

We specify working capital targets for the individual companies in the DEUTZ Group in order to optimise the capital tied up in the business. These overall figures are then broken down and specific targets for inventories, trade receivables and trade payables are allocated to the relevant individual employees.

We are pursuing long-term growth objectives. In order to secure the financial basis for this, we have made the management of capital expenditure a central element in the management of tied-up capital: clearly specified budget figures set out the framework for the level of capital expenditure and development expenditure; actual requirements are derived from the medium-term planning of unit sales and the resulting requirements in terms of capacity and technologies. Annual budget meetings are held to coordinate individual projects, development expenditure and planned capital expenditure with the groupwide financial planning process and to record the outcomes. An additional detailed review is carried out before projects are actually approved. To this end, we use standard investment appraisal methods (internal rate of return, amortisation period, net present value, the impact on the income statement and cost comparisons). A project with an appropriate budget is only approved if there is a clear positive outcome from this investment appraisal.

BUSINESS PERFORMANCE IN THE DEUTZ GROUP

ECONOMIC ENVIRONMENT

Global growth rate at prior-year level Worldwide economic growth remained at a moderate level last year. The International Monetary Fund (IMF)¹⁾ is expecting global economic growth of 3.1 per cent for 2016 as a whole, compared with 3.2 per cent in 2015.

The economy of the eurozone grew by 1.7 per cent in 2016, which was slightly weaker than the increase of 2.0 per cent in 2015. Germany's economy stepped up the pace of growth slightly, expanding by 1.7 per cent year on year (2015: growth of 1.5 per cent). The Spanish economy again performed very encouragingly with a growth rate of 3.2 per cent, which was the same as in 2015. France was also on a par with the previous year with growth of 1.3 per cent. Italy's growth increased slightly from 0.7 per cent in 2015 to 0.9 per cent in 2016.

The US economy expanded by 1.6 per cent (2015: 2.6 per cent). This slowdown in the pace of growth was due to declining levels of capital investment. The economy in China held steady over the course of the year thanks to more expansionary economic policy. Gross domestic product (GDP) rose by 6.7 per cent over 2016 as a whole, compared with 6.9 per cent in 2015. The Russian economy remains in recession; South America's performance was weaker than originally anticipated.

¹⁾ IMF World Economic Outlook Update, January 2017.

Overall, the economic environment was characterised by a variety of risks and uncertainties in 2016, such as the vote for Brexit in the United Kingdom, and these will continue to have an impact this year. China is in a state of transition with a lower growth rate than in previous years and a shift away from the strong export model. The economic effects of the outcome of the US election cannot yet be gauged.

Mixed picture in DEUTZ's customer industries The situation varied significantly across DEUTZ's main customer markets in 2016. According to DEUTZ's own estimates, demand for construction equipment rose by around 5 per cent in both Europe and China. However, unit sales of construction equipment fell by approximately 5 per cent in North America. The European agricultural machinery sector contracted again, with demand declining by 5 per cent in 2016.²⁾ Unit sales of light and medium-duty trucks in China improved by around 7 per cent according to DEUTZ's own estimates.

IMPACT OF ECONOMIC CONDITIONS ON BUSINESS PERFORMANCE

Uncertainties hold back investment activity Overall, the economic environment was characterised by a variety of risks and uncertainties in 2016 that will continue to have an impact this year. The tendency is therefore for a wait-and-see stance as far as investment activity is concerned. Moreover, prices for oil, commodities and agricultural goods were again at a very low level in 2016, although they did rise over the course of the year. However, higher prices would encourage investment in the relevant areas – and thus would benefit business at DEUTZ.

While the global economy grew by 3.1 per cent in 2016, revenue at DEUTZ rose by 1.0 per cent. The economy in the eurozone expanded by 1.7 per cent in the year under review. Against this backdrop, the situation varied significantly across DEUTZ's main customer markets in Europe. Whereas demand for construction equipment rose, there was a decline in the agricultural equipment sector. Nevertheless, DEUTZ was able to increase its unit sales of engines for agricultural equipment applications because demand in the previous year had been very low due to customers using up their inventories. In 2014, they had purchased significant volumes of engines ahead of a new emissions standard. DEUTZ's revenue in its largest market, EMEA (Europe, Middle East and Africa), rose by 3.3 per cent in 2016.

Economic growth in the United States slowed to 1.6 per cent in the reporting year (2015: 2.6 per cent). DEUTZ's revenue in North America fell by 13.0 per cent. This was largely caused by declining unit sales of engines for construction equipment in North America and by rental companies' reluctance to invest.

Momentum in China, our key international market, slowed again, with economic growth of 6.7 per cent (2015: 6.9 per cent). However, the markets for construction equipment and for light and

²⁾ Konjunkturbulletin of the German Engineering Federation (VDMA), February 2017.

medium-duty trucks stabilised following sharp decreases in previous years. DEUTZ's revenue in the Asia-Pacific region rose by 15.9 per cent thanks to the positive impact of new customer projects.

RESEARCH AND DEVELOPMENT

Research and development expenditure (after deducting grants)¹⁾

€ million (R&D ratio in %)

2016	50.4	(4.0)	
2015	40.8	(3.3)	
2014	53.1	(3.5)	
2013	52.6	(3.6)	
2012	62.1	(4.8)	

¹⁾ Spending on research and development after deducting grants received from major customers and development partners.

R&D spending stepped up as planned Expenditure on research and development in 2016 amounted to €53.5 million (2015: €49.5 million). After deducting grants received from major customers and development partners, expenditure was €50.4 million (2015: €40.8 million). The R&D ratio (after deducting grants), i.e. the ratio of net development expenditure to consolidated revenue, increased as planned to 4.0 per cent (2015: 3.3 per cent). The rise in R&D expenditure compared to the low level of spending in the prior year was largely attributable to the expansion of our product range and the continuous improvements to current engine series. In the year under review, 18.1 per cent of development expenditure after deducting grants was capitalised (2015: 31.9 per cent).

R&D spending by the DEUTZ Compact Engines segment after deducting grants came to €47.7 million (2015: €38.2 million) and that of the DEUTZ Customised Solutions segment came to €2.7 million (2015: €2.6 million).

Stage V ready In previous years, we had completely overhauled our engine portfolio in connection with the introduction of the EU Stage IV/US Tier 4 emissions standards. Our latest 'Stage V ready' TCD engines in the 2.9 to 16.0 litre capacity range are already equipped to meet the next European emissions standard, EU Stage V¹⁾, which comes into effect in 2019. The diesel particulate filters needed to ensure compliance are now available as standard or as an option for engines with a capacity up to 7.8 litres. A diesel particulate filter meeting the new emissions standard will be introduced for all the other engines that will not require much additional space for installation. It is not yet known whether a further emissions standard will be introduced in the USA.

Expansion of the product portfolio We plan to enhance our product range with further developments. One of these is the D/TD/TCD 2.2, a three-cylinder engine that we are developing on the basis of the existing four-cylinder engine with a 2.9 litre capacity. In addition, we will offer smaller engines not only in a diesel variant but also in a liquefied petroleum gas (LPG) variant. The latter is a particularly interesting option for forklift trucks and other material handling applications. We are also currently developing a completely new 5 litre engine with four cylinders. The TCD 5.0 will supplement the DEUTZ product range in the 100 to 150 kW power range and is, at the same time, the first step in renewing our medium-duty engine series. The design of the engine's underlying technology features minimum pipework, fewer components, strict separation between the hot and cold sides to avoid the need for heat protection measures and a reduction in performance losses from the oil and water circuits. Another feature is its overhead camshaft.

Preliminary development work at a high level Exhaustive research and development will continue to form the basis for innovative products and services from DEUTZ in future. We have recently expanded our activity in the field of alternative fuels. As well as looking at natural gas, we are also focusing on hydrogen and fuels that are generated from renewable sources, and we have taken steps to expand our work with universities and other research institutes. A key focus of our preliminary development work is the combination of internal combustion engines and electric motors (hybridisation). We have also continued to concentrate on data transfer and analysis (Industry 4.0) so that we can offer our customers new services in the future.

Intellectual property rights safeguard our know-how We protect our know-how from unauthorised outside use by means of patents, patent applications and utility models. In 2016, we submitted 14 new patent applications, eight of which were in Germany. We now hold a total of 147 patents registered in Germany and 178 registered elsewhere.

PROCUREMENT

Last year was characterised by an overall recovery in the commodities markets. Key purchasing objectives were achieved, such as reducing costs, ensuring continuity of supply, optimising quality and implementing embedded material group strategies.

Commodity prices rising While prices had continued to fall in the primary markets in 2015, the trend was reversed in 2016. Overall, all the average prices for the year were slightly higher than the ranges that had been forecast. However, commodity prices have only a limited influence on the price at which DEUTZ procures parts from suppliers because there is a very high element of value added.

¹⁾ Regulation (EU) 2016/1628 of the European Parliament and of the Council dated 14 September 2016.

Measures implemented to reduce costs With regard to the material groups, we primarily focused on exhaust after-treatment, exhaust gas recirculation and filtration last year and were able to reduce costs in the overall system. We see potential for achieving further savings by increasing the proportion of procurement from emerging markets. This applies, above all, to China because of the competitive environment, particularly as quality standards in the supplier industry are continuing to improve there. We have concluded a purchasing agreement with our joint venture DEUTZ (Dalian) Engine Co., Ltd., China, in order to coordinate procurement potential in the Chinese market.

Supply chain and supplier performance We have been able to further optimise supplier performance in the supply chain, with the overall trend continuing to improve.

PRODUCTION

In production and logistics, the areas of focus in 2016 were workplace safety and ergonomics, product and process quality, and efficiency. We also implemented a number of measures as planned as part of efforts to optimise our network of sites.

The Cologne plants, Germany Last year, we initiated various steps aimed at improving quality and safeguarding the assembly processes in Cologne-Porz, our largest assembly site for production engines. This included optimising and renewing the cleaning and drying sections of the painting area and the automated adjustment of valve clearance. We also held kaizen workshops to further refine processes and procedures. Numerous tasks were consolidated in connection with vacating the Cologne-Deutz site, such as the management of empties. We also expanded shop floor management.

Component manufacture The process of vacating the Cologne-Deutz site began at the start of 2016. In May, the two transfer lines for the processing of crankcase housing for the 2011 and 91x engine series were moved to our plants in Zafra, Spain and Ulm, Germany. The relocation of shaft production from Cologne-Deutz to the newly built shaft centre in Cologne-Porz got under way in April without production being disrupted and was completed in February 2017. A total of 130 pieces of machinery and equipment were removed and then brought back on stream.

The plants in Ulm and Übersee on Lake Chiemsee, Germany We continued with our expansion of the Ulm plant in 2016. This site is evolving into the plant for small production runs, focusing on DCS products, project business, exchange engines and models that are soon to be discontinued. The Xchange assembly activities, which had been relocated in 2015, were optimised, costs were lowered and throughput times were shortened. In addition, the necessary preparations for integrating all of the other functions from the Übersee plant were carried

out. The relocation of the remaining functions in connection with the closure of the Übersee site will take place in 2017. In mechanical fabrication, all transfer lines were replaced with production machines; mechanical component production has thus been attuned to the flexibility that is required in small production runs.

The Zafra plant, Spain Our plant in Zafra, Spain produces the crankcases for engines of up to 4 litres in addition to the other major engine components already manufactured there, namely cylinder heads, conrods and gearwheels. Relocation of the production of crankcases for the 2011 engine series, which were previously built inhouse in Cologne-Deutz, was completed in 2016. Manufacturing of crankcases for the 2.9 engine series was also ramped up in 2016.

The Pendergrass plant, USA In the year under review, we extended our plant in Pendergrass, Georgia/USA, to cover the additional volume resulting from the growth of the exchange engine business. This included expanding capacity for removal and final assembly activities and increasing the number of production employees. There is now capacity for roughly 2,400 engines in one-shift operation.

QUALITY

Quality is part of our corporate culture The DEUTZ name has always been synonymous with high-quality engines. We intend to continue to live up to this reputation.

For this reason, we introduced our zero-error strategy. Our main aim in pursuing this quality assurance programme is to ensure that we always meet our customers' expectations. The idea is to detect errors before they actually occur. And where errors do occur, we have to learn from them quickly in order not to make the same mistakes again.

In 2016, we developed a concept to implement our quality assurance programme and provided multipliers with the necessary training to run workshops. A large number of employees, from both production and administrative areas, took part in these workshops. Managers and employees were given intensive training on topics such as customer satisfaction, quality of work and the constructive handling of errors during two half-day sessions.

In addition, we conducted a study on quality focus in collaboration with the Laboratory for Machine Tools and Production Engineering (WZL). The objective was to assess the quality focus of employees in middle management. The study showed that the quality culture at DEUTZ was very strong on average in terms of external customer focus. In departments with a well-developed culture of quality, there is greater satisfaction among the employees and they value the quality performance of their team more highly.

Certification attests to high quality standards Last year, DEUTZ was again certified in accordance with ISO 9001 (quality management), ISO 14001 (environmental management) and ISO 50001 (energy management). In 2016, we successfully completed our second monitoring audit.

The more wide-ranging requirements resulting from the revised ISO 9001:2015 and 14001:2015 standards are currently being integrated into the DEUTZ management system. This is expected to be completed in time for re-certification in 2017.

INTERNATIONAL JOINT VENTURES

Conditions in the Chinese market for capital equipment have been very challenging for a number of years. Growth forecasts have been revised down significantly, and there is considerable capacity in the engineering sector.

We have been operating the DEUTZ Dalian joint venture – in which our Chinese production activities are concentrated – with the First Automotive Works Group, one of China's leading vehicle manufacturers, since 2007. Here, we produce 3 to 8-litre diesel engines, mainly for automotive and industrial applications for the Chinese market. We will expand DEUTZ Dalian's product range from 2019, which is when the China IV emissions legislation comes into force. Local production ensures that we have the proximity to our customers that we need and enables us to seize market opportunities in various off-road applications.

In 2016, unit sales in the DEUTZ Dalian joint venture fell by 8.7 per cent to around 68,000 engines. Revenue declined by 10.8 per cent to €303.0 million. Adjusted for exchange rate effects, the decrease was 5.7 per cent. The company, accounted for under the equity method, had a negative impact of around €5.7 million (2015: €7.0 million) on the DEUTZ Group's operating profit.

DEUTZ AGCO MOTORES S.A. (DAMSA) is our joint venture with the AGCO Group and is located in Argentina. It builds engines for the local market, mainly for agricultural machinery, buses and industrial applications. In 2016, DAMSA sold almost 1,000 engines. Revenue dropped by 24.9 per cent to €14.5 million as a result of negative exchange rate effects. However, measured in the local currency, revenue increased by 19.1 per cent. The company's operating profit came to €0.2 million (2015: €0.7 million).

We hold a stake of 30 per cent in D.D. Power Holdings (Pty) Ltd., our South African joint venture. This sales and service company is active in the local market, focusing on sectors such as the local mining business. In the year under review, the company reported revenue of €14.6 million (2015: €20.2 million) and a profit of €1.9 million (2015: €2.5 million).

NEW ORDERS

DEUTZ Group: New orders

€ million

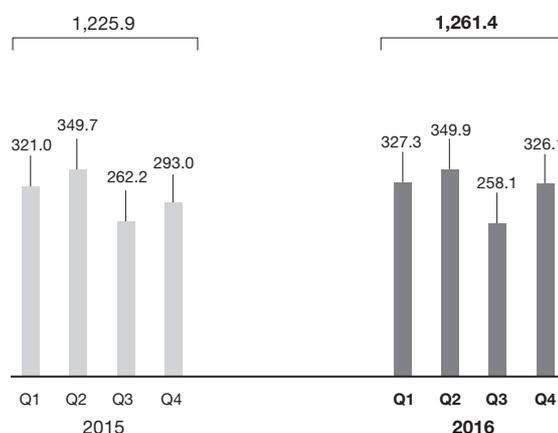
2016	1,261.4	
2015	1,225.9	
2014	1,379.0	
2013	1,649.7	
2012	1,237.1	

Year-on-year increase in new orders The DEUTZ Group received new orders worth €1,261.4 million in 2016, which was 2.9 per cent above the figure of €1,225.9 million achieved in the previous year. The former Mobile Machinery application segment has been divided into the Construction Equipment and Material Handling application segments in order to provide greater transparency in terms of the significance of various customer industries. In 2016, new orders increased by 9.6 per cent in the Construction Equipment application segment, by 6.9 per cent in Material Handling and by 6.4 per cent in Agricultural Machinery. The Automotive and Stationary Equipment application segments saw their new orders decline by 14.4 per cent and 16.7 per cent respectively. The service business maintained its positive trajectory with an increase of 2.2 per cent.

The level of new orders varied over the course of the year. New orders were up slightly year on year in the first quarter, unchanged year on year in the second quarter and down slightly year on year in the third quarter. In the fourth quarter, the volume of new orders increased by 11.3 per cent compared with the prior-year quarter to reach €326.1 million.

DEUTZ Group: New orders by quarter

€ million

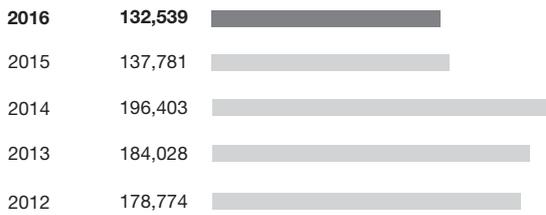


Orders on hand totalled €191.0 million as at 31 December 2016, a decline of 5.0 per cent compared with €201.0 million at the end of 2015.

UNIT SALES

DEUTZ Group: Unit sales

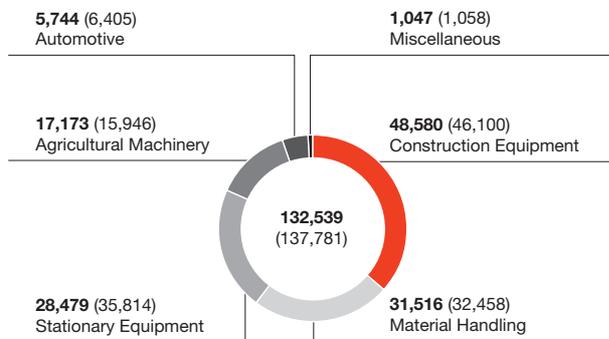
units



Fewer engines sold DEUTZ sold 132,539 engines in the reporting year, which was 3.8 per cent fewer than in the prior year (2015: 137,781 engines). The decreases in the Stationary Equipment and Automotive application segments were particularly substantial at 20.5 per cent and 10.3 per cent respectively.

DEUTZ Group: Unit sales by application segment

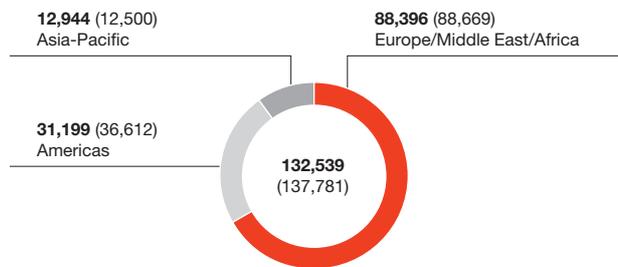
units (2015 figures)



The regional analysis shows a very mixed picture. Unit sales in our biggest market – EMEA (Europe, Middle East and Africa) – were on a par with 2015 at 88,396 engines. They were down by 14.8 per cent to 31,199 engines in the Americas. By contrast, unit sales in the Asia-Pacific region rose by 3.6 per cent to 12,944 engines.

DEUTZ Group: Units sales by region

units (2015 figures)



In the first two quarters, unit sales were lower than in the corresponding periods of 2015. However, third-quarter and fourth-quarter unit sales were both up year on year. In the final quarter of 2016, DEUTZ sold 32,100 engines, which was an increase of 5.1 per cent compared to the fourth quarter of 2015 and a rise of 4.4 per cent on the third quarter of 2016.

DEUTZ Group: Consolidated unit sales by quarter

units

