

HIGH SPEED POWER STATIONS FOR DIESEL AND GAS SOLUTIONS



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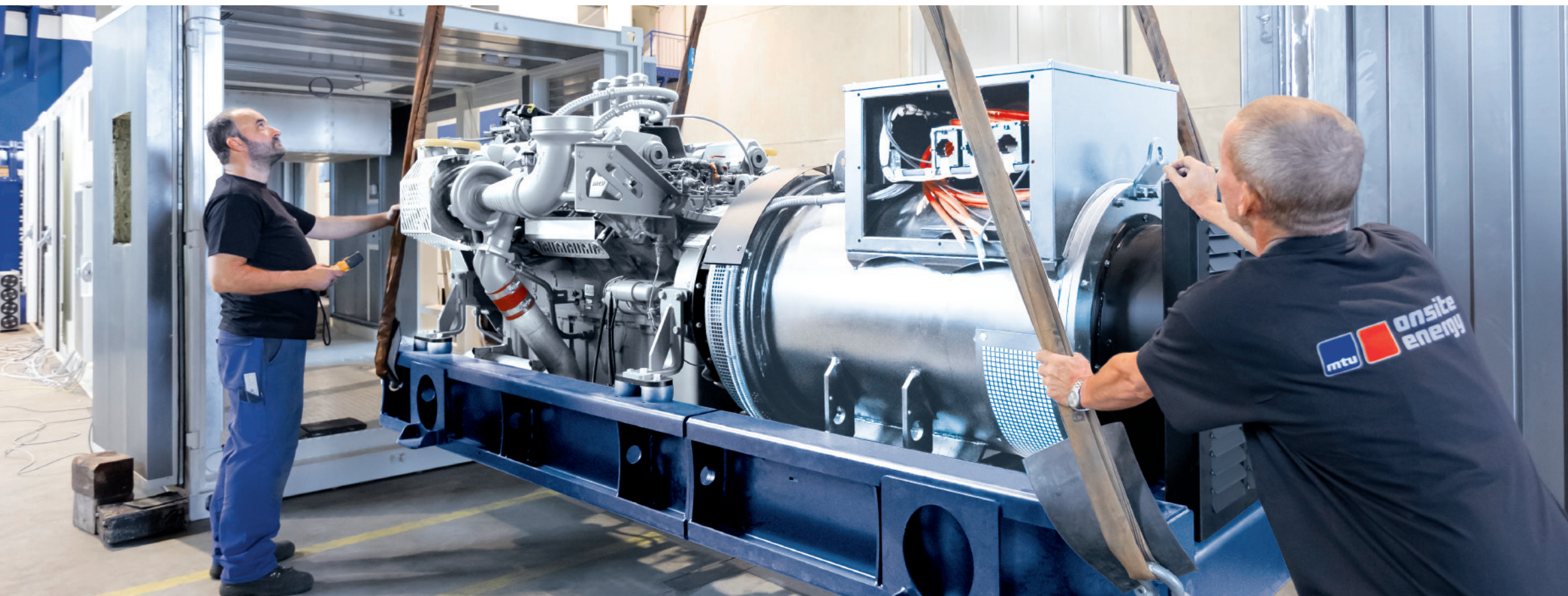
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COMBINING OUR RESOURCES TO SUPPLY YOU WITH DEPENDABLE ENERGY: ANYTIME. ANYWHERE.

MTU Onsite Energy is one of the core brands of Rolls-Royce Power Systems AG, which is a world-leading provider of high- and medium-speed diesel and gas engines, complete drive systems, distributed energy systems and fuel injection systems for the most demanding requirements.

MTU Onsite Energy offers complete power system solutions: from mission-critical to standby power to continuous power, heating and cooling. We also provide a full line of service products to help you get the most from your equipment.

Customers around the world trust us to provide reliable power for a wide range of applications, such as healthcare, data centers, airports, farms and independent power stations. Our product portfolio covers diesel generator sets up to 3,250 kW, gas-powered cogeneration systems up to 2,500 kW and gas turbines up to 50,000 kW.

This product offering is complemented by medium speed engines for land-based energy solutions up to 9,300 kWe as part of the Rolls-Royce Power Systems AG product portfolio.

More than 60 years of power generation systems expertise and over a century of diesel engine engineering experience have enabled us to provide complete solutions all over the globe. And we continue to develop sustainable alternatives, with systems that produce greener energy from climate-neutral, regenerative fuels, such as combined heat and power (CHP) plants fueled by biogas, landfill gas or sewage gas.

POWER STATIONS FOR RELIABLE POWER SUPPLY.

Whether you are powering a single factory or an entire community, you need power you can trust. In the wake of natural disasters such as droughts, earthquakes, floods and hurricanes, there is a pressing need to restore electricity as soon as possible. A quick recovery is also needed when local power consumption has unexpectedly overtaken supply and created high peak demands that threaten the stability of the national or regional grid. All over the world, including in remote locations such as mining, oil and gas sites and rural areas, MTU Onsite Energy can quickly deliver diesel- or gas-powered generation solutions with outstanding fuel efficiency that contributes to overall low lifecycle costs.

Up to more than 200 MW, we design and support turnkey power station solutions to match any requirements of your mid- and long-term power supply projects. With more than 60 years of worldwide experience in diesel and gas power systems engineering,

MTU Onsite Energy offers support in all project phases including analysis, design, implementation and commissioning, plus global parts and service support and individualized maintenance contracts.

Power station applications
Power stations from MTU Onsite Energy are your solution for critical base load and peaking applications and are designed to function in harsh environments.

Quick delivery and fast installation ensure continuous operations and reduced exposure to financial loss from inadequate power. This kind of responsiveness is made possible by our global manufacturing capabilities, strategic inventories to satisfy worldwide demand, and our experienced and dedicated power stations team.



GENERATOR SETS FOR DIESEL AND GAS: PROVEN A THOUSAND TIMES OVER.

With more than 50 years of expertise in development, design, manufacturing and support of complete generator sets and over a century of diesel and gas engine experience, MTU Onsite Energy offers superior reliability.

The Series 4000 generator sets (diesel and gas) are the centerpiece of our power stations. Whether your power station runs with diesel or gas, all our generator sets offer several advantages:

Reliability

Our generator sets have been proven in many applications and over hundreds of thousands of operating hours. They ensure continuous operations and reduce exposure to financial loss from a utility outage.

- // Designed, assembled and tested completely in-house
- // Developed and designed for high performance and safe operation under the most demanding environmental conditions

Cost effectiveness

- // Best-in-class fuel efficiency in continuous and prime power applications as well as low maintenance costs contribute to the low lifecycle cost of the entire power station
- // Maintenance-friendly design and long service intervals for maximum availability and efficiency

Leading engine technology

- // More than 100 years of experience in manufacturing engines
- // In-house competence in all relevant key technologies

Easy and fast implementation

- // Innovative modular generator design that promotes easy installation

Proven quality

- // Quality components from top brands, chosen with the performance and reliability of the complete system in mind
- // Rigorous MTU Onsite Energy testing procedures before leaving our factory

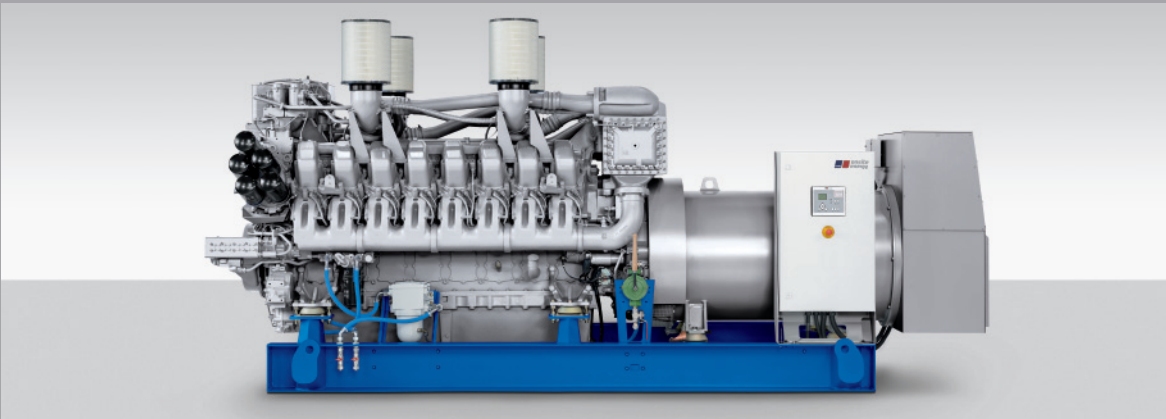
Environmental compatibility / sustainability

- // Optimized for fuel economy and cutting-edge emissions control to meet current and future requirements / emission standards
- // Quiet running for low environmental impact

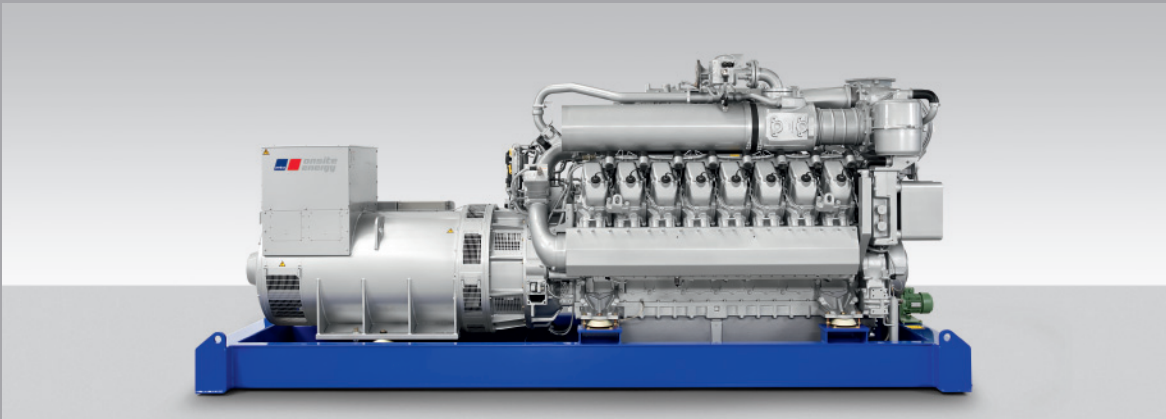
Support / MTU ValueCare

- // Availability of full library of technical documents and up-to-date information, complete sales, installation and service documentation for the entire generator set
- // Global 24/7 service network with factory-trained experts
- // Single-source supplier for complete systems solutions, service and warranty questions

You can count on MTU Onsite Energy to meet your high standards. We continue to push the boundaries, bringing our vast engineering expertise to your specific power station project. When you are looking to run your power station reliably and at a high efficiency, generator sets from MTU Onsite Energy are the answer.



Series 4000 diesel generator sets for use in power stations



Series 4000 gas generator sets for use in power stations

CONTAINERIZED POWER MODULES: GREAT PERFORMANCE. GREAT FLEXIBILITY.

A power station is created by the installation of one or more power modules and auxiliary equipment. Power modules from MTU Onsite Energy offer numerous features and benefits that speed deployment, facilitate installation, reduce environmental impact and cut operating costs.

Containerized diesel or gas power modules are ideally suitable for applications that do not provide enough space for the insertion of multiple units into a building.

Power modules for use in power stations offer many advantages:

Mobility

- // Containerized power modules are fully transportable by air, road or sea, reducing delivery time and speeding installation. With highly flexible module containers and system components, setup time and costs are reduced. You get power online faster at a lower cost.
- // Our power modules for use in power stations feature minimum external dimensions that reduce transportation costs and minimize the installed footprint.

Certification

- // Diesel and gas power stations feature CSC-certified containers for trouble-free conventional transport and stackable storage.

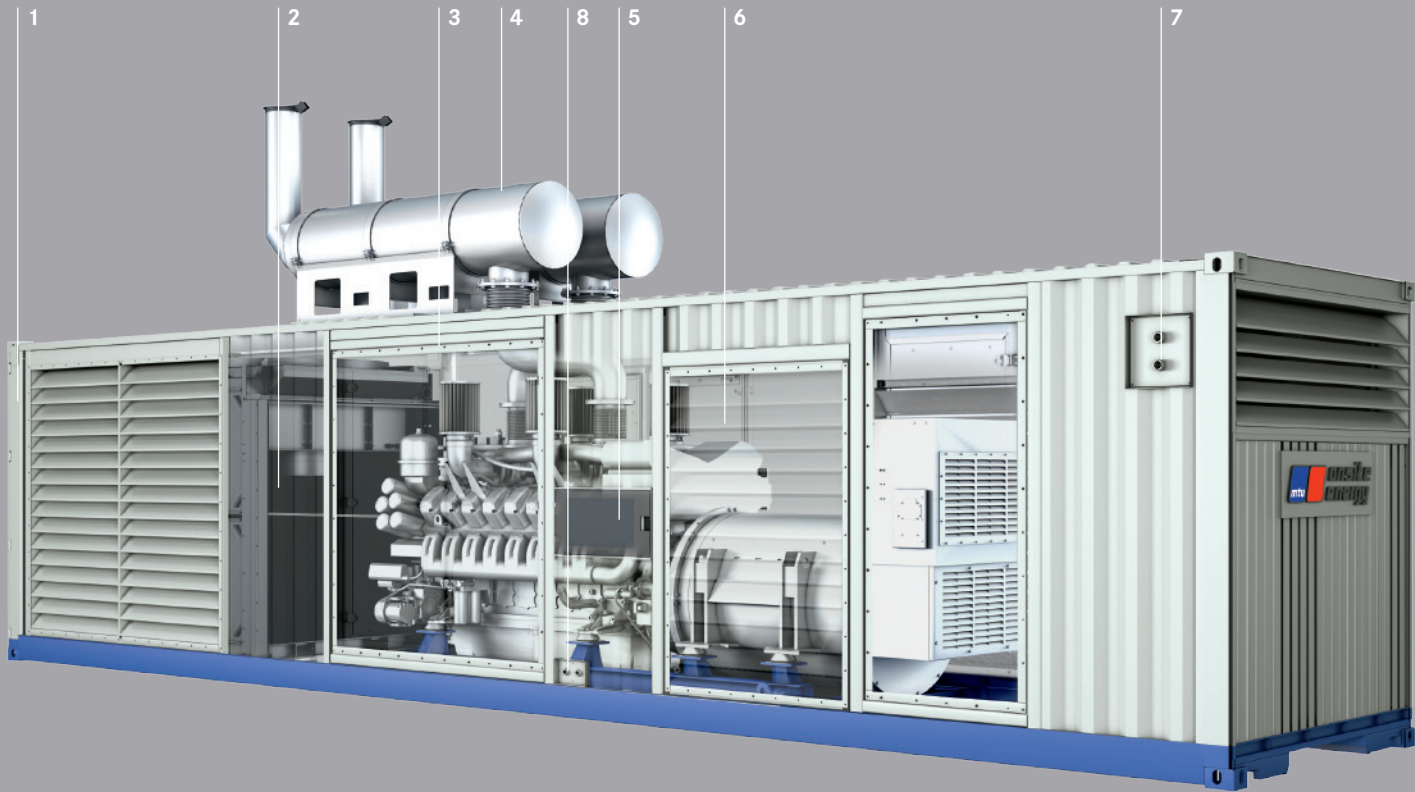
Suitability for harsh environments

- // Containerized power modules are designed for harsh environments with wide temperature ranges and high altitudes.
- // The generator set, controls and other internals are protected from adverse weather conditions.

Easy installation

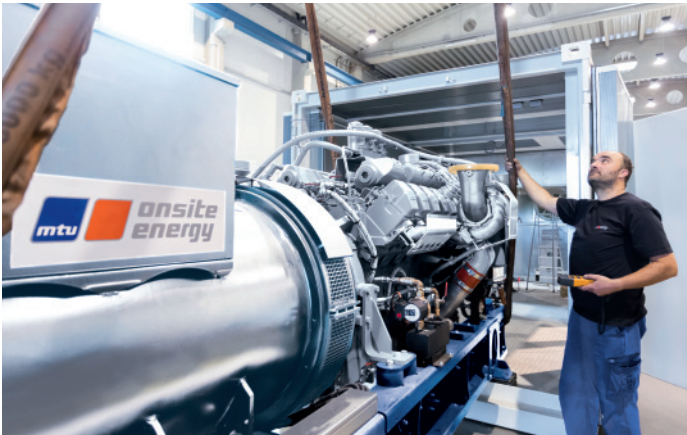
- // Proven access concepts make the power modules easy to install, service and maintain.
- // Paralleling of generator sets is easy using advanced onboard digital controllers, eliminating the need for expensive paralleling switchgear.
- // Diesel units can switch between 50 Hz and 60 Hz.

In addition, MTU Onsite Energy maintains a large inventory of power modules to supply fast-track projects.



Containerized diesel power module

- 1 ISO Standard 40 ft. HC shipping container (CSC certified)
- 2 Separated radiator room for split core radiator with vertical discharge
- 3 Large access door for maintenance (Center post can be removed)
- 4 Exhaust silencers with rain flaps, stored in radiator compartment during transportation
- 5 Control panel
- 6 Intake louvers
- 7 Fuel inlet
- 8 Oil change port



INNOVATIVE POWER STATION DESIGN FOR DIESEL APPLICATIONS.

A typical layout of a power station installation includes power modules, associated transformers and containerized distribution that manages and integrates the power station to the power grid.

1 Power module

// The standard enclosure for the MTU Onsite Energy power module is a 40-foot-cube ISO container.

2 Transformer (if necessary)

// Convert generated voltage to voltage according to customer specifications.

3 Cabling

// Cabling is routed from the power modules to the transformers and the distribution container, and ultimately connects to the power grid. Cabling also runs from the power modules to the fuel containers.

4 Fuel supply

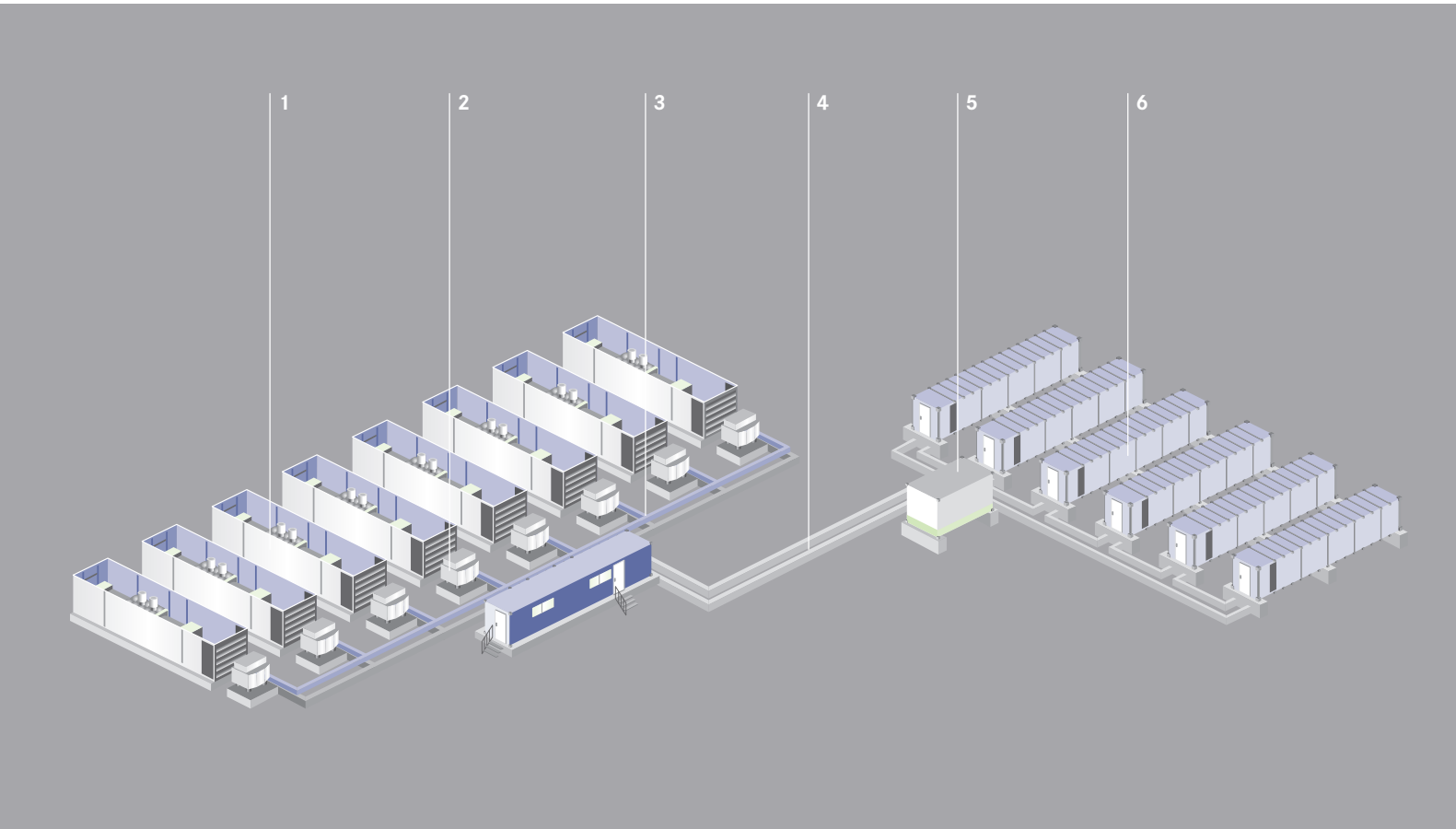
// Fuel lines run from the fuel containers through the fuel treatment system and to the power modules.

5 Fuel treatment

// Since fuel quality is so critical to generator set reliability, the multi-stage fuel treatment system filters out water and other impurities from fuel in the storage tanks.

6 Fuel storage

// Fuel containers offer large bulk fuel storage that can be sized according to customer need. Cubical steel tanks have a capacity of up to 50,000 liters (13,200 U.S. gallons).



PROVEN INSTALLATIONS WORLDWIDE.

When you need power anywhere around the globe, power stations from MTU Onsite Energy can be rapidly configured and delivered to meet your mid- and long-term power needs. Whether your need is 10 MW or 200 MW or more, you can count on MTU Onsite Energy to deliver on time and on budget.



// Chile 294 MW



// Yemen 45 MW



// Caribbean 1,747 MW



// Botswana 70 MW



// Venezuela 300 MW



// Bangladesh 50 MW



FROM EQUIPMENT SUPPLY TO COMPLETE POWER STATION INSTALLATION.

MTU Onsite Energy offers a variety of options, each designed to suit your specific application and resources. We can provide solutions to the end user or work with various intermediaries, which can assume temporary or life-of-the-project operational responsibilities in various Build Own Operate Transfer (BOOT) arrangements.

Engineering consulting

- // MTU Onsite Energy and its global strategic partners can provide consulting expertise in building power stations based on our generator set units. Our knowledge and experience in designing and building power stations around the world with Engineering Procurement Construction (EPC) and end users is your assurance of quality and service.
- // Through consultation, we can also customize our products to best adapt a solution to your needs. These consulting services are ideal for clients who want to focus their portfolio of products under a single brand and manufacturer.

Engineering Procurement Construction (EPC)

- // MTU Onsite Energy can supply power stations that provide the engineering and construction services to the end user. EPCs are usually engaged by the end users to manage the project on their behalf.

Independent Power Producer (IPP)

- // MTU Onsite Energy can supply packaged generator sets to IPPs that assemble power stations and sell energy to local power grids or to private entities. This arrangement is advantageous to the end users if they only want to purchase kilowatt-hours and not be involved in owning, operating or maintaining a power station.

Turnkey solutions

- // Whether working with an EPC or an IPP, MTU Onsite Energy can provide a power solution and a complete turnkey package, ready to operate when delivered to the project site. Our modular packaged generator sets, fuel systems and controls speed installation and commissioning when power is needed fast.

MTU **VALUECARE**: KEEP GOING.



From maintenance to spare parts and consumables to remanufactured products, MTU offers a full range of support to help keep your equipment operating productively. Designed for maximum performance, uptime and value, MTU ValueCare is a diverse portfolio of products and services that can help you get the most from your equipment.

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MTU ValueCare includes three product lines:

ValueService

- // ValueService is a full line of service solutions to help you get the most out of your equipment and protect your investment. From scheduled and unscheduled maintenance to product training, MTU provides support tailored to your specifications.

ValueSpares

- // ValueSpares genuine parts and consumables are designed, tested and approved specifically for MTU engines and systems. Only MTU can guarantee genuine quality, with ValueSpares oils, coolants and filters that are designed to work seamlessly with your equipment – ensuring maximum performance and lasting value.

ValueExchange

- // ValueExchange provides a full range of genuine remanufactured products, engineered to ensure robust, reliable performance. Choose from remanufactured parts or engines and systems that utilize genuine new and remanufactured parts. A rigorous reconditioning process ensures the same high standards of performance, service life and quality as new products – including design and model-related updates. When you choose ValueExchange products, you get genuine quality, speed and peace of mind while lowering costs.

Local support. Worldwide.

- // Whenever and wherever you need expert support, MTU Onsite Energy specialists are available through our global network of over 1,200 service centers. This continuous and long-term care ensures high availability, dependability and efficiency throughout the lifecycle of your engines and systems. To find your local MTU Onsite Energy distributor, visit www.mtuonsiteenergy.com



MTU Onsite Energy
A Rolls-Royce Power Systems Brand

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