



**SIEMENS**

# We power the world with innovative gas turbines

Siemens gas turbine portfolio

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# Gas turbines from 4 to 593 MW

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The Siemens gas turbine range has been designed and tailored to help meet our customers' challenges in a dynamic market environment.

Our models range from 4 to 593 MW, fulfilling the requirements of a wide spectrum of applications in terms of efficiency, reliability, flexibility, and environmental compatibility. The products offer low lifecycle costs and an excellent return on investment.



SGT-100 packages for power generation

# Siemens gas turbines overview

For more information, please click on a product name

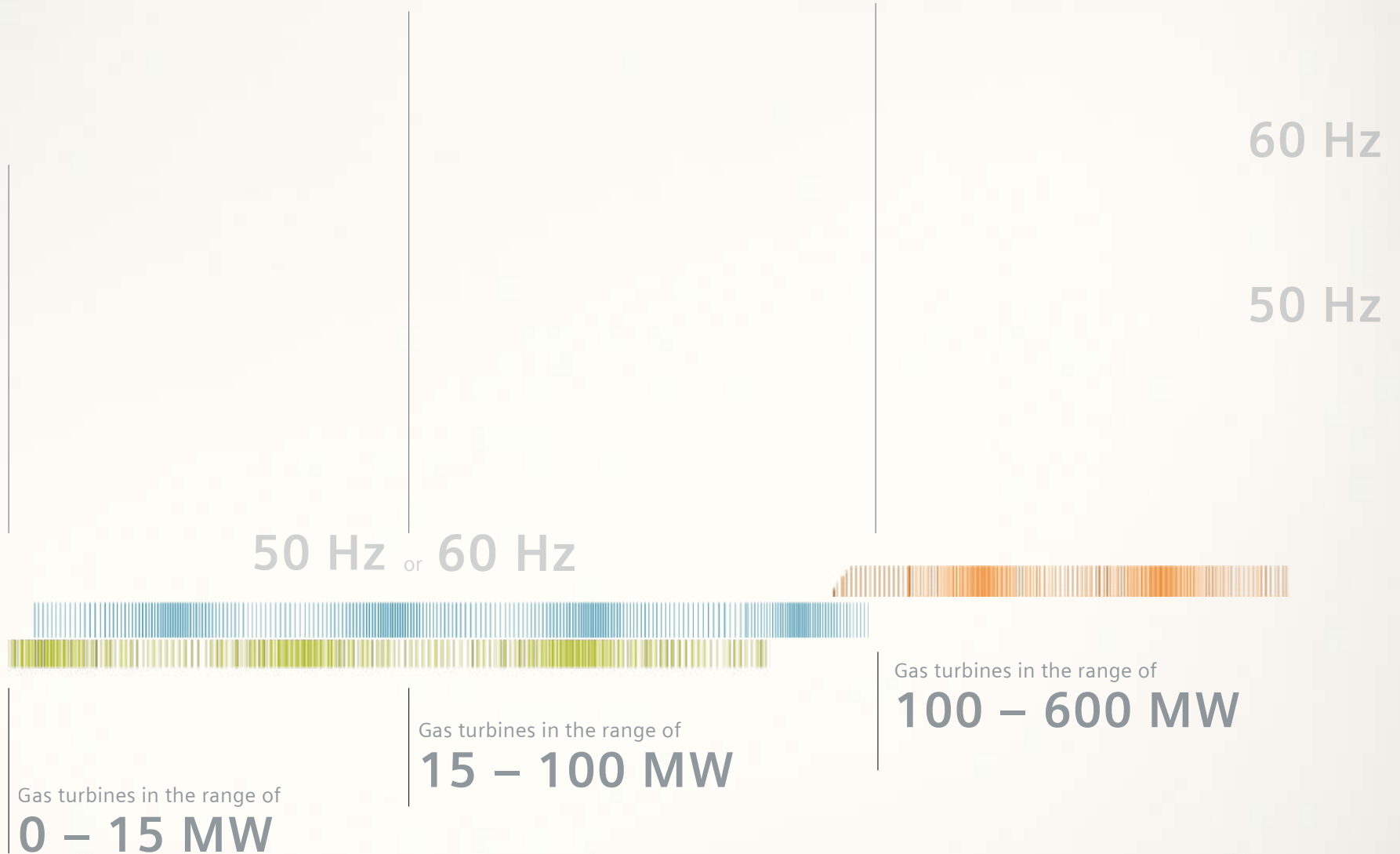
Heavy-duty  
gas turbines



Industrial  
gas turbines



Aeroderivative  
gas turbines



General note:

All simple cycle and mechanical drive performance data in this document are gross values at ISO ambient conditions.

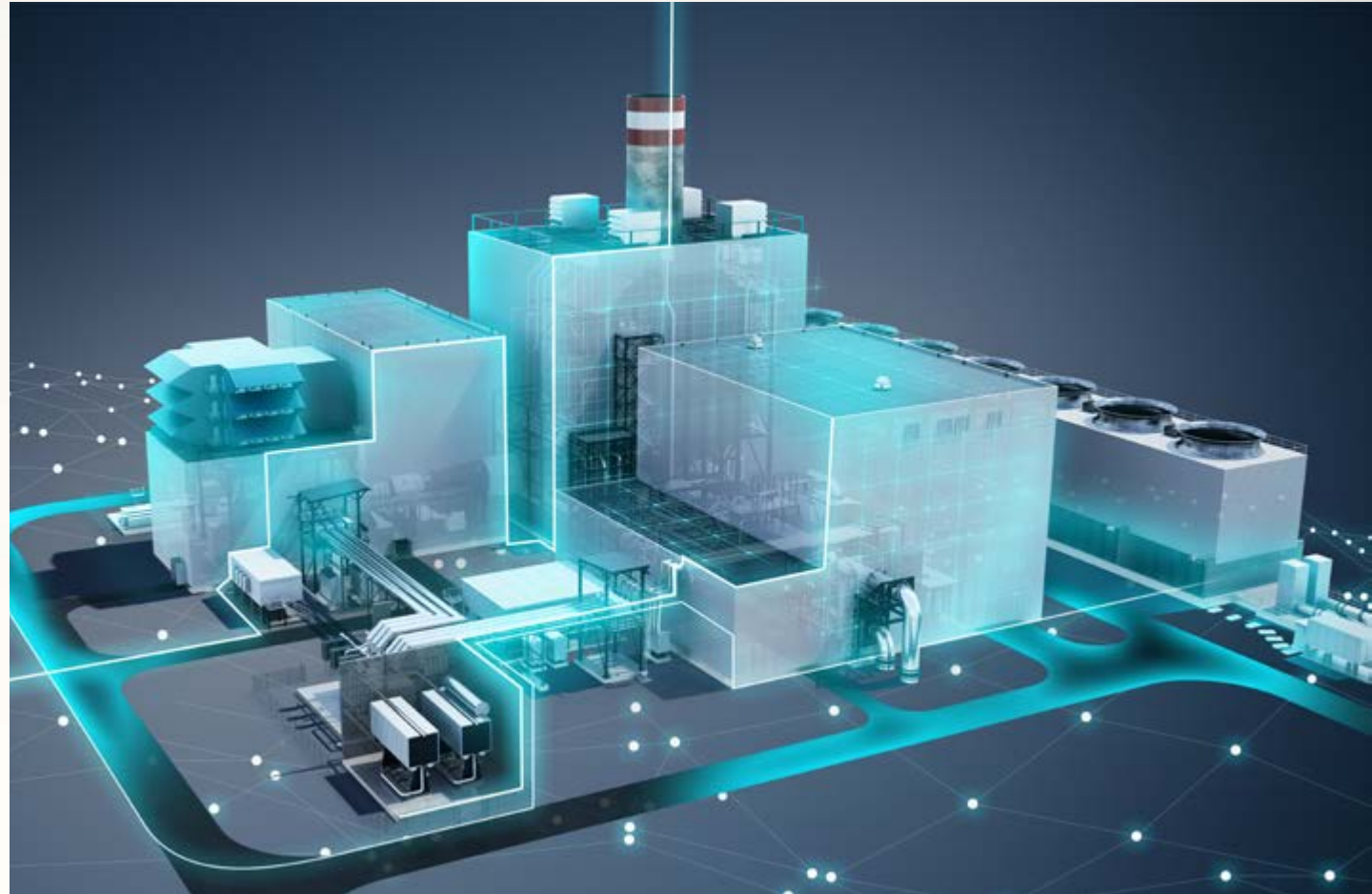
All combined cycle performance data in this document are net values at ISO ambient conditions.

Siemens **HL-class** gas turbines are paving the way to the next level of efficiency and performance. The evolutionary development step, derived from proven Siemens H-class technology, combines a **series of new but already tested technologies** like super-efficient internal cooling features for blades and vanes and an advanced combustion system to increase firing temperature.

The result: A technology carrier to the next level with a **combined cycle efficiency beyond 63%** and a midterm goal of even more.

The new Siemens HL-class consists of three engines: SGT5-8000HL, SGT5-9000HL and SGT6-9000HL.

- Derived from proven Siemens H-class technology
- Pushing efficiency and performance to the next level
- Competitive service model with 33,000 Equivalent Base Hours (EBH) / 1,250 Equivalent Starts (ES)



**SGT5-8000HL**  
**SGT5-9000HL**  
**SGT6-9000HL**

**Heavy-duty gas turbines**

**Power output: 405 – 593 MW**

The **SGT5-8000H** offers outstanding performance and high flexibility. With a gross power output of **450 MW**, and a quick ramp-up from start to full load, the turbine offers **low lifecycle costs** and helps to meet fluctuating power demands.

The turbine is the core component of highly efficient gas-fired power plants, designed for 665 MW at 61% efficiency in combined cycle operation.

With more than **1 million fired hours**, the SGT-8000H series provides mature technology with verified reliability and availability.

- Outstanding performance
- High flexibility, short start-up times
- Proven in commercial operations



Düsseldorf Lausward, Germany

## **SGT5-8000H**

Heavy-duty gas turbine

**Power output: 450 MW**

The **SGT6-8000H** offers outstanding performance and high flexibility. The air-cooled turbine with a gross power output of **310 MW** is designed for simple combined cycle integration and short start-up times.

The turbine is the core component of highly efficient gas-fired power plants, designed for 460 MW at 61% efficiency in combined cycle operation.

With more than **1 million fired hours**, the SGT-8000H series provides mature technology with verified reliability and availability.

- Outstanding performance
- High flexibility, short start-up times
- Proven in commercial operations



Dangjin 3, South Korea

## **SGT6-8000H**

Heavy-duty gas turbine

**Power output: 310 MW**

The proven **SGT5-4000F** gas turbine has a **robust design** with internal cooling air passages for **trusted long-term operation** and **fast start-up capability**. The advanced annular combustion chamber with individually replaceable heat shields allows for **easy and fast** walk-in **maintenance**. Hydraulic Clearance Optimization (HCO) reduces clearance losses to increase the gas turbine efficiency and minimize degradation at start-up and shut down.

Today, more than **350 turbines** have been **sold**. The installed fleet has accumulated an impressive fleet experience of over **17 million equivalent operating hours**, and a fleet **reliability** of more than **99%**.

- Proven design, large fleet experience
- Easy maintenance, high availability
- High operational flexibility



Al Taweelah, United Arab Emirates

## **SGT5-4000F**

Heavy-duty gas turbine

**Power output: 329 MW**

The **SGT6-5000F** gas turbine offers economical power generation with fast start-up for peak, intermediate, or base load duty. It achieves peak values for reliability and continuous operation with **highest performance values in its class**.

Today, more than **380 turbines** have been **sold**. The installed fleet has accumulated more than **15 million equivalent operating hours**, with a fleet **reliability** of over **99%**.

- Highest power output for 60 Hz F-class
- Fast start-up and load changing capabilities
- Low emissions with an NO<sub>x</sub> emission of ≤9 ppmvd on gas and ≤25 ppmvd on oil



La Caridad, Sonora, Mexico

## **SGT6-5000F**

Heavy-duty gas turbine

Power output: 215 – 260 MW



The **SGT5-2000E** gas turbine is a **proven, robust** engine for the 50 Hz market which is used in simple cycle or combined cycle processes with or without combined heat and power. It is suitable for **all load ranges**, including peak load.

The SGT5-2000E offers outstanding **fuel flexibility**. It can be fired with low calorific gases or gases containing CO<sub>2</sub>, H<sub>2</sub>S and N<sub>2</sub>, as well as with crude oil and other liquid fuels with high viscosity. It provides **low NO<sub>x</sub> emissions**, even in the part-load range.

Today, around **300 turbines** have been sold, and additionally, more than **270 units** under license. Our installed fleet has accumulated over **21 million equivalent operating hours**. The SGT-2000E series fleet's overall best-in-class reliability exceeds **99.5%**.

- Best-in-class reliability
- High operational and fuel flexibility
- Easy maintenance



Az-Zour, Kuwait

## **SGT5-2000E**

Heavy-duty gas turbine

**Power output: 187 MW**

The **SGT6-2000E** gas turbine is a **proven, robust** engine for the 60 Hz market which is used in simple cycle or combined cycle processes with or without combined heat and power supply. It is suitable for all load ranges, including peak load.

The SGT6-2000E offers outstanding **fuel flexibility**. It can be fired with low calorific gases or gases containing CO<sub>2</sub>, H<sub>2</sub>S and N<sub>2</sub>, as well as with crude oil and other liquid fuels with high viscosity. It provides **low NO<sub>x</sub> emissions**, even in the part-load range.

Today, more than **100 turbines** have been sold, resulting in a fleet experience of over **9 million equivalent operating hours**. The SGT-2000E series fleet's overall best-in-class reliability constantly exceeds **99.5%**.

- Best-in-class reliability
- High operational and fuel flexibility
- Easy maintenance



Charles D. Lamb Energy Center,  
Oklahoma, USA

## **SGT6-2000E**

Heavy-duty gas turbine

**Power output: 117 MW**

The **SGT-800** industrial gas turbine offers **broad flexibility** in fuels, operating conditions, maintenance concepts, package solutions, and ratings.

The excellent efficiency and steam-raising capability make it outstanding in **cogeneration** and **combined cycle** installations. The SGT-800-based power plant, designed for flexible operation, is perfectly suited as grid support.

The SGT-800 combines a simple, robust design, for **high reliability** and **easy maintenance**, with **high efficiency** and **low emissions**.

With more than **370 units sold** and over **7 million operating hours**, the SGT-800 is an excellent choice for **industrial power generation** or **oil and gas** applications.

- Proven reliability
- Flexible solutions
- Excellent performance



Amata Nakorn, Chonburi, Thailand

## SGT-800

Industrial gas turbine

Power generation: 49.9 – 62.5 MW(e)

With **maximized uptime, top-class performance**, and a **low environmental footprint** offering the customer high lifetime profitability, the **SGT-750** industrial gas turbine is a perfect choice for the oil and gas industry as well as industrial power generation. The modular and flexible engine enables onshore or offshore applications, mechanical drive or heat and power. It combines a robust, reliable design with high efficiency and low emissions.

The SGT-750 offers broad flexibility with **different rating options** due to excellent part load capability. When running on lower load the maintenance intervals will be extended, low emissions can be guaranteed while the efficiency still is kept over 40%.

The SGT-750 has a track record of **successful performance** after years in operation and verified results in various applications. Units are sold for use in both power generation and compressor applications such as pipelines and liquefied natural gas (LNG).

- Maximized uptime
- High efficiency
- Low emissions



SGT-750 combined heat and power plant in Altamira, Mexico

## SGT-750

Industrial gas turbine

Power generation: 39.8 MW(e)  
Mechanical drive: 34.0 – 41.0 MW

Thanks to its wide fuel range capability and design features, the **SGT-700** is a perfect choice for several onshore applications: Industrial power generation, oil and gas power generation, and mechanical drive applications.

It performs well in **combined cycle plants**, and **combined heat and power plants**.

The SGT-700 gas turbine is an evolution of the proven SGT-600 and is specifically designed for **higher power output**. It offers **easy on-site or off-site maintenance**, and operates with a wide range of gaseous and liquid fuels on Dry Low Emission (DLE).

More than **85 units** have been sold with over **2 million operating hours**. The fleet-leading gas turbine has 100,000 operating hours.

- Robust, reliable design
- High fuel flexibility
- Low emissions



Three SGT-700 packages for mechanical drive

## SGT-700

Industrial gas turbine

Power generation: 32.8 MW(e)  
Mechanical drive: 33.7 MW

High reliability and availability in combination with good fuel flexibility and third-generation DLE makes the **SGT-600** a perfect choice for several onshore applications: Industrial power generation, oil and gas power generation, and mechanical drive applications. Within the IPG applications, the turbine performs well in **combined heat and power plants**, and **combined cycle plants**.

The industrial gas turbine combines a robust, reliable design with **high fuel flexibility**, and **low emissions**.

More than **350 units** have been sold with over **10 million operating hours**. The fleet-leading gas turbine has 190,000 operating hours.

- Robust, reliable design
- High fuel flexibility
- Low emissions



SGT-600 installation for both mechanical drive and power generation

## SGT-600

Industrial gas turbine

Power generation: 24.5 MW(e)  
Mechanical drive: 25.2 MW

The **SGT-400** is a twin-shaft gas turbine available in different configurations and power ratings to support power generation and mechanical drive applications from 10 – 15 MW. The twin-shaft arrangement allows for commonality of parts in mixed-duty installations.

The gas turbine offers the **highest efficiency** in its power class, incorporating the latest aerodynamic and combustion technologies.

With about 20 years of operating experience, the SGT-400 is proven in both offshore and onshore applications. Over **390 units** have been sold with more than **5 million hours operating experience**. The fleet leader has accumulated more than 120,000 operating hours.

- Latest aerodynamic and combustion technology
- Suitable for all climates, onshore and offshore
- High power-to-weight ratio



The SGT-400 is available as a factory-assembled package

## SGT-400

Industrial gas turbine

Power generation: 10.4 – 14.3 MW(e)

Mechanical drive: 10.8 – 14.9 MW

The **SGT-300** industrial gas turbine has a rugged industrial design that enables **high efficiency**, **reliability**, and **excellent emissions performance** in a broad spectrum of applications for both power generation and mechanical drive.

The gas turbine is a **proven** unit for all electrical power generation and cogeneration applications. It operates on a wide range of gaseous and liquid fuels. The compact arrangement, on-site or off-site maintainability, and inherent reliability of the SGT-300 make it an ideal gas turbine for the demanding oil and gas industry.

Over **150 units** have been sold, with more than **5.6 million equivalent operating hours**.

- Low maintenance requirements
- Low emissions
- Single-shaft version for power generation, twin-shaft version for mechanical drive applications



The SGT-300 twin-shaft version is used for mechanical drive

## SGT-300

Industrial gas turbine

Power generation: 7.9 MW(e)  
Mechanical drive: 8.4/9.1 MW



The **SGT-100** industrial gas turbine is a proven unit for all electrical power generation and mechanical drive applications. The compact arrangement, on-site or off-site maintainability, and inherent reliability makes it an ideal gas turbine for the demanding **oil and gas industry**.

The gas turbine has a rugged industrial design that enables **high efficiency** and **excellent emissions performance** on a wide range of gaseous and liquid fuels.

More than 420 units have been sold with more than 25 million operating hours. The lead package has over **180,000 equivalent hours of operation**.

- Robust and reliable product
- Wide range of gaseous and liquid fuels
- Single-shaft version for power generation or twin-shaft version for mechanical drive applications



The SGT-100 combines advanced technology with robust construction

## **SGT-100**

Industrial gas turbine

Power generation: 5.05/5.4 MW(e)  
Mechanical drive: 5.7 MW

Designed for industrial use in power generation and mechanical drive applications, the **SGT-A65** has established a new benchmark for power output, fuel economy, and cost savings.

The gas turbine is **highly flexible**, offering high power and efficiency with minimal drop-off at part-load and reduced speed conditions. It is available with **Wet Low Emission (WLE)** and **DLE** combustion systems.

The SGT-A65 is **proven in many different environments** and applications.

More than **115 units** have been sold with over **1.8 million fleet hours experience**. The fleet leader has accumulated more than 110,000 EOHs.

- Most powerful, pure aeroderivative gas turbine in its class
- Flexible with high cyclic life and fast starts
- Modular package design to allow for quick installation and maintenance in the field



SGT-A65 units for power generation

## **SGT-A65**

**(Industrial Trent 60)**  
**Aeroderivative gas turbine**

**Power generation: 59.6 – 70.8 MW(e)**  
**Mechanical drive: 57.9 – 62.3 MW**

A dependable supply of electricity is at the very base of good living standards and economic growth. Several areas of the world continue to require the **fast deployment of power solutions** to quickly support a damaged or inadequate infrastructure.

With site **installation in less than 2 weeks**, the **SGT-A45 mobile gas turbine** unit offers a cost-effective, dependable solution to these needs.

Based on proven aeroderivative gas turbine technology, the SGT-A45 achieves the **highest power density and fuel efficiency** of all mobile power plants on the market. It can operate at either 50 Hz or 60 Hz and offers a highly flexible solution for a wide range of applications.

- The world's most powerful and fuel-efficient mobile gas turbine
- Great flexibility in operation
- Highly mobile by land, air, sea
- Performance optimized for hot climates



Four SGT-A45 mobile units for power generation

## SGT-A45

Aeroderivative gas turbine

Power generation: up to 44.0 MW(e)

Note: Nominal performance shown. Performance guarantees are only provided in individual project proposals based on specifications given. Nominal performance shown referred to sea level, 60% relative humidity, natural gas fuel, zero installation losses.

With class-leading reliability and availability, the **SGT-A35** is a proven, dependable choice in power generation and mechanical drive applications. It is qualified to meet the stringent standards of the oil and gas industry in both onshore and offshore service.

The aeroderivative gas generator is highly tolerant of transient excursions and challenging mission cycles, and can be easily exchanged at site, reducing maintenance downtime and cost. Both conventional and DLE combustion systems are available, including dual fuel capability.

In a **40-year evolution**, the SGT-A35 has accumulated over **38 million equivalent operating hours**, with over **800 units sold**.

- Proven track record in the oil and gas industry
- Several variants to meet different power needs
- Lightweight, compact, modular package design to maximize power density



Two SGT-A35 (Industrial RB211-GT30) packages on an FPSO vessel

**SGT-A35**  
(Industrial RB211)  
Aeroderivative gas turbine

Power generation: 27.2 – 37.4 MW(e)  
Mechanical drive: 27.9 – 38.1 MW

Based on proven aeroderivative design, the **SGT-A05** delivers high efficiency and outstanding reliability for power generation applications like cogeneration and emergency power. The gas turbine offers rugged, easy-to-maintain performance due to features such as on-engine mounted auxiliary equipment.

The gas turbine engine is designed to operate on a **wide variety of fuels**. The fuel system operations include dual fuel, steam, and water injection. DLE technology is also available.

More than **1,690 SGT-A05 gas turbines** have been sold for industrial use to more than **500 customers in 55 countries**, accumulating an impressive 127 million operating hours since its introduction in 1963.

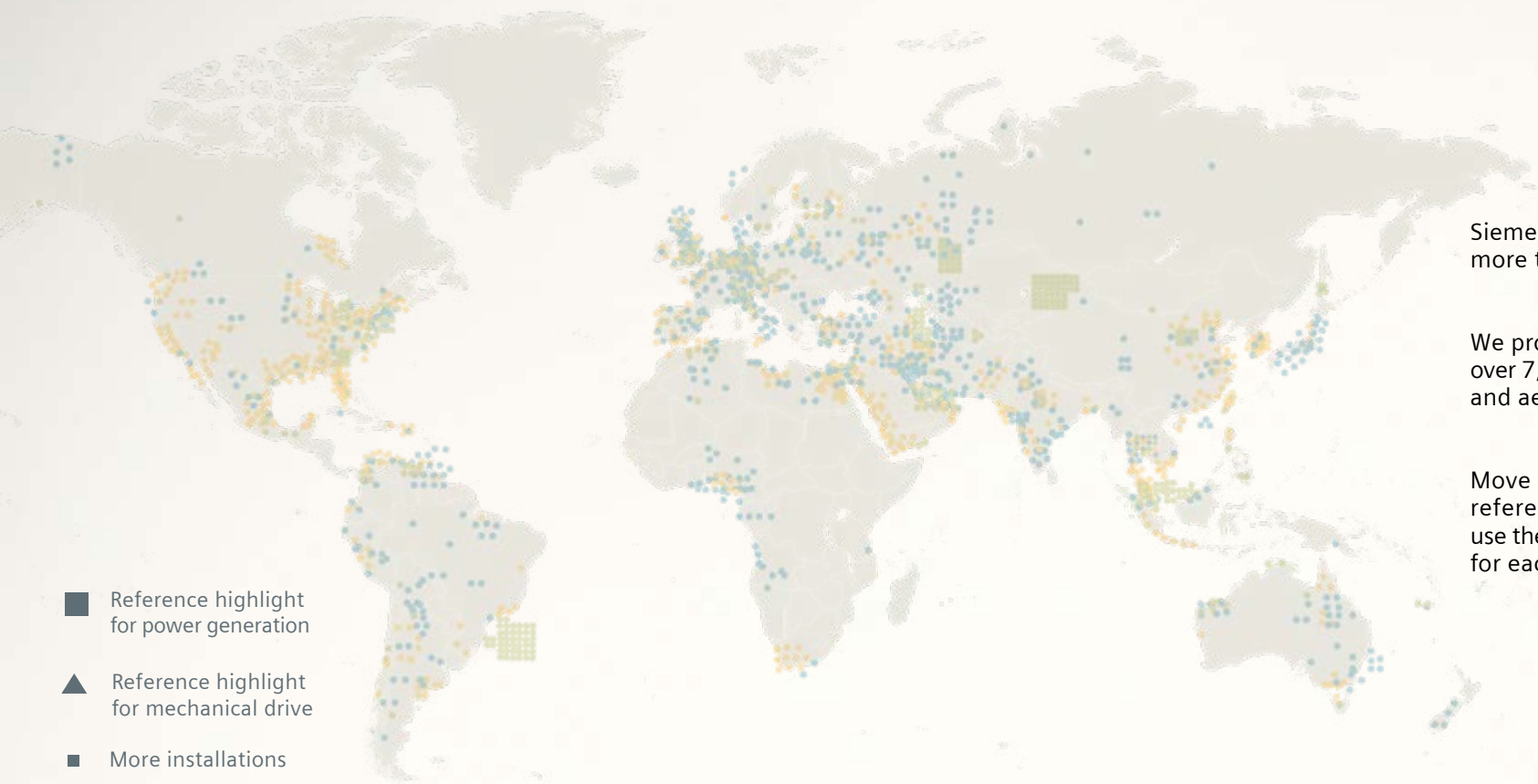
- More than 1,690 gas turbines supplied
- Full power available within 60 seconds
- High electrical and cycle efficiency



Power station at Mitchelstown, Ireland

**SGT-A05**  
(Industrial 501-K)  
Aeroderivative gas turbine

Power generation: 4.0 – 5.8 MW(e)



Siemens gas turbines are operating in more than 60 countries.

We provide proven technology with over 7,000 installed heavy-duty, industrial and aeroderivative gas turbines.

Move your mouse over one of the reference highlights to see details, and use the buttons below to show references for each gas turbine.

- Reference highlight for power generation
- ▲ Reference highlight for mechanical drive
- More installations

or  
choose  
your  
turbine:



For more information, please contact  
our Siemens Customer Support Center.  
Phone: +49 180 524 70 00  
Fax: +49 180 524 24 71  
(Charges depending on provider)  
E-mail: [support.energy@siemens.com](mailto:support.energy@siemens.com)

[www.siemens.com/gasturbines](http://www.siemens.com/gasturbines)

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