GENSETS & much more than you expect

TAKING PARTNERSHIP TO NEW LEVELS: COMPLETE POWER SYSTEM SOLUTIONS.

mtu onsite energy
MTU ONSITE ENERGY

TABLE OF CONTENTS

POWER SOLUTIONS FROM A SINGLE SOURCE 4

STANDBY POWER SOLUTIONS
  // References: Telecommunication/Hospital 14
  // References: Airport/Datacenter 16

CONTINUOUS POWER SOLUTIONS
  // References: Industry/Farming 22
  // References: Biogas 24

PRODUCT OVERVIEW 26

SERVICE SOLUTIONS
  // Local support, worldwide 32

CONTACT
Development from plan to installation to maintenance
MORE THAN POWER.

MTU OnSite Energy supplies all the expertise, equipment and services needed to integrate complete power solutions – from fuel supply to electrical design. Our customer-tailored generator sets come with convenient single-source service arrangements. We also offer long-term solutions that cover the entire service life of your system.

PLANNING

We rigorously analyze the demands of your business and staff, as well as the applicable standards, guidelines, deadlines, and local conditions. This allows us to design the proper solution and prevent future problems.

DEVELOPMENT

Our wide-ranging experience helps at every stage of the design and delivery of your power solution. Dynamic, decentralized power distribution is enabled by our flexible decentralized control strategies.

INSTALLATION

Optimum operation is ensured by expert installation of our generator, including integration with the local power grid and control network, software configuration, emergency simulation, test runs and training.

MAINTENANCE

System monitoring and comprehensive on-site service for the entire life of our equipment is assured by our team, who are experienced technicians with expert knowledge of regional standards and how to apply them.
STANDBY POWER SOLUTIONS & everything under control
STANDBY POWER SOLUTIONS

STANDARDIZED BACKUP

MTU Onsite Energy diesel generator sets function as safeguards to ensure uninterrupted electricity supplies to residential and public buildings, industrial facilities or entire city districts. Standardized backup provides reliability when grid power fails. Whether a drop in voltage or a blackout, it’s vital to have reliable standby diesel systems that ramp up within seconds to restore electricity independently of the grid. MTU Onsite Energy gensets are engineered for maximum reliability, high load capability and quick response in order to safeguard operations at low investment cost.

MTU Onsite Energy provides reliable natural gas and liquid-propane-fueled gensets for standby power applications. Backed by decades of experience and total system expertise, MTU Onsite Energy gas gensets are effective, dependable and configured to meet your exact requirements.

MISSION CRITICAL

Mission critical standby power is essential when lives or huge economic losses are at risk. That makes it as a must in hospitals, health care facilities, governmental and public buildings and for infrastructure systems. Data centers, of course, provide indispensable services for all of the institutions above. MTU Onsite Energy focuses on the highest reliability and availability of power.
STANDARDIZED BACKUP

TELECOMMUNICATION
NEVER „TEMPORARILY NOT AVAILABLE“.

In the hotly contested Turkish telecommunications market, Türk Telekom cannot afford to interrupt service for its customers. Its central facility channels 33% of Turkey’s internet volume. That’s why, in 2011, Türk Telekom chose MTU Onsite Energy to make sure it is well prepared to meet future demand.

MTU Turkey used its experience as a systems provider to completely equip the facility, supplying everything from generator sets through switch cabinets to electrical plant. The systems run in parallel and each can serve as a backup for the other. Their high torque gives the MTU engines rapid ramp-up and high load capabilities, enabling them to reach full operating output, with stable voltage and frequency, within just nine seconds, keeping the data flowing.

MISSION CRITICAL

HOSPITAL
READY TO SAVE LIVES WITHOUT INTERRUPTION.

The Charité University Hospital treats about half a million patients a year and is Berlin’s third largest electricity consumer. MTU Onsite Energy supplied the hospital with a turnkey system including two diesel gensets, cooling, fuel and exhaust systems, air supply and extraction system and control system.

MTU Onsite Energy was responsible for planning the project including construction and control systems and incorporating strict noise abatement regulations and exhaust emission limits. The backup systems now ensure the electricity supply for the main diagnostic suite and the nuclear medicine, dermatology, psychiatry, neurology and pathological diagnostics departments. Emergency startup only requires one starter system, the other acts as redundant backup for additional safety.

// Who: Telecommunications company Türk Telekom
// What: Emergency power supply based on 16-cylinder Series 4000 diesel gensets (MTU 16V4000 DS) for the Istanbul center of telecommunications provider Türk Telekom
// Where: Istanbul, Turkey

// Who: Charité University Hospital
// What: Emergency power supply for the north section of the hospital site Campus Charité Mitte provided by two diesel gensets (MTU 12V4000 DS) including peripherals
// Where: Berlin, Germany
MISSION CRITICAL

AIRPORT
STANDBY FOR TAKEOFF.

A major ice storm recently left Tulsa airport without power for more than eight hours and stranded thousands of passengers. MTU Onsite Energy was chosen to supply a new stand-by power system incorporating two gensets with a unique, low-cost generator paralleling solution.

The generators are able to synchronize without expensive paralleling switchgear using their standard DGC2020 onboard generator controllers. This has raised flexibility and created opportunities to reduce energy consumption, lower operating costs and reduce the use of natural resources. The innovative design helped keep project costs low without affecting system reliability or efficiency.

// Who: Tulsa International Airport
// What: MTU Onsite Energy system backs up 4 MW load with two generator sets paralleled without traditional switchgear
// Where: Tulsa, Oklahoma, USA

DATACENTER
ENSURING 100% UPTIME.

Industry leader Infomart set high standards for its new Portland data center power system: low fuel consumption, low subtransient reactance, 85 percent load factor, and flexibility for future growth.

The MTU Series 4000 generator sets used are designed for optimal fuel consumption, exceptional reliability and high-power density. The data center is Uptime Tier 3 compliant and provides 99 percent efficiency of uninterrupted power supply. It is expected to save over 48 million kilowatt hours and reduce carbon emission by 43 million pounds over the next decade by sourcing hydroelectricity from the federal Bonneville Power Administration (BPA).

// Who: Infomart Data Centers
// What: Fourteen 2,000 and 2,250 kW MTU Onsite Energy Series 4000 DS diesel generator sets with customized enclosures
// Where: Hillsboro, Oregon, USA
CONTINUOUS POWER SOLUTIONS & 24/7 in motion
CONTINUOUS POWER SOLUTIONS

CONTINUOUS + CHP

Continuous power gensets are designed for long term use with a constant or varying loads. They are primarily used for the base load generation of electricity, in remote locations with limited access to the public grid. They can operate as island, island-parallel or grid-parallel applications. They can also be used for combined heat and power generation (CHP).

PRIME

Prime power applies to installations where utility power is unavailable or unreliable. At varying load, the number of genset operating hours is unlimited.

PEAK

Peak power is focused on providing additional short-term power to the grid (peak shaving). This application becomes relevant whenever renewable power sources like solar or wind are used that might not always be able to provide the full power demand for example during peak load times.
CONTINUOUS + CHP

INDUSTRY
TURNING HEAT INTO ICE CREAM.

Langnese makes millions of liters of ice cream for the whole of Europe at its Heppenheim plant, and — perhaps surprisingly — heat plays a major part in this. The company has been using an MTU Onsite Energy heat-controlled combined heat and power plant (CHP) since 2009 to meet part of this demand for both heat and electricity.

The site requirements are complex, but the MTU 16-cylinder Series 4000 natural gas engine achieves an efficiency factor of 87.1% by optimizing the utilization of heat. The combined heat and power plant allows Langnese to adapt heat generation flexibly to satisfy peak production demands in its factory.

FARMING
TURNING WASTE INTO ENERGY

The Norm-E-Lane dairy farm has almost 5,000 head of cattle, which produce a lot of manure. But it isn’t wasted. The farmers use an anaerobic digester to generate methane biogas from the raw manure. The biogas is then used to generate electricity and heat with a Series 4000 MTU Onsite Energy biogas combined heat and power system (CHP).

The new CHP system went into service in 2015, and the high-efficiency upgrade is already generating additional savings. The farm doesn’t use any of the electrical output. Instead, all the “cow power” is sold to the grid. However, the heat generated is used to heat the anaerobic digester, helping boost sustainability and improve the bottom line.

// Who: Ice cream manufacturer
Langnese
// What: Heat-controlled cogeneration plant featuring an MTU 16V4000 GS gas system
// Where: Heppenheim, Germany

// Who: Norm-E-Lane Farm
// What: MTU 8V4000 GS Biogas CHP system
// Where: Chili, Wisconsin, USA
CONTINUOUS + CHP

BIOGAS
SAVING MONEY AND THE ENVIRONMENT.

General Starch Limited (GSL) is one of Thailand’s biggest producers of starch, which it extracts from the roots of the cassava plant. In 2016 it installed two CHP gensets to power the energy-intensive production process.

The two MTU units run on biogas generated by waste water from the production process. They also use the exhaust heat to run the absorption chiller that produces cold water used in the starch production process. This leads to a total energy efficiency of more than 80% and contributes to GSL’s goal of reducing emissions.

Who: General Starch Limited (GSL)  
What: MTU 20V4000 GS Biogas CHP system  
Where: Khon Buri, nakhon Ratchasima Province (Thai: Korat Province), North Eastern Thailand

BIOGAS
FROM PIG FARMER TO ENERGY PRODUCER.

Pietro Bertesago rears pigs for the production of Parma ham. In 2008, he was the first farmer in the northern Italian province of Cremona to install a biogas plant and two years later, he introduced a second one. Both plants are based on combined heat and power modules (CHP) from MTU Onsite Energy.

Bertesago has developed the biogas plant as a second source of income because pig farming alone was no longer a high earner. He earns money by feeding the electricity into the public grid and in winter, he uses the heat from the engine to heat his pigsties.

Who: Pietro Bertesago and Giovanni Bertoni  
What: MTU 12V400 GS Biogas CHP system  
Where: Moscazzano and Sospiro, two villages in the northern Italian province of Cremona (near Parma)
ALL DIESEL GENSETS
AT A GLANCE.

MTU 0063-0185 GS
50 Hz: 30 – 200 kVA
60 Hz: 27 – 130 kVA

MTU 0080-1600 DS
50 Hz: 30 – 730 kVA
60 Hz: 27 – 600 kVA

MTU 2000 DS
50 Hz: 750 – 1,400 kVA
60 Hz: 615 – 1,250 kVA

MTU POWER MODULES
Diesel power Containers 20’ and 40’
for 50 Hz and 60 Hz

MTU 4000 DS
50 Hz: 1,550 – 3,730 kVA
60 Hz: 1,125 – 3,250 kVA

ALL GAS GENSETS
AT A GLANCE.

MTU 0063 GS
50 Hz: 30 – 200 kW
60 Hz: 27 – 130 kW

MTU 400 GS
50 Hz: 120 – 420 kVA
60 Hz: 130 – 360 kVA

MTU 4000 GS
50 Hz: 776 – 2,530 kW
60 Hz: 760 – 2,130 kVA

for natural, biogas and other gases

MTU POWER MODULES
Gas power Containers 40’
for 50 Hz and 60 Hz

MTU 0080-1600 DS
50 Hz: 30 – 730 kVA
60 Hz: 27 – 600 kVA

MTU 4000 DS
50 Hz: 1,550 – 3,730 kVA
60 Hz: 1,125 – 3,250 kVA

Only for standby / prime applications

for natural, biogas and other gases
SERVICE SOLUTIONS & protecting your investment
With MTU Onsite Energy you get the power, performance and peace of mind to focus on what matters most—your business. Our digitally connected power systems, wrapped in ValueCare Agreements, make it easy to keep your equipment operating reliably and reduce total cost of ownership (TCO) through proactive monitoring and preventive maintenance. Go ahead, focus on what matters most to you—and leave the rest to us.

MTU Onsite Energy. Partners in productivity.

SERVICE SOLUTIONS DESIGNED AROUND YOUR BUSINESS.

MONITOR SYSTEM ACTIVITY
Make quick, informed decisions from afar with optional remote monitoring capabilities.

COUNT ON GENUINE PARTS
Ensure parts availability and price stability throughout the life of your equipment.

ELIMINATE THE UNEXPECTED
Optimize lifecycle costs and improve system reliability with planned maintenance.

Local support, worldwide. With more than 1,200 service locations worldwide, you can count on responsive support from expert technicians—wherever you are, whatever you need.
Global Contact numbers

Europe, Middle East & Africa:
Tel.: +49 7541 90-77777
Fax: +49 7541 90-77778

Asia/Pacific:
Tel.: +65 6860 9669
Fax: +65 6860 9666

North and Latin America:
Tel.: +1 248 560 8888
Fax: +1 248 560 8726

linkedin.com/company/mtu-onsite-energy
facebook.com/rrpowersystems
youtube.com/user/mtuonsiteenergy
twitter.com/mtuoe_pr
flickr.com/photos/rrpowersystems/

MTU Onsite Energy
Part of the Rolls-Royce Group

Email
info@mtu-online.com

Web
www.mtuonsiteenergy.com