

# DEUTZWORLD

THE CUSTOMER MAGAZINE OF DEUTZ-GROUP



EDITION

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## We ensure the world keeps moving



# WE ENSURE THE WORLD KEEPS MOVING

## WORKING TOGETHER FOR CARBON-NEUTRAL MOBILITY

DEUTZ manufactures drives that power vehicles and machinery around the world. That is our core business and our passion – and has been for 150 years. We are exceptionally strong when it comes to innovation, and this provides an excellent basis for change. Working with you, our customers, we want to facilitate the shift toward more sustainable drive technologies. Because together we can achieve so much more.

Our drives are already very clean, and they are efficient and powerful. Take the new TCD 3.9, for example, or our E-DEUTZ drives and the hydrogen engine. And not to forget infrastructure solutions such as the PowerTree and the H2 genset. Together with our partners, we demonstrated at the DEUTZ DAYS what our carbon-neutral product ecosystem will look like, for example on construction sites. Superior services included.

Join us on the path to a more sustainable future – and browse through the latest edition of our customer magazine. I hope you enjoy reading it.

Best wishes,



Sebastian C. Schulte  
CEO of DEUTZ



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“We feel that we have a duty to society to advance carbon-neutral mobility in off-highway applications. Together with our strategic partners, we are pursuing a range of different paths, including the ongoing development of our conventional engines. We are also working in parallel on alternative drives that will help our customers move toward more sustainable mobility,”

Dr. Sebastian C. Schulte, CEO of DEUTZ AG



# WE ENSURE THE WORLD KEEPS MOVING

HOW DOES DEUTZ DESIGN INNOVATIVE DRIVE TECHNOLOGIES? BOARD OF MANAGEMENT MEMBERS DR. SEBASTIAN C. SCHULTE AND DR. ING. MARKUS MÜLLER TELL US HOW.

**As we stand on the threshold of the post-fossil age, and with sustainability goals to meet, how is DEUTZ positioning itself in this new world?**

**Sebastian C. Schulte, CEO:** DEUTZ manufactures drives that power vehicles and machinery around the world – on construction sites, on roads, and in agriculture. That is our core business and our passion. Our engines are used in sectors that are still generating significant levels of carbon emissions. We see huge potential for change here, which is why we are working with our customers to make our product ecosystem carbon-neutral. Our aim is to achieve net zero by 2050 by producing sustainable engines, offering intelligent maintenance, and developing innovative solutions. We ensure the world keeps moving. We take our responsibility for future generations and the



➤ Dr.-Ing. Markus Müller, member of the Board of Management with responsibility for technology and sales

environment very seriously. That is important for the company, and for me personally as a father of three small children.

**How big a task is transforming mobility?**

**Sebastian C. Schulte:** It is a huge task. But we also see the transformation of mobility as a huge opportunity to join forces with our customers and bring about change. Some sectors have already reached a consensus on how to achieve net zero. In the automotive sector, for example, electrification appears to be the way forward. For engines like ours that move large loads and are in continuous use, a number of different technologies may be possible – or even a combination of them.



➤ Dr. Sebastian C. Schulte, CEO

**Which technologies is DEUTZ looking at in particular?**

**Markus Müller, member of the Board of Management with responsibility for technology and sales:**

We think it is still uncertain what a zero-emissions truck, excavator, or tug might look like. DEUTZ is strong on innovation and is pursuing a technology-neutral approach, and we have already achieved quite a lot. The addition of subsidiaries Torquedo and FUTAVIS has significantly expanded our E-DEUTZ product portfolio, and together we have brought products to market very quickly. A prime example is our PowerTree rapid charging system, which provides a reliable supply of electricity and enables the emission-free deployment of machinery anywhere and at any time.





### Is hydrogen really the silver bullet for the new era of mobility?

**Markus Müller:** Despite our technology-neutral approach, we believe that hydrogen combustion technology has huge potential as it enables a wide variety of zero-emission applications. Hydrogen combustion engines also have other advantages, because we can draw on existing expertise and technologies and use supply chains and production facilities that are already in place. The engines also excel in terms of their carbon footprint as they generate very few or even zero carbon emissions when they use blue or green hydrogen. And exhaust aftertreatment also prevents any significant nitrogen oxide emissions. A further plus point is that the engine is the same size as the equivalent diesel variant, making it easy to switch them over. Refueling times are also similar.

### Are any pilot projects already using the DEUTZ hydrogen engine?

**Markus Müller:** Yes, we are working on several pilot projects. The best-known one is our collaboration with RheinEnergie, a local utility company in Cologne. We also recently announced our participation in the HyCET project, in which we will be installing a hydrogen engine in an 18-tonne truck. And that's just the beginning. There are still challenges to overcome in terms of sourcing hydrogen and establishing the refueling infrastructure, but we have agreed new strategic alliances in this area too. It is vital that we focus on the entire ecosystem if we want to win customers over with our solutions.

### The DEUTZ TCG 7.8 H2 is an internal combustion engine. How do you see the future of this drive technology?

**Sebastian C. Schulte:** We need the internal combustion engine in order to keep the world moving, at least for the transition to the post-fossil era. But synthetic fuels can extend its usefulness far beyond that. It is important to us that we make the best and cleanest engines for our customer, and that we can offer them essential services such as maintenance and overhaul. To achieve this, we are working closely with OEMs and actively contributing to the consolidation of the industry. We are also further expanding our service offering.

**Markus Müller:** Our diesel engines are state-of-the-art and already very clean. All DEUTZ engines are EU Stage V certified. And we continue to invest in innovations such as the new TCD 3.9, which had its world premiere at the DEUTZ DAYS in October. All of our engines are certified for biofuels and/or hydrotreated vegetable oil (HVO). The simple switch to one of these fuels reduces carbon emissions immediately, and at a low cost. This is a sustainable approach that uses existing engines and infrastructure without the need for new investment.

### DEUTZ AG is a company with a long tradition and the world's oldest engine manufacturer. How can it make the shift to zero-carbon mobility a success?

**Sebastian C. Schulte:** Innovation has been one of our strengths ever since Nicolaus August Otto invented the

world's first four-stroke engine and our company was founded. This provides an excellent basis for change.

**Markus Müller:** I totally agree. DEUTZ is synonymous with innovative strength and an open approach to new technologies, and our engines point to the future. That was the case with our first four-stroke engine and is still the case with our hydrogen engine. We will be one of the first drive specialists to launch full production of hydrogen engines.

**Sebastian C. Schulte:** We are also aware that we cannot bring about this shift on our own, which is why we are relying on strategic alliances and partnerships within the ecosystem and leveraging our long-standing relationships with our customers and suppliers. We are confident that openness and the ability to consider a wide range of views can help us to progress. Our aim is to create value for our customers, fulfill our responsibilities as a corporate citizen, and achieve our net zero target. For our customers, we want to ensure that the world keeps moving.

THE FOLLOWING PAGES PROVIDE FURTHER INFORMATION ABOUT OUR CURRENT PARTNERSHIPS AND ABOUT INNOVATIVE DRIVES AND SOLUTIONS FROM DEUTZ.



# CLEAN AND GREEN

DEUTZ IS A PIONEER OF CARBON-NEUTRAL DRIVE SOLUTIONS. IT HAS THE RIGHT ENGINE FOR EVERY CUSTOMER AND EVERY APPLICATION, AND ALTERNATIVE DRIVE SOLUTIONS ARE A KEY PART OF ITS STRATEGY.

DEUTZ is pressing ahead with the development and manufacture of sustainable drive technologies for use on construction sites, in agriculture, and in transportation logistics. The leading innovator's alternative drive systems are helping its customers embark on a new era of carbon-neutral mobility. The guiding principle is that there is always an appropriate solution for every customer requirement.

## Growing demand for environmentally friendly products

Making its debut in November 2021, the CC 1485 was the first all-electric crawler crane from Japanese manufacturer Maeda to be equipped with an electric drive from DEUTZ. The crane is fitted with a 360-volt DEUTZ electric drive powered by a lithium-ion battery and has a load capacity of six tonnes thanks to an output of 40 kW. "Environmentally friendly construction sites are now a reality, not a distant dream. The CC 1485 is fully functional. What's more, our electric drive is quiet, efficient, and emission-free, even when used on a building site," says Dr. Ing. Markus Müller, member of the Board of Management of DEUTZ AG with responsibility for technology and sales.

Tomiaki Habasaki, Executive General Manager – Industrial Machinery Headquarters at Maeda: "Maeda has already entered the Europeanelectric vehicle market with its spider crane. We are seeing growing demand from our customers for environmentally friendly products. We decided to collaborate with DEUTZ, a company renowned for its innovative technology and experience with electrified drives for off-highway applications, on the development of our electric crawler crane." DEUTZ and Maeda showcased the vehicle at the bauma 2022 trade fair to a large audience of trade visitors. Full production of the DEUTZ electric drive is expected to begin in 2023.



> The Maeda CC 1485 uses a 360 volt engine from DEUTZ, which is powered by a lithium-ion battery.

"The green construction site is not a vision of the future – it is reality."

Dr.-Ing. Markus Müller,  
member of the Board of  
Management with responsibility  
for technology and sales





### Reducing emissions in the construction sector is a hot topic

“Power supply infrastructure is key when it comes to using alternative drive systems, which is why we have made it our mission to help our customers make the switch. The PowerTree from E-DEUTZ brings electricity to the vehicle. KTEG has joined us in taking a big step closer to carbon-neutral mobility,” says Dr. Ing. Markus Müller. KTEG, a manufacturer of specialist construction machinery, has great faith in the PowerTree. Following an initial pilot phase, the company has ordered more rapid charging stations from DEUTZ to supply their electric construction vehicles with energy on site.

Reducing emissions in the construction sector is a hot topic for our customers, which is why our portfolio includes both electric excavators and the PowerTree mobile rapid charging station. We aim to ensure that our electric machinery is ready for use throughout the day. It is equally important that it can be recharged in a short space of time. We are setting the benchmark, which benefits our customers,” says Harald Thum, CEO of KTEG GmbH.



### THE POWERTREE IS FLEXIBLE AND EASY TO USE



Installed in a robust 10-foot container, the PowerTree is easily transported to where it is needed. The mobile backup battery with a rapid charging point provides a charging capacity of up to 150 kW – enough to charge construction equipment and tractors during the operator's lunch break. Using it is straight-forward and does not require specific training. All data relating to the charging point and the charging process can be tracked on site using the PowerTree Connect digital app. It couldn't be easier.

Electric or Hybrid Power Application of the Year

**WINNER**  
2022  
**DPS**  
DIESEL PROGRESS SUMMIT  
AWARDS

### AWARD-WINNING!

The PowerTree was also a hit at this year's summit of off-highway experts in Chicago, where it won the Diesel Progress Summit Award in the category 'Electric or Hybrid Application of the Year'. The next generation of the PowerTree was presented at the DEUTZ DAYS.

[Click here to go directly to DEUTZ DAYS](#)



### Hydrogen engine from DEUTZ provides decentralized energy supply

In partnership with RheinEnergie AG, DEUTZ is trialing green electricity generation based on the TCG 7.8 H2. DEUTZ unveiled its first market-ready hydrogen engine in August 2021. It is carbon-neutral and very quiet and already produces 200 kW of power. The partners' flagship project got under way this summer when the first H2 genset went into operation at RheinEnergie's cogeneration plant in Cologne.



The combination of a DEUTZ hydrogen engine and a generator will deliver electric power of up to 170 kilovolt-amperes during the initial six-month test phase. This electricity will be fed directly into Cologne's power grid. In a second step, the waste heat from the genset will also be captured and used to supply heating. The solution being piloted by DEUTZ and RheinEnergie has huge potential for the local, carbon-neutral supply of energy in urban centers.



"We are a utility company for a major city and specialize in concepts for individual neighborhoods and districts," said Dr. Dieter Steinkamp, CEO of RheinEnergie at the time, during a press conference on June 20, 2022. "An engine like this can help provide electricity and heating locally. When combined with heat accumulators, heat pumps, solar installations, and electricity storage, this technology makes it possible to supply entire neighborhoods on a climate-neutral basis."

The joint pilot project marks an important step on DEUTZ's journey to volume production of the TCG 7.8 H2, which is scheduled to start in 2024. With an output of around 200 kilowatts, the hydrogen engine is suitable for all off-highway applications. "We are already seeing a lot of interest in our H2 engines from customers across all application areas," says Dr. Markus Müller.



› Together with RheinEnergie AG, DEUTZ is testing stationary emission-free power generation based on the TCG 7.8 H2.



## DEUTZ hydrogen engine powers 18 tonne truck

In September 2022, Germany's Federal Ministry for Digital and Transport approved the funding application for the HyCET (Hydrogen Combustion Engine Trucks) research project. HyCET aims to show how trucks powered by hydrogen combustion engines can make transportation logistics more sustainable. Installed in an 18-tonne truck, the DEUTZ hydrogen engine will show what it is capable of during a series of practical tests. DHL Freight, KEYOU, TotalEnergies Marketing Deutschland, and the Volvo Group are the other companies joining DEUTZ on the project, which is led by the BMW Group.

The research will focus on technology development and on the necessary infrastructure such as public hydrogen filling stations. Hydrogen is a promising energy source for transportation logistics thanks to its short refueling times, its ability to transport high payloads, its operational flexibility, and its ability to cover attractive ranges. And if green hydrogen is used, long-distance logistics can also become carbon-neutral.



> Bergmann dumper and TCD 2.9 and TCD 3.6 DEUTZ engines



> Putzmeister concrete pump

## Bergmann chooses DEUTZ

Starting in 2023, Bergmann Maschinenbau will use DEUTZ engines in two of its dumper models with payloads of six and nine tonnes respectively. The Meppen-based, family-owned business has signed an agreement to this effect with long-standing DEUTZ partner HENKELHAUSEN, who will also handle the delivery. Bergmann was won over by the engines and, above all, by the global service network: "As a manufacturer of premium products, we also expect high standards of reliability and quality from our suppliers. DEUTZ AG's extensive service organization was a key factor in our decision," says Dirk Fasthoff, Head of Vehicle Manufacturing at Bergmann.

## E-DEUTZ powers PUTZMEISTER

At this year's bauma, DEUTZ presented the first battery-powered concrete pumps made by its partner PUTZMEISTER. The PUTZMEISTER BSA 1005 iONTRON uses a 360-volt drive from E-DEUTZ instead of the usual 2.2 liter DEUTZ diesel engine. The electric drive system has a continuous power output of 40 kW and peak power of 80 kW, generated by two lithium-ion batteries. This allows the pump to work for up to eight hours. The iONTRON concrete pump can also be powered via a charging cable and thus operated longer. PUTZMEISTER plans to start full production in 2023.

# THE FUTURE IS HERE

THIS YEAR'S DEUTZ DAYS GAVE VISITORS THE CHANCE TO EXPERIENCE INNOVATIVE STRATEGIES AND SOLUTIONS FOR DRIVE SYSTEMS HANDS-ON.



> Dr.-Ing. Markus Müller (l.) and CEO Dr. Sebastian C. Schulte (r.) with hosts Ana-Maria Montero and Stefan Lendi

Under the banner 'We ensure the world keeps moving', visitors to the two-day event were able to learn more about the latest drive technologies. DEUTZ showcased sustainable solutions for off-highway applications during the event at the COREUM on October 21 and 22. The manufacturer offers its customers tailored strategies and solutions – powered by electricity, hydrogen, or conventional fuel – for a zero-emission future. Visitors to the COREUM in Stockstadt were invited to experience and test DEUTZ drives in a wide range of applications. Experts from DEUTZ were on hand to answer questions about its extensive portfolio of hardware, software, telematics, and digital service solutions, which are made available via the S-DEUTZ service portal.

The sustainable world of DEUTZ took center stage, with the engine manufacturer dedicating over 2,000 square meters of indoor space to it at the COREUM. There was ample opportunity for networking and plenty to see at the DEUTZ DAYS, including the unveiling of the TCD 3.9 engine, a prototype of the all-electric JLG G518 A telehandler, and the next generation of the PowerTree. Below is an overview of the highlights.



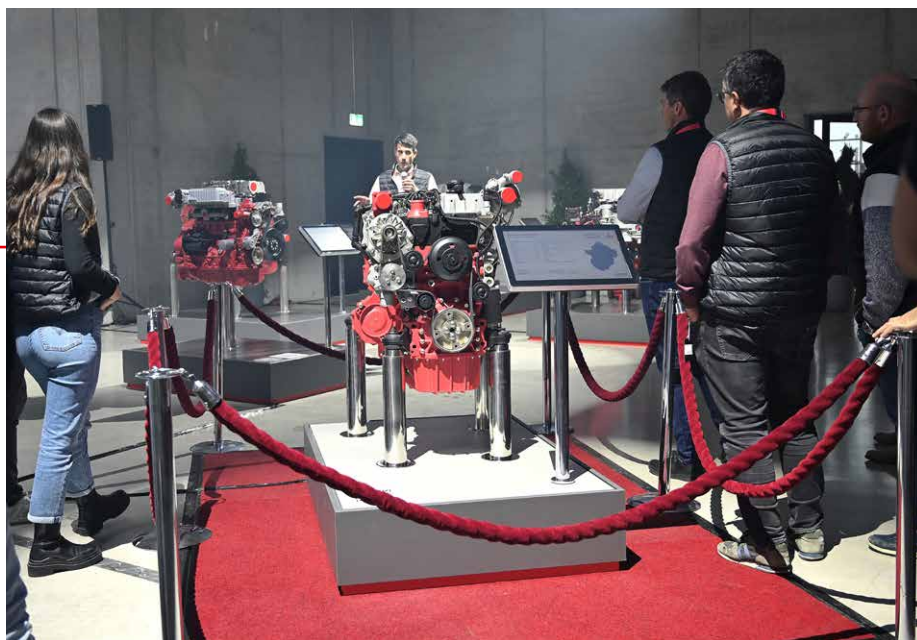
> Click to get more information about the highlights of the DEUTZ DAYS.



### World premiere of the TCD 3.9

The engine in the sub-4 liter category, a joint development with John Deere Power Systems, had its world premiere at the DEUTZ DAYS. Visitors to the COREUM were able to watch the engine, which is available with an output of up to 130 kW, showcase its reliability, versatility, and power. It is particularly suited to industrial applications and, thanks to its cutting-edge drive architecture, can be made available in variants fueled by lower-emission alternatives such as gas and hydrogen.

➤ TCD 3.9 world premiere



➤ The latest PowerTree with more battery capacity

### Next-generation PowerTree

DEUTZ wants to make the move to becoming carbon-neutral as simple, safe, and cost-efficient as possible for customers. The power supply infrastructure is part of this: "The PowerTree charging system is one element of our comprehensive approach to electrification in areas such as on-road applications, construction sites, material handling, and ground support equipment," says Dr. Ing. Markus Müller, member of the Board of Management of DEUTZ AG with responsibility for technology and sales. The next generation of the PowerTree was presented at the trade event, highlighting attractive features for DEUTZ customers. Thanks to its improved design, the 10-foot container is easier to transport. It is now also possible to scale the battery capacity, allowing for optimum adaptation to the customer's technical and commercial requirements.



➤ Click here to watch the PowerTree video.





> H2 genset demonstration model: a joint venture between DEUTZ, AVS, and Voith

### H2 genset delivers green electricity

DEUTZ proudly presents new ways of generating electricity locally with gensets. As part of its hydrogen strategy, DEUTZ joined forces with AVS and the Voith Group to build a mobile hydrogen-powered generator, which it unveiled at the DEUTZ DAYS. Built by AVS, the genset combines a TCG 7.8 H2 hydrogen engine from DEUTZ with a generator to produce electricity. The internal hydrogen gas tank from Voith is rated for pressures up to 700 bar and meets the highest safety standards. Müller: "The hydrogen genset is a mobile electricity generator that is ideal for locations without access to mains power, such as construction sites. It generates power for electrical applications quietly and efficiently; and if green hydrogen is used, it is carbon-neutral."



> Click here to watch the genset video.

### Electric drive for telehandler

The G5-18 A telehandler, JLG's first all-electric telehandler powered by a DEUTZ e-drive, was also on show. The telehandler is fitted with a 400-volt DEUTZ electric drive powered by a lithium-ion battery. With an output of two times 40 kW, this zero-emission vehicle has a load capacity of up to 3.5 tonnes and is ideally suited to construction and agricultural applications. "The G5-18 A telehandler prototype is already fully functional. The zero-carbon vehicle powered by an E-DEUTZ drive can work for up to five hours on a full charge and is ready to deploy again after charging during the operator's lunch break," says Müller.



> JLG G5-18 A Telehandler

> A 360-volt drive system, or even better, a 400-volt system like the one used in the JLG







➤ Marco Braun, BOMAG Commodity Manager Global Services & Solutions Sourcing (left), and Matthias Trapp, Head of Spare Parts MRP Department (right), presenting the BOMAG Supplier Award to Cüneyt Tunc, Service Sales Manager at DEUTZ AG (second on the left).

## AWARDED

Customer focus is at the heart of DEUTZ's service operation. And now, in recognition of the speed and efficiency of its service offerings, the Company has won the BOMAG Supplier Award in the Services & Solutions category. Presented by BOMAG, the global market leader in compaction technology, the award recognizes outstanding supplier performance. DEUTZ won plaudits for the speed of its service delivery, its good product availability, the attractive pricing of its spare parts, and its digital DEUTZ Lifecycle Solutions platform, which has been

designed to make managing replacement engines easier. A close partnership based on trust is key to a successful supplier relationship. Here, too, DEUTZ won further praise for the personal, fast, and highly motivated approach of its service employees. "As a team, we continually strive to enhance our services. We are delivering our services more quickly and efficiently, and in a more digitally integrated manner for our business partners and customers. To the benefit of everyone," says Flavio Moreira Leal, Director of Sales & Service EMEA at DEUTZ.

## A MORE LOCAL SERVICE

DEUTZ is strengthening its service network and consolidating its position as an international full-service provider with the acquisition of its former service partners AUSMA Motorenrevisie B.V. in the Netherlands and South Coast Diesels in Ireland. The two companies sell and service diesel engines in their home markets, where they operate as multi-brand dealers.

In order to provide the perfect service experience, DEUTZ is moving into regional markets to ensure close, direct contact with customers. The engine manufacturer offers its customers a comprehensive range of local services through an extensive network of more than 800 sales and service partners in over 130 countries.





# DIGITAL SERVICE EXCELLENCE

## HOW DIGITAL TOOLS ARE RAISING SERVICE STANDARDS

Over the past year, DEUTZ has restructured its service offering under the banner “S-DEUTZ – Service. Simply Smart.” The focus is on simple, smart, and – above all – digital solutions that make day-to-day business much easier while saving time and money. A lot has happened at DEUTZ with regard to Digital Service Excellence. New IT systems are in place, processes have been updated, and links with customers and service partners have been strengthened. Andreas Schmidt, Head of Central Sales & Service, provides an interesting insight.

### Mr. Schmidt, what role does digitalization play in the DEUTZ service offering?

Digital tools and processes are indispensable for us too, of course, as they allow us to manage the scope and complexity of our business much more efficiently. For a number of years, our relationships with customers and service partners have increasingly been maintained via digital ordering and information systems. And we have further stepped up this form of collaboration over the last two years. We believe that the key to successfully adding value through digitalization is to ensure that all parties involved in the value chain are seamlessly connected.



➤ Andreas Schmidt, Senior Vice President Central Sales & Service, DEUTZ AG





That includes our customers, our service partners, and us as a manufacturer. Digital networking across company borders allows processes to be improved and creates the conditions for the development of new products and services.

### What does that look like in practice?

Our new advanced service tool is a prime example of an innovative and, above all, custom-made method of

providing information. Using a digital 3D model of our engine, service technicians can select the components they need and view detailed service information, from simple maintenance to complex repair procedures. A sophisticated menu ensures that each user is provided with information tailored to their specific needs: Beginners are given step-by-step instructions, while old pros are given only the most important specialist information. Making all relevant information available reliably and quickly saves time and improves the quality of service.

### That sounds promising. And how are customers integrated into this process?

The link for us is the digital engine history, which is integrated into all of our internal and customer-side service tools. It collates all service-related information centrally and makes it available to the various front-end systems as required, enabling us to see which service measures were carried out on an engine, and when. This helps us identify and resolve problems sooner, saving the customer time and money. It is essential for this kind of networked relationship that all parties have access to this base data. Every customer who registers their engine via our service portal can see and add to their engine's digital history. This also allows us to implement additional smart functions such as proactive maintenance alerts, and to offer our customers suitable maintenance kits and aftersales services at the right time, for example.

### What developments do you foresee for the future?

In some ways, the future is already here. With the launch of our telematics solution last year, for example, we have entered the era of wireless, real-time engine condition monitoring. DEUTZ Telematics is a competitive package of hardware, software, and related services that digitalizes the process chain in the aftersales business to as great an extent as possible. In the event of a technical fault, our engines automatically send a service message. Our networked systems provide related solutions and the option to order the necessary spare parts. If preferred, our service partner can manage monitoring, inspection, and repair on behalf of the customer. We believe that linking up all participants in the value chain offers huge potential, and we are working extremely hard to implement standardized interfaces to our customers' systems and those of platform providers. This way, we can continue to offer "Service. Simply Smart".

➤ Using the S-DEUTZ service portal is straightforward. Any user can create an account and register their engine online in just a few clicks. **Click here and take a look right now:**



# OUTSTANDING SERVICE ON SITE

DEUTZ IS FORGING EVEN CLOSER LINKS WITH ITS GERMAN CUSTOMER BASE WITH THE LAUNCH OF SALES AND SERVICE COMPANY DEUTZ DEUTSCHLAND GMBH.

The company was founded in January 2022 after a lengthy planning period. Everything moved very quickly once the green light was given, with DEUTZ Deutschland GmbH commencing business soon after in April. Working closely with our existing service network of 16 German dealerships, a strongly committed team based in Stockstadt am Rhein (near Frankfurt) now supports customers and dealers in our home market in Germany. The team's task is to provide excellent local service through state-of-the-art equipment, comprehensive technical expertise, and close proximity to the customer. Managing Director Flavio Moreira Leal and Commercial Manager Thomas Schlütz explain the background and the challenges.

## What is the idea behind DEUTZ Deutschland GmbH?

**Flavio Moreira Leal:** Our dealer network in Germany is one of the most comprehensive and most technically skilled in DEUTZ's global service network. Nevertheless, we have always been aware that there is room to improve our services and increase our aftersales business in our home market. The logical outcome is DEUTZ Deutschland. It allows us to strengthen the relationship with our customers by providing them with support directly, in close cooperation with our local dealers. This stronger market focus opens up new opportunities in terms of customer support, dealer management, and dealer development, leading to greater customer satisfaction and market share.



➤ Flavio Moreira Leal (r.) and Thomas Schlütz (l.) are aiming to further enhance the service offering in the German market.





### What are the benefits for DEUTZ customers and partners?

**Thomas Schlütz:** A key benefit, especially for customers who operate across regions, is the centralized support from a single source, as it offers more direct communication channels, faster response times, and the best possible service at all locations. We also aim to improve ourselves through closer, more comprehensive coordination with our service partners. This will enable us to better understand the requirements of our dealers and meet their needs more rapidly, and it will actively highlight areas for improvement and opportunities to implement appropriate measures. We firmly believe that this will allow us to further refine our overall service offering in Germany.

### What are the next steps for DEUTZ Deutschland?

**Flavio Moreira Leal:** We have already taken the first and most important steps. The launch has been a success and we have already made a profit in the first half of the year, a fact that we are very proud of. But now the real work begins. We have set clear growth targets for the years ahead, and we will need to further optimize our procedures and expand our team in order to meet them. We already employ a team of highly qualified service technicians and are continuing to hire. Within the DEUTZ organization, we will also play a pioneering role when it comes to digitalization, for example, in terms of implementing powerful internal tools and in relation to company-wide systems such as our telematics solution. We believe that equipment monitoring and the digital management of service processes, such as automated service alerts in the event of faults, represent a golden opportunity to significantly increase efficiency for all parties involved in our day-to-day business. There is a lot to do, and we look forward to working with our service partners to further expand the DEUTZ service offering in Germany for the benefit of our customers.

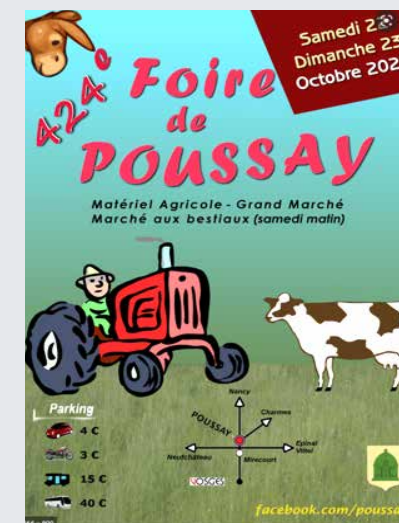


➤ Click for more information and direct contact to DEUTZ Deutschland GmbH can be found on the website or via the LinkedIn link.



## DEUTZ FRANCE

Every October, agriculture takes center stage in the Vosges Mountains as 1,000 exhibitors from across the globe welcome around 180,000 visitors to the Foire de Poussay trade fair. DEUTZ France's service team was also there with a stand, showcasing the S-DEUTZ brand and the recently opened Service Center East. Interest among trade visitors was high, proving that good service is all about proximity to the customer.



# NEWLY POSITIONED

DEUTZ CORPORATION HAS A NEW CEO  
AND CONTINUES TO EXPAND ITS PRESENCE  
AND SERVICE OFFERING.



> Has worked and lived in North America and in Europe, and has run businesses in Asia and South America: David Evans, President and CEO, DEUTZ Corporation

Passing the baton in the USA: David Evans has been President and CEO of DEUTZ Corporation since April of this year. He replaces Robert T. Mann, who retired after sixteen years in this position. Evans is responsible for DEUTZ activities in North and South America: The production facility in Pendergrass, Georgia, DEUTZ Xchange remanufactured engines, and DEUTZ Power Centers and Service Centers. David Evans has many years of experience in managing international industrial companies.

## **Mr. Evans, what are your customer's needs?**

Customers in the Americas need an advanced drive systems provider they can count on, offering an extensive power range that's robust enough to meet their needs and efficient enough to provide the needed total cost of ownership. Since our customers put their DEUTZ powered equipment to the test every day, they also require a highly trained, fully stocked, and extensive support network that's there to keep their equipment up and running. We at DEUTZ Corporation meet that need by providing the best products in the industry coupled with our very high parts fill ratios, online support, and hands-on technical service training to our entire network.

## **How does Xchange help meet those needs?**

DEUTZ Xchange engines are built to same quality standards and identical specification as the original engine. We allow a customer to keep his machine running for many more years without risk of further failures. We are so confident in our engines that we offer the same warranty as a new engine, three years limited from date into service. Without the Xchange engine option many customers would be scrapping their machine because the latest Tier 4 engines will not fit in these older machines. We make this whole process as simple as possible, leading to minimal downtime, which is the most critical factor. The customer needs his machine up and running to avoid lost revenues. DEUTZ Xchange is a very important part of our service business, offering many benefits to the customers and environment.

## **The DPCs have been restructured. Will there be new locations soon?**

We began the DPC concept back in 2014 with the goal to improve our service support in this region. The DPCs have been very well accepted by DEUTZ customers since our team members are 100% dedicated to providing DEUTZ support and a response time that is second to none. We'll continue to add future DEUTZ Power Center locations where and when it makes strategic sense for serving DEUTZ customers.



# CLOSER TO THE CUSTOMER

Aligning service completely with customer needs is the maxim of DEUTZ Power Centers (DPC). The engine manufacturer has reorganized its DPCs in the USA in order to further expand its extensive range of products and services. Since August, the nine DPCs have been transitioned to “East” and “West” regions. With Dominick “Nick” Vermet, Vice President DEUTZ Power Center Operations, also retiring in December 2022, another change is imminent. Vermet is passing to his successors Will Hicks (East Region) and Ben Sanders (West Region). What remains is a passion for outstanding service – and the common goal of exceeding customer expectations.



➤ DEUTZ Power Center South Florida



➤ Want to continue to exceed their customers' expectations: Will Hicks, Managing Director DPC Region East, Nick Vermet, Vice President DPC Operations, Ben Sanders, Managing Director DPC Region West, of DEUTZ Corporation (from left).



# LOOKING TO THE FUTURE

DEUTZ SPAIN HAS OPENED A NEW ENGINE TEST RIG IN MADRID, PROMISING CUSTOMERS EVEN GREATER QUALITY AND RELIABILITY. IN ZAFRA, THE SWITCH TO GREEN ELECTRICITY IS IN FULL SWING.

Flexible, sustainable, and reliable. Repaired or maintained DEUTZ engines have to prove their worth on the new test rig at the service center in Madrid. The team in Spain runs comprehensive checks on engines, including functional tests, durability tests, exhaust aftertreatment, and particulate filter tests. The test rig can simulate a wide range of conditions under which an engine might work, ensuring that the DEUTZ drives meet all applicable norms

and specification, as well as the company's high quality standards. Along the way, DEUTZ is continually improving engine performance and reliability. "An engine that has been on our test rig meets the highest quality standards, which is why we are happy to give our customers a Lifetime Parts Warranty," says José Manuel Romero, Head of the DEUTZ Service Center in Madrid.



> The entire inspection procedure is managed from the control room, where DEUTZ also runs training courses for technicians.



> Marcos Baz Arribas, a technician in DEUTZ SPAIN's aftersales department, and José Manuel Romero, Head of the DEUTZ Global Service Center in Madrid, next to the easily transportable engine test rig (from left).

## 20%

OF THE ELECTRICITY DEMAND OF  
THE EARLY SHIFT IS COVERED



### HARNESSING THE SUN'S POWER



Since September 2022, solar panels on the roof of the employee parking lot have been generating electricity at the site in sunny Spain. They currently supply around 20 percent of the energy requirements of the morning shift at the production and assembly plant. From 2023 onwards, further panels will generate enough green electricity to also cover production, the Global Service Center, and the DEUTZ Business School. DEUTZ SPAIN hopes to meet the entire electricity requirements of the Zafra site with renewable energies by 2025.





› The engine test rig at the Global Service Center in Madrid offers the highest quality and warranty standards.

### Maximum transparency and quality

DEUTZ customers can watch the tests from the control room. Flexible and straightforward operation were the main focus while planning the test rig, which is installed in a 20-foot container and can be transported anywhere at any time. The control room is located in a second module that is connected to the test rig via a window. From here, the team can manage the entire inspection procedure, with a standard engine test usually lasting between one and two hours.

The new test rig allows DEUTZ to check that its engines are running reliably, thus increasing their lifecycle. DEUTZ also inspects other manufacturers' engines on the test rig and subjects them to extensive tests. "We want to be more than a leading engine manufacturer; we also want to be the leading experts in engine refurbishment," says Romero. What counts for the customers is that they receive a tested engine that meets the most stringent DEUTZ quality standards.



DEUTZ IS PURSUING GROWTH AND  
INNOVATION AROUND THE WORLD.  
EXPANSION OF THE TEAM IN SLOVENIA  
BRINGS BENEFITS FOR CUSTOMERS.

› Janez Zadavec has been the  
Head of DEUTZ Engineering in  
Maribor, Slovenia, for 25 years.

DEUTZ Engineering is growing. The expansion of the local team also increases the expertise and skills available to DEUTZ customers. The team in Slovenia started out as a DEUTZ service provider for design 25 years ago. Today, the range of services covers everything from the design of individual parts to the development of complex components and modules.

Janez Zadavec, CEO of DEUTZ Engineering, is widening the range of engineering expertise in Maribor across many areas, including computer-aided design, mechanical simulation, software development, and thermodynamics. And DEUTZ's customers around the world are reaping the rewards.



➤ Jens Heinsohn, Markus Meyer and Dr. Michael Röbel from the DEUTZ Team Services and Test Methods (from left)

## TOP PERFORMANCE: ANYWHERE, ANYTIME

DEUTZ ENGINES MOVE MACHINES, PEOPLE, AND GOODS. BUT FIRST, THEY HAVE TO UNDERGO – AND PASS – NUMEROUS TESTS. RIGOROUS QUALITY CHECKS FOR RIGOROUS CUSTOMER DEMANDS.

They run and run and run. DEUTZ engines have to give everything they've got to prove themselves on the test rigs. And since mid-2022, they also have to do so under extreme conditions. After all, DEUTZ drives are used by customers all over the world – in extreme temperatures, high humidity, and at altitudes of up to 4,500 meters above sea level. The Company's new test chamber exposes the engines to a range of environmental conditions, ensuring that they are able to operate reliably in all regions while also complying with the applicable emissions standards. The chamber is designed for all engine

series in the small to mid-sized range, with the R&D testing team measuring not only pressure, temperature, and fuel consumption, but also gaseous emissions and particulates – resulting in optimum performance for the customer no matter what engine they use.

### Clear commitment to the hydrogen strategy

The test rig stage plays an important role in engine development, whether for thermodynamic performance, exhaust gas aftertreatment, mechanics, or continuous operation. DEUTZ operates more than 50 test rigs in

Cologne alone. Its engineers use them to develop and validate the Company's engines to ensure that nothing goes into production without first proving its ability to deliver optimum performance. They are assisted by the team led by Dr. Michael Röbel, Head of Technical Services and Test Methodology at DEUTZ, which is setting up the new testing facilities. DEUTZ has now converted three test rigs into hydrogen test benches, thus sending a clear signal about its future direction. "The new test rigs are a clear commitment to our hydrogen strategy and to the TCG 7.8 H2 engine," says Röbel. "We are now putting this engine through its paces, so that by 2024 we will be providing our customers with an efficient, sustainable, and reliable hydrogen drive."

DEUTZ unveiled its first market-ready hydrogen engine in August 2021. The TCG 7.8 H2 represents a further addition to the Company's portfolio of low and zero-emission drives, and another milestone on the path toward a future of carbon-neutral offhighway vehicles.



➤ At a glance: A DEUTZ employee at the test bench



# SMARTER ENGINES FOR A SMARTER WORLD

ENGINES DON'T NEED ARTIFICIAL INTELLIGENCE TO RUN, OF COURSE. BUT THEY WILL WORK MUCH MORE EFFICIENTLY IF THEY HAVE SOME HELP, IN THIS CASE FROM INTELLIGENT SOFTWARE. AND DEUTZ'S CUSTOMERS ARE NOW REAPING THE REWARDS.

DEUTZ is synonymous with clean, efficient, and reliable engines. Intelligent software, incorporating artificial intelligence, is one of the ways that the Company's Research & Development (R&D) team ensures optimum control and coordination of combustion and exhaust gas aftertreatment. This software has been included as standard in all engines since 2018. DEUTZ also uses it to speed up product development. The software's modelling functions, for example, help DEUTZ comply with emission standards legislation and keep up with the growing number of metrics required by all customers for their control and measurement needs – including in the exhaust flap, the electric wastegate, the throttle valve, and in fuel and urea injection. A fringe benefit is that the intelligent software performs all kinds of control, diagnostic, and optimization tasks. This



“Using the intelligent software, we can predict, for example, when the threshold for soot in the particulate filter will have been reached. Internal mechanisms are then engaged to raise the engine's temperature so the particles are oxidized, i.e. burnt off.”

Volker Smits, software developer  
in the R&D team, DEUTZ AG

➤ Volker Smits and Markus Spiegel, software developers in the R&D team in Cologne, make DEUTZ engines even better with intelligent software.

means, for example, that temperatures, pressures, and emissions can be calculated precisely, at any time, and at any location within the drive and exhaust aftertreatment system. As the engine's ever-reliable helper, the software provides support even in the most demanding off-highway applications - including in extreme cold and in the tropics, at 30°C and over 95 percent humidity. These are times when the AI's modelling function really comes into its own.

## Longer service life

The advantages don't end there, though. In exhaust gas aftertreatment, the software minimizes the frequency of

the active regeneration phases for the diesel particulate filter: “Using the intelligent software, we can predict, for example, when the threshold for soot in the particulate filter will have been reached. Internal mechanisms are then engaged to raise the engine's temperature so the particles are oxidized, i.e. burnt off,” explains Volker Smits, who works as a software developer for engines in the Cologne R&D team. He knows that the use of AI and machine learning in drive technology makes DEUTZ engines robust, durable, and more sustainable. To the benefit of DEUTZ customers around the world.

# CLEAN, RELIABLE, AND EASY-TO-USE

TORQUEEDO IS A PIONEER IN SUSTAINABLE MARINE DRIVES. THE DEUTZ SUBSIDIARY HAS ONCE AGAIN RECEIVED THE WORK BOAT WORLD AWARD IN RECOGNITION OF THE QUALITY AND DURABILITY OF ITS PRODUCTS.

The market for commercial marine equipment is unforgiving. Marine drive systems for commercial applications must be of a very high quality and be able to withstand continual use. Torqeedo drives consistently go above and beyond these requirements. It's not for nothing that the DEUTZ subsidiary has been named best supplier of electric boat drives at the Work Boat World Awards for the second year in a row. There are lots of advantages to using electric motors, particularly in the marine market. Electrification means less maintenance, for example, and it also reduces noise and emissions. Electric boat drives are also safer and more conducive to the health and wellbeing of both passengers and crew.

## In use around the world

Torqeedo's emission-free drives are already in use all over the world, exhibiting their tremendous versatility in applications ranging from Bangkok passenger ferries and sea cleaners tackling ocean plastic to pusher boats used in dredging. Ports and marinas see a reduction in their fuel and maintenance costs when they switch to electric workboats. Boat rental and eco-tourism businesses are also reaping the rewards of employing Torqeedo solutions for their fleets.

"Even lifeboats, rescue craft, and wind farm support vessels are being converted to battery-electric or hybrid systems. Light commercial fleets are leading the way toward a more sustainable blue economy," says Fabian Bez, CEO of Torqeedo.

Torqeedo offers its customers electric and hybrid drive systems with a power output of 0.5 to 200 kilowatts. Batteries, chargers, throttle valves, controls, and displays are all included; and thanks to the company's global service network, everything is available from a single source.



➤ Delighted about the award: Fabian Bez, CEO of Torqeedo





# A STEP TOWARD CLEANER ENERGY

DEUTZ IS REDUCING ITS ENERGY CONSUMPTION AND SWITCHING TO POWER GENERATION USING RENEWABLES: THE SUBSIDIARY MAGIDEUTZ IS GENERATING SOLAR AND WIND POWER IN MOROCCO.

With hours and hours of sunshine, the Magideutz site near Casablanca provides the ideal conditions for generating green electricity for the company's own use. The plant has invested in solar power and battery modules, partly drawing on E-DEUTZ products, of course. From 2023,

DEUTZ aims to generate all of the electricity itself that is required by its local production and administration unit in Morocco. The heating and air conditioning systems at the DEUTZ subsidiary are also set to run solely on green electricity. This is the

next logical step for the pioneer of zero-carbon drives and will allow it to reduce its carbon emissions in North Africa by 50 tonnes a year.

## Show what is possible

Sapino is the main production facility for high-performance DEUTZ gensets, which play a key role in the African market as off-grid sources of energy. "Switching our production to green electricity allows us to show our customers what is possible. We are also making our gensets more sustainable and are already producing hybrid gensets for Africa's sunniest regions," says Abderrazzak Askaoui, CEO of Magideutz. The demand is there. In addition to diesel engines, the team in Sapino is increasingly installing batteries – powered by solar panels and controlled via battery management systems – into the gensets. Power generation is now even more sustainable while offering considerable fuel savings. This is a major step toward cleaner energy.



# 100%

## GREEN ELECTRICITY



DEUTZ is increasingly improving its environmental footprint. All German sites have been powered exclusively by green electricity since January 1, 2021.

➤ Self-sufficient power supply from 2023: Magideutz

# LOGISTICS IS GOING GREEN

LESS IS MORE: HOW THE TEAM AT THE SERVICE LOGISTICS CENTER IN COLOGNE IS MAKING TRANSPORT AND PACKAGING MORE SUSTAINABLE.

DEUTZ is committed to sustainability. Not only is the Company continually making its engines cleaner, it is also reducing transport and the amount of packaging used for its engines and parts. Michael Schlesinger, head of the service logistics center in Cologne-Kalk: "We were able to reduce the amount of packaging material used by 25 percent in 2021, which helps to keep weight down during transport and reduces emissions. Green logistics also helps to lower costs."

The DEUTZ logistics team had previously looked into making incoming and outgoing goods more sustainable. For around 185 of the 550 parts reviewed, DEUTZ now either does without secondary packaging altogether or ensures it is more eco-friendly and more efficient. Depending on the customer, DEUTZ now packs and ships toggle switches in bundles rather than as single shrink-wrapped items, for example, and transports them in reusable boxes. Where possible, flywheels and crankshafts are no longer shipped in wooden crates, as these are too complicated to open and can only be used once. This is good for the environment and for the bottom line.



> The team at the service logistics center in Cologne-Kalk: Mario Jakubowski, Sonja Frenzel, Christian Damm, Michael Schlesinger, and Rafael Obsto (from left)

**25%**  
REDUCTION OF PACKAGING  
MATERIAL IN 2021

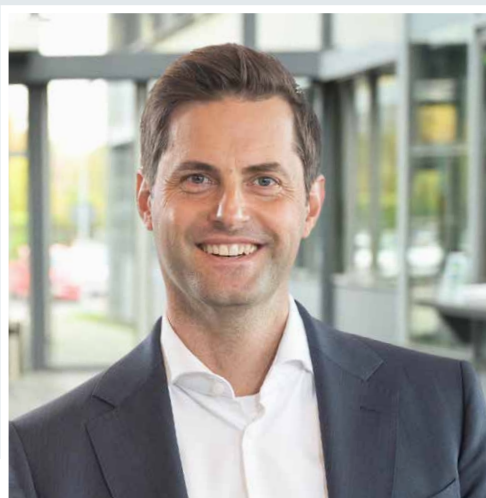


# A STRONG TEAM FOR DEUTZ

The shared objective of the members of the DEUTZ Board of Management is to successfully lead the Company into a carbon-neutral future. Alongside Chief Executive Officer Dr. Sebastian C. Schulte and Dr. Ing. Markus Müller, the Board of Management member with responsibility for technology and sales, the four-person team also includes Dr. Ing. Petra Mayer, who took charge of production and purchasing in November, and Timo Krutoff, who will become Chief Financial Officer and Labor Director in December.



**Dr. Petra Mayer** is contributing her strengths to the DEUTZ Board of Management as Chief Operating Officer (COO). After gaining a doctorate in process technology, Mayer began her engineering career at start-up Lundin Filter. In 2000, she switched to the automotive industry. Before joining DEUTZ, she was the Senior Vice President responsible for the Seat Belt Systems product line at ZF Friedrichshafen AG.



As Chief Financial Officer (CFO), **Timo Krutoff** will be responsible for finance, human resources, and information services. The 44-year-old business graduate moves to the DEUTZ Board of Management from thyssenkrupp AG, where he has held various management roles, most recently as CEO and CFO for the Bilstein subsidiary.

## New orders



+0.4% to

**€1.52 billion**

Book-to-bill ratio for Q1–Q3 2022  
of 1.09

## Unit sales



DEUTZ engines

+13% to

**130,875 units**

## BUSINESS FIGURES Q1-Q3/2022<sup>1</sup>

### Revenue



+19% to

**€1.39 billion**

### Adjusted EBIT<sup>2</sup>



+€35.0 million to

**€65.9 million**

EBIT margin<sup>1</sup> 4.7% (+2.1pp)

Classic segment 6.9% (+2.9pp)



## WELCOME, CAREER STARTERS!

Apprenticeships have a long tradition at DEUTZ. For more than a century now, the Company has been giving new recruits the best possible start to their career. This year, it was the turn of three young women and 27 young men to begin their vocational training at the DEUTZ sites in Cologne, Ulm, and Herschbach. And the DEUTZ Factory for Talents, in cooperation with its partners, will offer career prospects to another 16 apprentices via a modular or full apprenticeship. As in previous years, the DEUTZ apprentices in their second year organized the Welcome Days in Cologne for the new arrivals. The event provided them with comprehensive information about their first employer as well as an opportunity to network.

> Further information about apprenticeships at DEUTZ, including current vacancies, can be found here:



## A FESTIVAL FOR DEUTZERS

DEUTZ hosted a family festival for its employees in late summer under the banner “Mer stonn zesamme”, which is Cologne dialect for “We stand together”. To thank them for their hard work, all DEUTZ employees and their families were invited to celebrate together at the factory site in Cologne-Porz. Around 4,000 people enjoyed a varied program of entertainment, with not even the occasional rain shower able to dampen the mood.

There was lots to see and do, from tours of DEUTZ’s Technikum engine museum and a visit to the assembly hall to fun activities for kids. Then, after a grilled bratwurst and a refreshing drink, the DEUTZers were ready for the highlight of the event – a private concert by Cologne band Kasalla, known for singing in the local dialect. One of the band’s hits, and the song that brought the day to a close, perfectly captured the DEUTZ philosophy: “Mer sin eins!” – “We are one!”



> CEO Dr. Sebastian C. Schulte (right) welcomed participants at the family festival alongside Dr. Ing. Markus Müller (2nd from right)...



> ...and insisted on personally serving food and drinks to the DEUTZers together with other senior managers.





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