



Rolls-Royce

# Global Customer Support

Dedicated to providing service excellence to the energy industry



# We mean business:

...we mean **Service**



For both power generation and oil and gas operators, today's volatile industrial world means that controlling the cost of ownership, maximising operational capability and focusing constantly on the most important priorities have become crucial factors for business survival and prosperity. With Rolls-Royce at your side you gain the benefit of a world-class, global, customer-focused organisation.

From the supply of spare parts to equipment upgrades and enhancements to Long Term Service Agreements, Rolls-Royce services are tailored to meet the unique and exacting needs of each individual customer. Here we outline what Rolls-Royce can provide for you today, tomorrow and in the future.

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## Field services

Our service at the core of your business



**More than five decades ago, Rolls-Royce became the world pioneer in developing and introducing gas turbine power for industrial applications.**

Today, the enormous experience and expertise Rolls-Royce has amassed worldwide during those decades is available to serve you.

Wherever your plant is located, our field service specialists understand your priorities. Our teams of engineers and technicians based in key industry centres around the world respond rapidly and accurately, harnessing the wealth of engineering knowledge available within the powerhouse that is Rolls-Royce to optimise the performance and increase the availability of your equipment.

At the same time our field service experts work with you to minimise the life-cycle cost of ownership of your equipment, from commissioning and start-up through operation and technical support. Our response to your needs brings you 24-hours-a-day service, condition assessment and monitoring, field testing and trouble-shooting, repairs, upgrades, retrofits and training and supervisory packages.

In short, Rolls-Royce field service brings you unsurpassed value and unparalleled confidence – right when and where you need them most.

## Technical support

Technical support empowers your business



**Rolls-Royce technical support is driven by our commitment to optimise your assets. You need to attain the greatest sustained efficiency, reliability and availability from your equipment – and our commitment is geared to supporting you every step of the way and achieving these goals.**

Our technical support includes project development, from initial conceptual work through to construction and operation. It includes performance enhancement programmes designed specifically for your operation and made possible through the technical gains achieved during our extensive gas turbine research and development work.

Our technical support also focuses on delivering the latest in emissions reduction technology. Control system upgrades, availability improvement programmes, power and efficiency enhancement measures and lifetime extension initiatives benefit operators worldwide.

## Developing relationships



**Rolls-Royce has a long track record of offering aftermarket programmes that provide service support for our customers' engines. Our TotalCare® service provides a flexible programme that can be tailored to suit unique customer requirements, for a specified length of time. TotalCare is performance driven, so we guarantee levels of performance while you know exactly what you will spend on maintenance for the length of the agreement. We have the incentive to ensure your plant operates at or above contracted levels so, like you, we share in both the risk and the reward as we strive together for continuous improvement in plant performance.**

TotalCare service enables us to support all our customers – including new customers – with optimum cover, recognising the individual needs of each. This service covers all applications, from operating and maintaining a combined cycle power generation plant to assuming responsibility for an entire offshore rotating equipment installation.

In addition, our customers can choose the level of service provided by Rolls-Royce that best meets their needs.

Our involvement goes beyond merely providing service. We aim to become the partner of choice for customers by building long-term relationships. We aim to drive affordability through the entire life cycle of our products. We aim to hit your availability targets and minimise disruption for your customers. Most of all, we aim to create value for our shareholders – and for yours.

### Equipment Health Management

Rolls-Royce can provide constant monitoring of your equipment from a remote Operations Centre. Through data analysis and trend identification we can provide a proactive approach to resolve issues that may arise before they become costly problems. This leads directly to increased reliability and performance of your equipment.

# Lease and engine exchange

## Leasing delivers the right results



Rolls-Royce lease and exchange deals are designed to cut the overall life-cycle costs of your power system. They ensure the availability of an installation can be maintained during spells of engine outage.

Three leasing options are available:

- **The exchange engine option:** This enables 501, Avon and RB211 engines to be exchanged as part of a Long Term Service Agreement (LTSA). Rolls-Royce brings you exchange engines to cover both scheduled and unscheduled maintenance, dependent on the type of LTSA. You simply request an online reservation for an engine and time slot that meets your needs, providing you are a member of the engine exchange club. This provides benefits in terms of enhanced guarantees of availability, inclusive transport costs and minimal operational disruption.
- **The lease club member option:** This too covers 501, Avon and RB211 engines. Rolls-Royce guarantees an engine will be made available within 72 hours to support scheduled and unscheduled requirements. This option prioritises your request against any non-member (emergency) request for the same engine.
- **The lease club non-member (emergency) option:** 501, Avon and RB211 engines can be leased on an ad-hoc or emergency basis, subject to availability. No minimum contract duration is required and leasing charges are payable weekly.

Rolls-Royce lease and engine exchange options ensure you, the gas turbine operator, remain in the driving seat of your facility at all times – with maximum availability and profitability firmly in your hands.

# Repair and overhaul

Safe hands, swift service



**Nobody knows our energy product range better than we do. As the original equipment manufacturer, our product knowledge is second to none.**

This means we can undertake the complete overhaul of your rotating equipment, from initial removal from service through to its return to your facility. We maintain a pool of lease engines to minimise disruption to your operating profile while we ensure a rapid turn-round in one of our dedicated facilities worldwide.

Rolls-Royce product specialists around the world provide cost-effective repairs with no compromise in quality. We are fully ISO 9000 certified, which means we are committed to engineering excellence. And we provide you with a single Rolls-Royce point of contact covering all our repair and overhaul centres and partnerships.

When repair and overhaul is required, Rolls-Royce provides the risk-free, zero-surprise result.

# Spares

Delivered anywhere, anytime



**Rolls-Royce products are known for their reliability in the field and it's something our customers can count on. However, parts are still needed from time to time to maintain equipment or to replace components due to normal wear and tear. Our goal is to ensure immediate response and rapid delivery whenever needed to prevent a disruption in our customers' operations. That's why we have developed an extensive global spares sales and distribution network.**

This network allows us to deliver parts in a timely manner, regardless of our customers' location. Regional contacts work with our customers to procure the right parts from our global service centres and deliver them anywhere in the world.

In addition to our spares network, we offer several levels of parts service to customers to meet their needs and requirements. Customers can benefit from our expertise to plan and provision parts specific to their equipment and planned operating model, or simply request parts on demand.

# Engineered Solutions

## Engineered Solutions sharpen performance



**Operating conditions and market requirements can change significantly during the working life of a project. The long-term reliability of Rolls-Royce equipment means we have unrivalled experience and knowledge in developing the engineered modifications and upgrades required for restoring efficiency or profit potential.**

Rolls-Royce offers site survey assessment and/or engineering studies to evaluate your existing packages and recommend a suite of Engineered Solutions to enhance your total package.

### Gas Generator upgrades/conversions

With a broad range of Engineered Solutions available for industrial 501s, Avons and RB211s, we bring you scope to select the most cost-effective and profit-productive response to suit your requirements. These include DLE conversions for the 501 and RB211 engines to reduce emissions and Avon 200 upgrades to enhance power and improve efficiency. The RB211 G-Zero upgrade incorporates an additional compressor zero stage on the mature and reliable RB211 providing critical power boost to existing packages. The Ph 2 combustor upgrade on Gas only (Pk 1 combustor) engines offer increased fuel flexibility.

### Power Turbine upgrades/zero hour

RT48 power turbines, driven by Avon gas generators, when upgraded to RT48S, combine the latest components and technologies with additional available horsepower and improved

heat rate. RT56 packages can be upgraded to RT62 by changing the power turbine to unlock the existing extra power available from the same RB211 engine. Hot matched first stage vane configuration for RT56 and RT62 can boost power on hot ambient days.

### Compressor re-aeros and seal upgrades

At a fraction of the cost of a new compressor, the aerodynamic bundle can be reworked to meet new site conditions and restore full efficiency. You can benefit your compressor with a dry gas seal upgrade, eliminating problems associated with the high pressure seal oil system or labyrinth seal upgrade which uses improved material for better corrosion resistance.

### Package upgrades

Upgrades will improve reliability by replacing old and/or obsolete components and equipment with new and improved systems. The FT125 Control System Upgrade for 501, Avon and RB211 packages is the latest state-of-the-art approved and validated control system which offers enhanced diagnostic trending, remote operation and data acquisition. Other upgrades include inlet fogging system, high pressure water wash system, multiple air inlet filtration upgrade options for prolonged operational life, increased air flow and more.

# Training

## Maximising value through improved operations



**The loss of even one hour of productivity can mean the loss of huge amounts of revenue for many customers. Training programmes can help prevent shutdowns caused through inefficient use of Rolls-Royce equipment, by giving operators the tools and knowledge they need to maximise the productivity and ensure the good health of their package.**

Technical training programmes are available on a variety of topics related to the use and maintenance of the customer's industrial equipment. They are available either in the classroom or on site, led by a professional training instructor, and typically last two to five days.

These include:

- Driven Equipment
- Gas Generator
- Package
- Controls

In addition to already established training courses, instructors can work with the customer to create a customised programme to meet an identified need and operating goals.



# Energymanager-online

## Finger-tip tool delivers world-class services

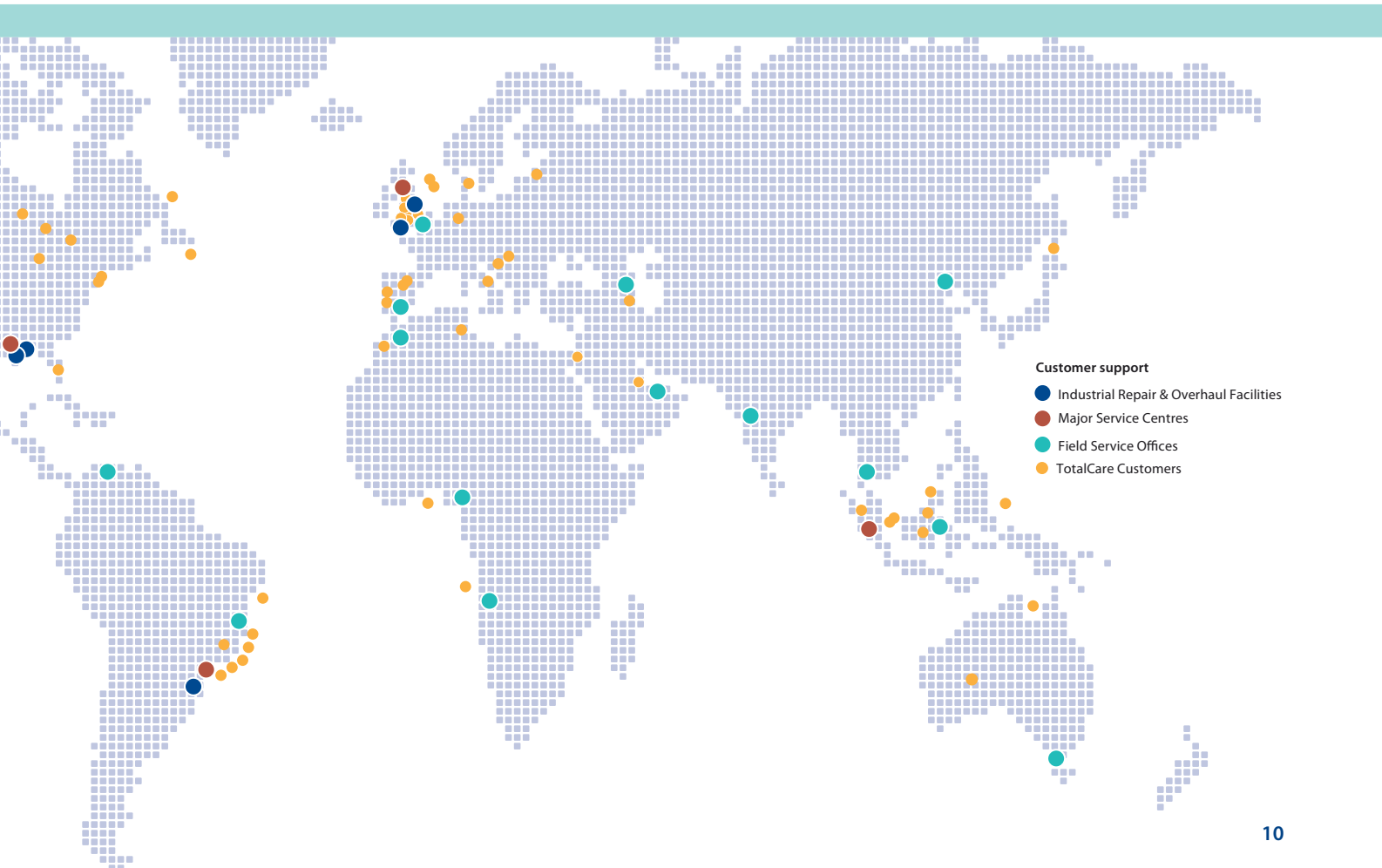
**Today, owners and operators of Rolls-Royce gas turbines can take advantage of yet another powerful and effective business enhancer simply by logging on to the secure Energymanager-online website.**

Energymanager-online is a web-based community site for all users of Rolls-Royce industrial equipment, providing information and services designed to help you get the maximum use and value from your Rolls-Royce equipment and to help your business succeed.

On Energymanager-online you can find a vast array of information, including:

- Information on Engineered Solutions
- Technical support
- Training course descriptions
- Service and product improvement bulletins
- Maintenance manuals
- Parts catalogue

Energymanager-online is the secure route to maximising the value of your Rolls-Royce equipment for the success of your business today, tomorrow and in the future.





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