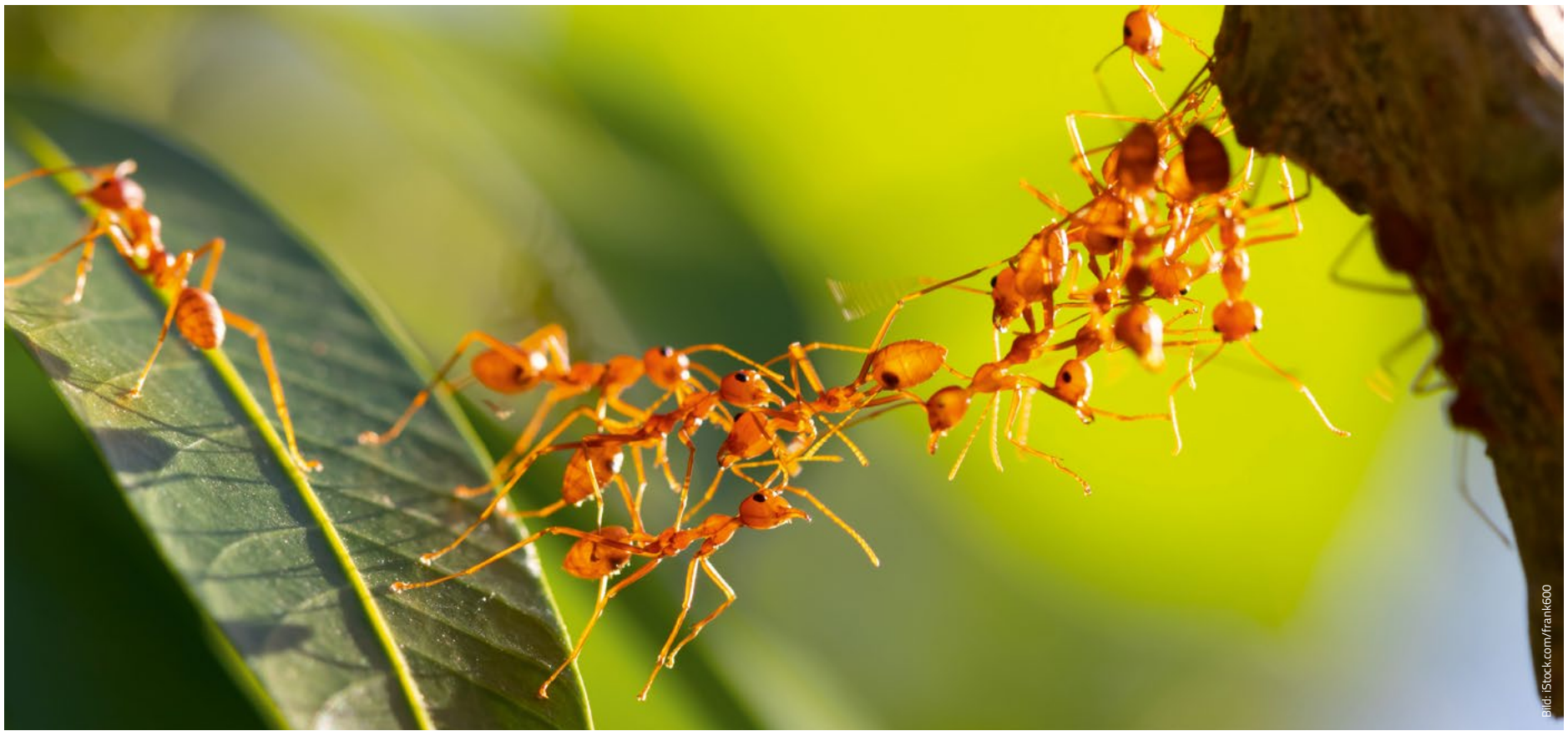


Bild: iStock.com/frank600

Cooperative data culture

Unified engineering supersedes “best-in-class”

The next level of digitization

The world’s largest industrial fair has seldom had a more powerful motto than that of this year, and the cancellation of the show due to the coronavirus does not alter that fact. This is because the “industrial transformation” is not just a phase in which many traditional industrial companies currently find themselves, but is a strategic imperative. Companies and organizations that are not transforming are already seeing their successors on the horizon.

At the start of the year, VW’s CEO Herbert Diess described the power of the new industrial revolution with remarkable frankness. According to Diess, the successes of the past, the wide range of models, and all previous achievements of his company were not enough in order to survive this digitally-driven revolution. His rousing speech was validated only a few days later. At the end of January 2020, the market value of newcomer Tesla exceeded that of the traditional German automotive group for the first time.

From image to logic

Engineering has long experienced the transformative, yet sometimes disruptive nature of digitization. Even the digitization concept itself has had an eventful history. Engineering was considered digital in the early 1970s, when users could perform some calculations with computers. However, it was vector graphics that first unleashed the limited graphic options and enabled the triumph of CAD systems – the drawing board was history.

A short time later, blocks and attributes mapped such things as objects in the image for the first time. The RUPLAN system, part of AUCOTEC’s portfolio since 1997, was released in the early 1980s as the world’s first E-CAD system, which contributed an additional logical and functional level to visual representation. Simple connecting lines could now be “charged” with a meaning and enabled the automatic creation of complex wiring lists and terminal block diagrams.

From logic to analytics

In the subsequent stages of development, AUCOTEC increasingly freed the digital data model of a plant from its graphic representation. Since the 2000s, the cooperative platform Engineering Base (EB) has been synonymous with a completely independent data model. Artificial intelligence, which will support engineering based on the available amounts of data, is the next logical step and will once again redefine digital engineering. AUCOTEC is currently conducting intensive research on its practical implementation.

What digitization means today

The evaluation criteria for engineering systems are also constantly changing accordingly. There are clear benefits of a data model which maps the entire logic of a plant from an initial simulation of different plant scenarios down to information on the terminal side to which a specific cable core is connected.

Continued on page 2

Editorial

More space, more presence

Dear readers,

The main topic of this Infopaper, “transformation”, naturally also concerns us, AUCOTEC AG. This year, 2020, is marked in particular for us by changes or, better still, innovations. At the start of the year, we moved into our new head office in Hanover and the new offices in Frankfurt at almost the same time. This literally gives us much more space in a very modern and creative environment to further develop our platform Engineering Base and to implement or roll it out in joint projects with our customers.

We needed the new premises because our previous head office had become far too cramped for us due to the growth of the past years. These major investments have been enabled by the ever-increasing success which we are achieving with Engineering Base.

Of course, our growth is not limited to Germany. On the contrary! Most of the activities of the AUCOTEC Group are taking place internationally. A key focus here is currently the Nordic region, i.e. Scandinavia. We are working on an increased presence in this market. At the same time, we are focused on the Asia Pacific area. In addition to the activities with our subsidiaries in China and Korea, we are working with partners on very interesting projects here, for example, in Indonesia. This Infopaper contains further information on this topic.

You are very welcome to visit us in our new head office, in our subsidiaries all around the world or - once the coronavirus has been eradicated - at trade fairs and congresses to discuss transformation with us.

We will happily support and advise you!

Yours faithfully,
Uwe Vogt
Executive Officer

Image: AUCOTEC

Further topics:

Continued from page 1

Today, the best-in-class dogma is considered outdated when selecting the appropriate engineering system/sub-system.
There is demand instead for the most complete data model known as the "central engineering database" in which real "unified engineering" can occur. AUCOTEC's EB not only serves this market, but has established it, and thus also the company's current success.

The future belongs to cooperation
The transformation of engineering towards a cooperative future requires a new digital self-image. In concrete terms, we mean more openness in the exchange of digital models, and this going well beyond the development phase up to the subcontractors who are responsible for maintenance.

AUCOTEC satisfies this concept with EB. The engineering platform provides manufacturers, suppliers and plant operators with a common basis for action. They can freely define how closely everyone involved ultimately cooperates in the system. One key factor for success is the data discipline of project managers, while another is the issue of the intellectual property of parts or of the entirety of the cooperation project.

A new digital openness
Naturally, the operator of a plant has maximum interest in an as-built-maintained digital twin. The operator benefits not only during the investment phase, but also during ongoing operation, from a data model that is as fully consistent as possible with the real plant. In this respect, it is primarily the responsibility of the operators to express their digital needs to cooperation partners and contractors and to support them emphatically on the path to a new and more open data culture.

In this context also, AUCOTEC has completed the necessary transformation and supports customers and users not only as a software supplier, but also as the first contact in all engineering-relevant digitization issues.
We would be happy to intensify the discussion about your specific requirements beyond all software features also and would like to invite you to a personal meeting with AUCOTEC. This can be held digitally or directly, however and wherever you want!

EB Mobile View – maintenance in the browser

Project overview for all participants irrespective of operating system

As of this year, EB Mobile View is being made modern, mobile and browser-based for more efficient work in maintenance and service. The app for Engineering Base projects also supports the users of RUPLAN, AUCOPLAN and ELCAD towards the future of viewing.

Image: shutterstock.com/maxime99

EB Mobile View has a clear structure and is already on schedule in the starting blocks. In addition to a handful of other functions, the focus is on a simple search box which connects the user to all levels of the big wide world of data. In the initial development stage, users can work with imports from the AUCOTEC tools RUPLAN, AUCOPLAN and ELCAD as well as with files from the predecessor program AUCOTECview. "The established software from our company's early days still has a large user community. We will remain committed to it in the future," confirmed AUCOTEC's Product Manager Martin Imbusch.

Soon, EB Mobile View will also display models from Engineering Base (EB) and, in a further development stage, it will always be able to access the current status of the released data from EB. The tool will then unleash its full potential in the servicing and maintenance of plants whose operators manage their data with Engineering Base. Responsible engineers and technicians will then be able to browse, search and navigate directly in the released documents of a project using mobile devices. This is particularly important for operators of large plants.
In the third development stage, EB Mobile View will finally take over the functionalities of AUCOTEC's Maintenance App, which was first presented at ACHEMA in 2018. The add-on actively manages everyday maintenance and will guide technicians step by step through upcoming tasks. In addition, the application can communicate with EB and transfer, for example, change notices from EB Mobile View to the underlying data model. Whoever would like to call it laziness, we call it maximum efficiency!

Up-to-date usability with dexterity
As a browser-based application, EB Mobile View is independent of platforms such as Android or iOS and can basically run on any operating system. AUCOTEC's developers have worked intensively at a conceptual level on the up-to-date user interface and have completely abandoned conventional engineering interfaces. Instead, the user works in EB Mobile View on a touch-optimized interface whose clarity builds a successful bridge between complex database structures and the demand for minimalist app design.

Contract model for power users

Maximum options with token license

The demand for individual licensing models is growing in the area of engineering solutions. AUCOTEC anticipated the desire for more flexibility in good time. The Hanover-based IT specialist offers customized development options to its customers through flexible token licensing.

Image: AUCOTEC

> Thomas Salitz, Global Account Manager AUCOTEC AG

Token licensing demonstrates its strengths in particular to users who use software intensively and in a variety of scenarios. "The typical Tier 1 entrepreneur, who simultaneously manages several customers and projects at different stages, should take a closer look at our token licensing," said Thomas Salitz in inviting them to a meeting. Recently, the Head of the Munich-based AUCOTEC office agreed with R. STAHL AG, a globally recognized specialist in explosion and plant protection, on the flexible use of Engineering Base (EB) with the convenient token model.

The company's Head of IT, Thomas Merkel, is already looking forward to future scalability. According to him, the components of the platform EB will be able to be used flexibly in the future, depending on the project situation and team size. In addition, there could be a reduction in the company's capital that is tied up in licenses (see interview on page 3).

Responding to changes
"Plans and projects are developing," emphasized Salitz and added: "When the fundamental decision is made in favour of our Engineering Base, future tasks are far from always being foreseeable." If the customer subsequently determines that, for example, an interface to his enterprise solution would help him or another person should work on the platform, he can flexibly respond to his own changed requirements and to those of his customers.
A token license involves AUCOTEC customers purchasing an agreed number of digital coupons for a certain period of time. These tokens give them access to all available AUCOTEC solutions and modules during the term of the contract as long as the token pool has sufficient exchange units.

Token or classic purchase?
While not every user wants to put a software package on the shelf for life at a one-time fixed price, not every customer type benefits from the token model. As long as the projects remain straightforward and manageable, the classic software purchase plus maintenance contract is still a good solution. In any case, AUCOTEC's contacts will happily assist you in choosing the right contract.

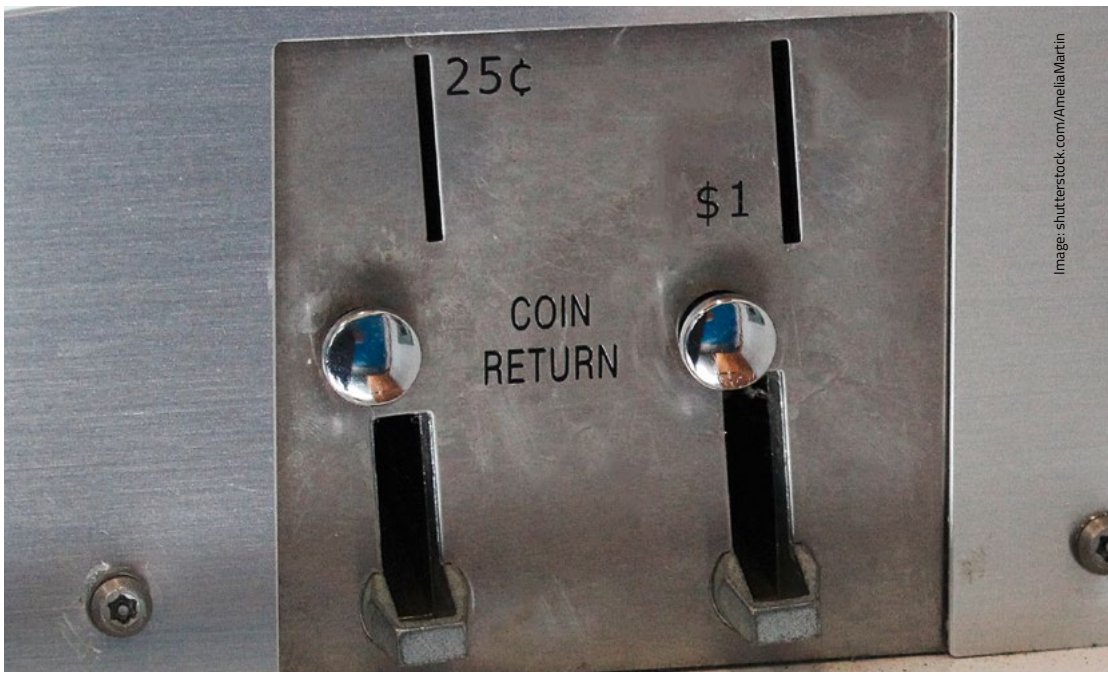


Image: shutterstock.com/AmeliaMartin

Image: shutterstock.com/Creativalmages

Indonesia – the great structural change

In the right place at the right time

Indonesia is a highly interesting and promising site on AUCOTEC's world map. The government is investing billions in the energy sector and infrastructure development. The country's challenges create promising opportunities for AUCOTEC.

Even before Olaf Streit assumed responsibility for the Asia Pacific sales sector a year ago, he was fascinated by the dynamic development of the island state. The 54-year-old is now in Jakarta at least once a month and is laying the groundwork for the platform Engineering Base (EB) together with AUCOTEC's local partner Adhinata Consulting. Indonesia's wealth of natural resources – most notably its immense natural gas resources – enables the government to pursue ambitious projects, such as moving the capital to a neighbouring island. The plans go hand in hand with massive investment in the construction, rail network and aviation sectors. The ambitious infrastructure measures require genuine Industry-4.0-compatible applications. For this reason, Streit regularly encounters eager listeners among his contacts in state-owned and private companies.

The future of water and energy supplies

From the point of view of AUCOTEC, the future of local utilities is just as interesting. In addition to the grid expansion for the supply of domestic and drinking water, the persons responsible are primarily concerned with water treatment. Around 400 companies are working nationwide on this pressing issue under the umbrella of a state association. Changes in the oil, gas and energy supply sectors are assuming even greater dimensions. By 2025, the country wants to have completed the construction of around 120 new power plants. At the same time, huge oil and gas storage facilities as well as production platforms and downstreaming plants are being built to enable Indonesia to tap its resources. The OPEC member country is still a net importer of crude oil. However, the country wants to have its own refineries and treatment plants to make it less dependent on imports. AUCOTEC has already been able to demonstrate to leading Oil & Gas Operators and EPCs within Indonesia the potential of more efficient engineering processes, and in 2020 many of them are already looking to improve efficiency in project and operational workflow. Forthcoming projects with Engineering Base are expected to start soon.

Exchange on a level playing field

"For all the technical challenges of the country, of course, there are also solution providers in Indonesia – we are not entering a greenfield site here," warned Olaf Streit. However, the Engineering Base idea of digital, always consistent and cloud-based plant twins for cross-disciplinary engineering also arouses genuine interest between China and Australia. Streit: "Technically well informed and cosmopolitan – that's how I've found my contacts in this country." With the right technology, AUCOTEC is in the right place at the right time to assist the country with the upcoming challenges.

AUCOTEC in Indonesia

Four years ago, Adrian Champion moved with his wife, Jasmine, from Aberdeen in Scotland to Jakarta. Both cities are connected by their proximity to the international oil and gas industry – an industry to which Champion has already devoted much of his career. The emigrant brought the idea for a cooperation with AUCOTEC to the Indonesian capital. He had discovered their platform Engineering Base shortly before that at a congress. Today, his company Adhinata Consulting is AUCOTEC's official local partner.

In terms of his new home, the 43-year-old appreciates above all the people, the variety of landscapes and the economic prospects in addition to the warm climate. In particular, the Indonesian Industry 4.0 roadmap and the country's numerous utility and infrastructure projects offer promising prospects. The demand for efficient Industry 4.0 technology such as AUCOTEC's Engineering Base is enormous in a country that wants to be one of the top 10 global economies by 2030 according to Champion.


› Adrian Champion

Acting globally, engineering individually

Engineering Base is replacing the existing engineering tools at R. STAHL worldwide and is becoming the uniform standard throughout the group


› Thomas Merkel, Head of IT at R. STAHL

Wherever explosive goods require a safe framework, the products of globally active R. STAHL AG, based in Waldenburg, Germany, are not far away. The technology company is committed to customized explosion protection and plant safety and will rely solely on AUCOTEC's Engineering Base (EB) in future for the development of new products and solutions. The reasons for this were explained in an interview by Thomas Merkel, Head of IT at R. STAHL.

R. STAHL's claim to competence in the engineering area entails various challenges in terms of IT. What are they?

As the degree of individualization, complexity and documentation requirements are increasing, the lot size is decreasing. In addition, customer requirements may change late in the production process. In terms of IT, we must thus keep the process as flexible as possible from offer to production; at the same time, it must remain automated and always provide the participants in sales, engineering and production with consistent and up-to-date data in real time.

Engineering Base now has a more prominent place in your company. Why?

Also due to the aforementioned increasing customer requirements, we need an integrative platform for the implementation of our digitization strategy, which extends into our ERP system and production and provides machines and production employees with real-time data from the engineering process. We are still using several engineering systems. We want to consolidate this solution environment by means of Engineering Base, and thus standardize our engineering processes for greater efficiency in our worldwide internal processes and in the processing of customer-specific issues.

The modern service-oriented architecture of the AUCOTEC platform ensures that we can provide the data to our employees and also our machines in production in the right form at any time. In addition, tools such as the Advanced Typical Manager or the Workflow Assistant help us to map our processes more efficiently, more transparently, and without tool changes.

What are the benefits of token licensing for your company?

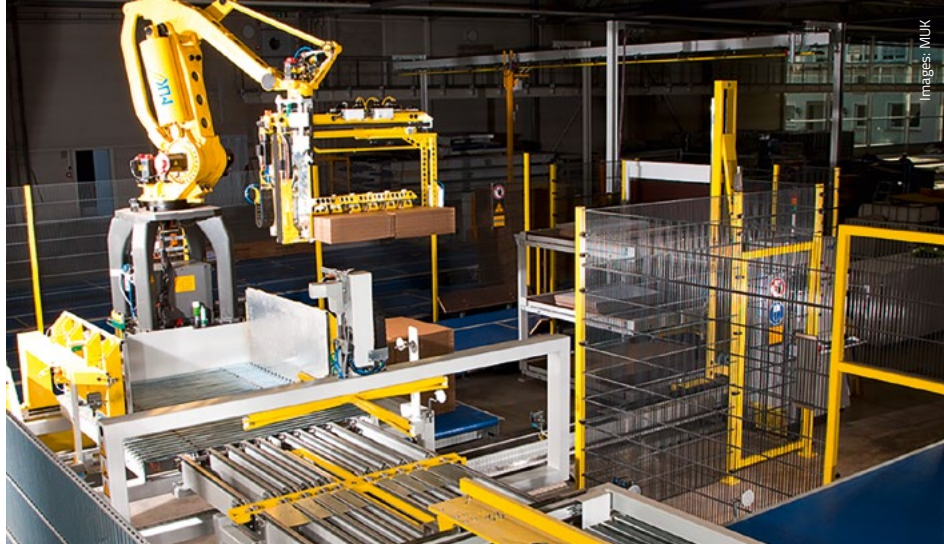
The token model offers us the option of using the components of the AUCOTEC platform flexibly and of scaling them accordingly, depending on the project situation and team size. In addition, we thus reduce the capital tied up in our licenses.

AUCOTEC and R. STAHL have been working together for about 20 years. What important engineering milestones has your company achieved with AUCOTEC during this time?

Twenty years ago, we used the AUCOTEC product ELCAD to support our engineering of electrical plants up to complete controls for potentially explosive atmospheres. This very good product is still in use today in some places, but has been gradually replaced by Engineering Base since 2012. The switch to EB was initially made in areas that engineer simpler products, but in large quantities. Now, we also want to develop complex products quickly and efficiently with EB. The decision was taken accordingly to use EB also in the other areas of R. STAHL from 2019. As part of the global rollout, we are integrating development and production even more closely and can draw on our experience from the previous conversion project.

Thank you very much for this interview, Mr Merkel!

For further information see R. STAHL, www.r-stahl.com.



Images: MUK

All-in-one system

Machine manufacturer MUK 30% faster thanks to Engineering Base

Maschinenbau und Konstruktion GmbH Elmshorn (MUK) designs and builds customized solutions for production automation. The handling systems and special robots are used wherever components and goods are transported and fed for processing, packaged, palletized or depalletized. Whether for aerospace, carpet manufacturing, the automotive or packaging industry, and especially if standard solutions are unsuitable, MUK supplies customized machines.

Always up-to-date

The innovative company, founded in 1980, has always recognized the signs of the times at an early stage and has known how to exploit modern technologies. The electrical design has been developed since 1987 with AUCOTEC's software system ELCAD, when CAD/CAE was still in its infancy. "We were really happy with the tool, it served us well for decades with its structured data exchange for I/O programming," said Peter Thießen, Head of Electrical Design at MUK. However, companies, machine complexity and time pressure had increased in the meantime. Thus, when Engineering Base (EB) was first presented to them, the MUK experts immediately recognized the potential of this database-driven platform as a future-oriented alternative.

"Over 30% faster"

"In addition to AUCOTEC's excellent support, which we knew, we were particularly impressed with the elimination of inconsistent data through EB's central data model to which all participants have access," said Thießen in relation to the decision-making of the mechanical engineers. According to him, the introduction of the new system has once again significantly simplified MUK's software environment and streamlined the project structures.

"We have reduced the project times by more than 30 percent with EB," said the Department Head, "all documents such as circuit diagrams, workshop and order documents as well as documentation derivatives are now in a single system." According to Thießen, purchasing has also become faster because the order lists are far more correct. In addition, the Documentation department gets everything it needs; the desired languages are more or less available at the press of a button.

30 years of faith

"At the same time as the significant acceleration, the data quality has improved significantly," stressed Peter Thießen. He has set his sights on linking engineering to MUK's ERP system as the next step. EB's openness and ability to integrate are just right for this purpose. "After 30 years of collaboration, we know each other well. We have great faith in AUCOTEC!" concluded the mechanical engineering professional.

Digital twin for cross-disciplinary integration

OXEA uses AUCOTEC's EB as its central life cycle system for its plants

Oxea GmbH, based in Monheim, is the world leader in the production of OXO products. They are required, for example, for the production of coatings, pharmaceuticals, lubricants, flavourings, colourings and plastics. In addition to the main plant in Oberhausen, the company has some 1,200 employees in production in Marl, Amsterdam, Nanjing and two US sites. OXEA has been part of the Oman Oil Company (OOC) since 2013.

Systematically consistent from simulation to maintenance

In order to ensure the consistency of plant and digital image, OXEA has decided to develop and operate its plants with AUCOTEC's cooperative Engineering Base (EB) platform from the first sketch to predictive maintenance. EB thus forms the basis of the digital twins over the entire life cycle of the plants. What was decisive for OXEA was that EB consistently brings together the diverse workflows, documents, data and changes of the various disciplines and suppliers. EB's bandwidth, from basic engineering including simulation support, detail engineering and operation & maintenance, reduces the diversity of tools at OXEA and thus duplicate work, manual data transfer and multiple storage.

"Our planners, the simulation specialists, prefabrication, assembly and ongoing operation will all have access to EB's digital plant twin in the future. Hard to maintain paper documentation is eliminated, as is the comparison of redundant data pots of different tools," Dr Oliver Bülters, head of the engineering department, explains a core of the versatile, always up-to-date, globally accessible plant model. In addition, the individual development steps of a plant, including testing and approval processes, can be easily traced.

Forward-looking digital

EB's integrative optimization of interdisciplinary workflows, its future-proof cloud technology and ease of use have convinced OXEA just as much as EB's understanding of standards such as Dexpi or NE 150: "For us, the keys to digitization are primarily the digital twin, plant modelling, predictive maintenance and fully integrated, networked systems and processes. EB will give solid support in all these matters," says Bülters. He also expects significantly reduced engineering and operating costs due to process and design optimization. AUCOTEC also presented the most convincing concept for data migration.

Open and flexible for expansion

Since EB proved to be very customizable and open to OXEA's system landscape during the evaluation, including the integration of SAP data, Oliver Bülters says the platform is of interest for the entire group.

Image: OXEA

> At Oxea in Monheim (Germany), all participants now access EB's digital plant twin

In addition, we are pleased to welcome the following new customers to the AUCOTEC family:

BOOKANG Tech,
Daejoen | South Korea

Petronik Automation GmbH
Bitburg | Germany

SB Digital Automation GmbH
Munich | Germany

Sikom Essra
Wilhelmsburg | Austria

Soditech SA
Cannes la Bocca | France

Zhejiang SUPCON Technology Co., Ltd.
Hangzhou | China

Wiesmann Sports Cars GmbH
Dülmen | Germany

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