Your Powerful Partner
Ladies and Gentlemen,

Rolls-Royce Power Systems AG is one of the world's leading providers of large engines, propulsion and distributed energy systems. The group of companies is headquartered in Friedrichshafen in Southern Germany and, as a result of its comprehensive development and manufacturing expertise, offers what is one of the most diversified range of products available on the market today. Medium-speed and high-speed diesel and gas engines as well as diesel and gas gensets are used in over 20 different areas of application. They are used to power heavy land, water and rail vehicles and to ensure a stable and diversified supply of reliable energy.

On 1 January 2017 I took up the position of CEO of this fascinating company. I am particularly excited by the leading edge technology that has a long tradition here and the innovative power that I see in many sectors – but first and foremost in the minds of our engineers. The company has excellent prospects for the future and enjoys a strong position on the world's markets with its premium products. But we operate in challenging markets. And they are changing faster than ever before. We will deal with this situation by taking a sporting approach to ensure that our customers are given the best solutions at all times. I am looking forward to working closely with my colleagues on the continuing development of Rolls-Royce Power Systems.

This publication will give you an idea of who we are as a company and an overview of our products. If you should have any questions at all, please speak to me or send an e-mail to me at the following address:

andreas.schell@rrpowersystems.com

I look forward to hearing from you.

Sincerely

Andreas Schell
CEO of
Rolls-Royce Power Systems AG

Convincing solutions. Rolls-Royce Power Systems aims to set the standard for first-class drive, propulsion and power generation systems. Regardless of whether the demand is for series-produced engines or tailor-made systems – the solutions from MTU, MTU Onsite Energy, Rolls-Royce and L’Orange are among the very best available anywhere and clearly stand out from the others. Rolls-Royce Power Systems is a division of Rolls-Royce plc.

Fascination for engineering. Motivated and superbly trained employees are the driving force behind Rolls-Royce Power Systems, and this has been the case for over 100 years. They are the ones who have created innovative products for railway, marine and off-highway applications right from the start of the company’s history. The record-breaking run of the “Fliegender Hamburger” (Hamburg Flyer) in the 1930s, the fastest crossing of the Atlantic by a powerboat in 1986, the world’s first electronically controlled common-rail injection system in 1997 or the hybrid train in 2012: such achievements are the result of the ingenuity and engineering excellence of the people behind the scenes.

Ready for the future. In order to meet current and future emission regulations and to provide our customers with cost-effective operation of the system they use, our engineers and scientists continually carry out research into new approaches to innovative engine design and low-pollutant combustion processes. As a result, hybrid drive solutions, alternative fuels, smart engine management systems and intelligent operating data analysis are gaining in importance. For the engines of the future, therefore, investments in our own R&D centres are an integral element of our global growth strategy.

Strong partner. The constant exchange of information and experience with customers and partners enables us to anticipate developments and to respond accordingly – before others do. Local presence has ultimately created an extensive global network: with 33 subsidiary companies and over 1,200 development, production, service and dealership locations, Rolls-Royce Power Systems is active in 130 countries on all continents. As the preferred partner of its customers, the group implements their wishes and needs – quickly, flexibly and reliably.

We are driven by a passion for outstanding products. We provide energy and propulsion solutions combined with excellent service.
Rolls-Royce Power Systems AG
Your Powerful Partner

Drive and propulsion specialist. The MTU brand worldwide stands for efficient and clean diesel engines and complete drive and propulsion systems for ships, heavy land, rail and defence vehicles, power generation, and for the oil and gas industry. With over 100 years' experience, MTU is a trustworthy partner when it comes to providing the best possible solution for the most diverse applications. As a general contractor, MTU’s product portfolio extends from high-quality standard systems to customer-specific turnkey plants, and includes a full range of services. What is decisive for the leading technological position MTU products have acquired is the interplay of key technologies – turbocharging, fuel injection, engine management and exhaust aftertreatment. MTU develops these technologies in-house and is thus in a position to ensure that all drive and propulsion components are ideally matched for optimum performance.

Marine
MTU propulsion systems are in service on the high seas, on rivers and lakes all over the world. They are used for both the main propulsion and auxiliary systems or as engines in gensets for on-board power supply. Highly efficient ship’s automation systems ensure that components operate in complete harmony.

Oil & Gas
For more than 30 years now, MTU has supplied the needs of the oil and gas industry. The range of products it has available includes diesel engines and gensets for onshore and offshore operations. They are used to deliver emergency power, for example, drive fire-fighting equipment, and to provide the power for pumps, mixers, pumps and winches.

C & I & Agriculture
In the C & I industry, in agricultural and forestry applications, engines are pushed to the limit. Moving forward on a solid surface is no great challenge, but when the going gets tough off the highway on rural terrain, MTU drives keep things moving – in road construction equipment, mobile cranes and other special-purpose vehicles such as snowcats.

Mining
Mining follows its own rules – vast expanses, immense masses, extreme temperatures and colossal loads. Facing these challenges demands unimaginable power, strength and durability. MTU engines have got what it takes.

Rail
On non-electrified lines, MTU diesel engines, underfloor and complete drive systems are the preferred choice for locomotives, multiple units and rail cars. As a result of their compact dimensions and the excellent power-to-weight ratio, they are also ideally suited for repowering projects. Our hybrid systems are designed today to power tomorrow’s trains.

Defence
In no other field is the safety of the equipment and its crew as directly dependent on the reliability of the performance of the drive systems as in defence applications. With its drive systems for wheeled and tracked armoured vehicles, MTU has accepted considerable responsibility in this field for many years now.
We address today the energy issues of tomorrow – with innovative distributed energy solutions.

Energy that meets the need. MTU Onsite Energy systems ensure that a reliable supply of energy is made available regardless of the existing infrastructure – whenever and wherever it is needed. The power generation systems based on diesel and gas engines deliver base load, emergency power and peak load power from traditional power generation to trigeneration. In addition to natural gas, they also operate on renewable energy sources such as biogas, sewage gas and landfill gas. With over 60 years’ experience in building power generation systems, MTU Onsite Energy makes a major contribution to solving tomorrow’s energy issues.

**Emergency power**

Storms and malfunctions can cause failure of the public grid, resulting in sudden power outages. In this event, emergency gensets based on MTU diesel engines step in, ensuring the electrical power supply so that hospitals, computer centers and banks, as well as airports and power stations, can stay up and running. Mobile applications are covered by containerized gensets, which achieve the required output in less than 15 seconds after switch-on.

**Peak power**

During periods of peak demand, there is a short-term need for more electricity. Distributed power generation solutions based on diesel and gas drive systems provide the power needed in such extreme situations and ensure that sufficient electricity is readily available. In addition to the extremely accurate genset control system, control components tailored to customer needs are also available that provide operators with the highest degree of reliability, precision and user-friendliness.

**Base load**

The supply of base load power requires a high degree of reliability and efficiency. MTU Onsite Energy distributed energy systems are designed to precisely comply with these requirements. Generator sets based on MTU diesel engines operate around the clock all over the world and guarantee a distributed supply of energy also to remote locations – for example in mineral mines in the desert.

All about our MTU Onsite Energy brand
http://www.mtuonsiteenergy.com
For a wide range of applications, we offer tailor-made propulsion and energy systems based on our proven technologies.

**Medium-speed engines**

*Long tradition.* We offer Rolls-Royce medium-speed liquid fuel and gas engines and generator sets for applications in marine in the power range 1,400 to 9,380 kW per engine, and for power generation in the power range 3,780 to 9,380 kWe. Medium-speed engines are characterized by high availability and low operating costs, and meet the toughest environmental requirements both today and in future.

Rolls-Royce has more than 70 years of experience in developing and producing medium-speed reciprocating engines. The first diesel engine was installed in a fishing vessel in 1946, and in 1950 we expanded the business to power generation. In the 1980s, Rolls-Royce began the development of gas engines, and is today a world leading gas engine performer.

**Marine | Liquid fuel & Gas**

Rolls-Royce medium-speed engines and generator sets are used for seagoing commercial and naval vessels such as cargo ships, tankers, tug boats and supply vessels operating for the offshore oil industry, in addition to fishing vessels, cruise ships, ferries, yachts and rigs. We supply engines for mechanical propulsion and as complete generating sets to provide electric propulsion and generate onboard power, tailored to our customer’s needs.

**Energy | Liquid fuel & Gas**

Rolls-Royce meets the demand for reliable supply of heat and power around the globe – our medium-speed engines are used to generate power in large power plants, to be fed into the local power grid or supply power for industrial processes. In combined heat and power plants, the Rolls-Royce engines convert as much as 95 per cent of the fuel into useful energy and thus achieve the highest efficiency levels.

Among our power generation customers are Utilities, Independent Power Producers, Oil & Gas installations and Greenhouses. Applying the lean-burn concept in these fields results in high-efficiency levels with low pollutant emissions and fuel consumption.

Rolls-Royce is a pioneer in the development of modern lean-burn engines and is a leader in propulsion systems based on liquefied natural gas (LNG). Our medium-speed engines are regarded as the cleanest and most efficient reciprocating engines available in the market today.

**All about our medium-speed engines from Rolls-Royce**

[https://bergen.rolls-royce.com](https://bergen.rolls-royce.com)
Our injection systems for large engines comply with the requirements for maximum precision and quality.

**Fuel Injection specialist.** L’Orange has been one of the pioneers of advanced fuel injection technologies for over 80 years. Its portfolio is supplemented by exhaust gas after-treatment and turbocharging technologies. This means that key components for large diesel engines supplied by well-known manufacturers that operate with different types of fuel will be available in future from a single source.

**Always one step ahead.**

Engine manufacturers are faced with the challenge of constantly having to meet exhaust emission regulations that are becoming increasingly stringent. At the same time, they are expected to optimise the performance, fuel consumption and service life of drive systems. This means that high-precision injection systems are a key factor. We supply our products to all the well-known manufacturers of large diesel and heavy oil engines for off-highway applications. And they know why.

**Key technologies**

L’Orange was the first supplier in the world to launch the groundbreaking common-rail fuel injection system on the market. And this is one of the key technologies used today by MTU and Bergen Engines. With common-rail fuel injection, the combustion process can be optimised to achieve low pollutant levels combined with lower fuel consumption. The fuel can be injected with microsecond accuracy and at high pressure – regardless of the engine operating point.

**Maximum precision**

One thing the largest four-stroke marine diesel engines, the biggest dump trucks and the world’s fastest diesel locomotives have in common – they all incorporate innovative high-pressure injection technology from L’Orange. As big as the engines and vehicles are, the tolerances with which the injection systems are designed and manufactured remain small. High-precision manufacturing processes with tolerances of less than a thousandth of a millimetre and quality control procedures are fundamental to the high level of performance and efficiency of L’Orange injection technology.

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All about our L’Orange brand
http://www.lorange.com
Customised service solutions. Supporting the world’s most sophisticated and technologically advanced propulsion and energy systems is serious business. To meet our customer needs we provide development, production, sales and service facilities around the world – and are represented at over 1,200 locations. We serve highly-specialised industries and applications, each with unique challenges. As a system partner, Rolls-Royce Power Systems offers its customers a complete portfolio of customisable service solutions covering the entire service life of the equipment, to ensure peak performance, long life and optimised costs.

Scheduled maintenance. Unconditional equipment reliability and cost certainty are especially important to customers with high utilisation and operating hours, such as mining, rail, power generation and commercial marine applications. In order to maximise availability and optimise lifecycle costs, a variety of professional maintenance solutions are available. Certified technicians perform on-site maintenance with details, terms and scheduled intervals customised to match the individual needs of the customer. Planned maintenance solutions make it easy to predict the cost of maintenance throughout the lifecycle of an engine or system. And for more complex systems, long-term service agreements tailored to each customer’s operational needs ensure improved equipment availability and profitability.

Extended warranty. Many customers value additional protection beyond the standard warranty. Extended coverage options from Rolls-Royce Power Systems are tailored specifically to the needs of these customers, providing added protection and invaluable peace of mind, so customers can stay focused on the activities that matter most to them.

Remote monitoring. Identifying faults as early as possible saves valuable service time and helps customers make quick decisions regarding operational issues. Rolls-Royce Power Systems provides powerful diagnostic solutions that enable customers to access vital engine and system information through a secure Internet connection. A telematic device stores and transmits important data in near real-time or at predetermined intervals. This information can then be conveniently retrieved remotely for analysis – even thousands of miles away from the equipment.

Remanufacturing. Thanks to superlative standards of engineering and an unwavering commitment to service and support, equipment from Rolls-Royce Power Systems is built to last. And after customers have enjoyed the benefits of a long product service life, Rolls-Royce Power Systems provides options to help them go even further: With remanufactured products, our customers receive robust and reliable equipment. A rigorous factory process ensures the same high standards of performance, service life and quality as new products, while benefiting the environment through the reuse of existing materials.

Whenever and wherever our customers need us – we are on the spot to help them. Any time, any place.
Our strength is high-tech – by tradition.

Experience. The Rolls-Royce Power Systems Group can look back on 100 years of success and a long tradition of developing new drive and propulsion systems that optimally meet the customers’ needs. The company has introduced a large number of innovations over the years that continue to write engineering history. Firmly rooted in tradition, Rolls-Royce Power Systems has developed into what it is today – an innovative leader in many high-tech markets. In order to consolidate the position it has achieved the group continues to develop its products, while optimizing its resources, and manufactures core components in-house. This ensures that we always deliver the highest standards.

Business success. The activities of Rolls-Royce Power Systems are geared to long-term, profitable growth. We act in a forward-looking and sustainable manner by taking into account challenges such as the megatrends of an increasing global population and urbanisation, the growing demand for energy, climate change and globalization. The company’s development builds on ecological and social values, to which our owners, employees and business partners are committed.

Product responsibility. Our products set the standard in terms of durability, energy efficiency, low fuel consumption and emissions – product features from which the environment and customers alike benefit. Our high-tech marine diesel engines power small and large yachts, high-speed ferries and government vessels reliably and efficiently and are unrivalled in terms of their power-to-weight ratio and dynamic behavior. Our emergency gensets safeguard smooth and reliable operation of critical facilities and our gensets for continuous power generation keep remote regions supplied with electricity. In the mining sector, our diesel engines are used to power mining trucks and in the rail sector fast passenger trains and heavy freight locomotives. L’Orange has produced over a million common-rail injectors to date and in doing so has assumed technological leadership worldwide. Sustainability for us does not end with the sale of our products. Service and remanufacturing extend their life cycles, which benefits both the customer and the environment, because energy and raw materials are used efficiently. Our parent company Rolls-Royce also invests over £1.2 billion annually in innovation and technology in order to meet the customers’ current and future needs.

Green and High-Tech Programme. At the heart of the Green and High-Tech Programme launched by Rolls-Royce Power Systems is the development of new technologies – as the basis for extremely sustainable and environmentally friendly products of the future. The demands placed on propulsion and energy systems in terms of their efficiency and exhaust gas emissions will continue to increase. We are responding to this challenge by continually developing and optimising our engines and exhaust gas aftertreatment systems in order to provide our customers with advanced propulsion solutions.

We are working on the development of alternative propulsion technologies. Rolls-Royce Power Systems is currently developing a mobile gas engine to be marketed under the MTU brand, which will be used for maritime applications as of 2018. MTU offers a hybrid system for rail cars as another future technology. Environmentally-friendly gas engines from MTU Onsite Energy driven by natural gas, biogas, sewage gas or landfill gas are used for the generation of electric power alone or for the cogeneration of heat and power. Digitisation is making products more intelligent and ultimately means that systems are now designed to deliver resource-friendly operation. An optimally designed total system is more than the sum of its parts, and this applies in particular to the increasingly complex propulsion and energy systems. For this reason, total system capability is a key focus of the Green and High-Tech Programme.

Series 4000 gas engines
In 2018 MTU will deliver the first certified MTU gas engines for commercial marine applications. The new Series 4000 gas engine has already successfully completed 3,000 hours on the development test bench.

Hybrid PowerPack
The Hybrid PowerPack combines a diesel engine with an electric machine, which can be used either as an electric motor or generator, and the MTU EnergyPack battery system, which stores the energy recovered during braking.
Our strength is high-tech – by tradition.

1900 >>

1920 >>

1960 >>

1980 >>

2000 >

2008 >

2012 >

2016

Experiences. The group has laid the foundation for over 100 years of success and has a long tradition of developing new drive and propulsion systems that optimally meet the customers’ needs. Over the years, it has produced a large number of innovations that continue to set new standards in the marine industry. The company is therefore proud of its long tradition and its ability to continue to deliver high-quality, reliable and efficient products.

Product responsibility. Our products set standards for durability, efficiency and reliability. We act in a forward-looking manner and are geared to long-term, profitable growth. We act in a forward-thinking manner and are geared to long-term, profitable growth. We act in a forward-thinking manner and are geared to long-term, profitable growth. We act in a forward-thinking manner and are geared to long-term, profitable growth.

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1919

Maybach-Motorenbau GmbH

1918

Motorenbau GmbH becomes Luftfahrzeug-Motorenbau GmbH

1912

Wilhelm and Karl Maybach, together with their brothers Karl and Richard, begin. The company has a long tradition of developing new drive and propulsion systems – consisting of a large high-speed diesel engine and gearbox – in a single unit for rail vehicles.

1919

MTU Onsite Energy GmbH

1920

MTU Onsite Energy System GmbH

1925

MTU Onsite Energy System GmbH

1969

Benz Motorenbau GmbH

1978

Tognum becomes the majority shareholder in MTU Onsite Energy GmbH

1982

Bergen Engines AS

2007

MTU Onsite Energy System GmbH

2011

Tognum opens an engine and genset plant in Datong in partnership with China North Industries Group

2008

MTU Onsite Energy System GmbH

2012

MTU Onsite Energy System GmbH

2013

MTU Onsite Energy System GmbH

2016

MTU Onsite Energy System GmbH

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