



Rolls-Royce

Innovations based on experience



exploration
and production

offshore

Solutions to your marine needs

Rolls-Royce provides an unrivalled range of products and services to the marine industry. With production facilities in 9 countries and sales and aftermarket offices in 33 countries, we are a global supplier of marine solutions.

Decades of intensive research, development, refinement and production of world-famous products and services have resulted in world class ship design and ship equipment for exploration and production offshore.

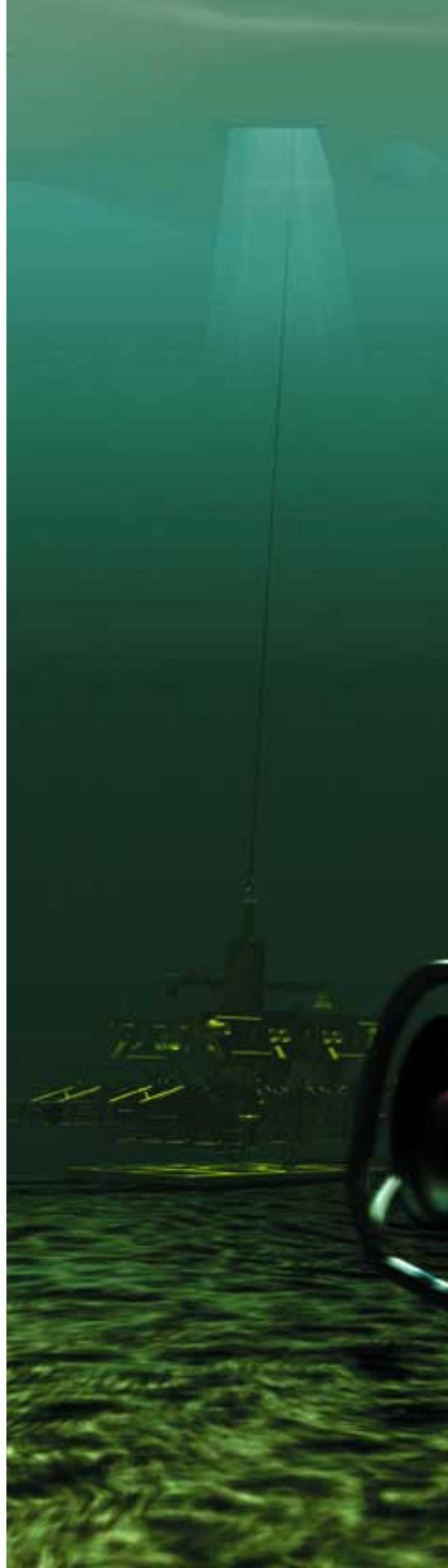
The system solutions we provide are based on years of experience in marine engineering, state-of-the-art technology and close customer co-operation through all projects. The result is proven reliability and profitability for your operation.

We deliver fully-integrated ship systems customised to the individual ship and the ships' operation. The system and segment diversification secures you the optimum solutions for a specified application. And most of all – innovative and well-proven products at low life-cycle cost.

Whether you choose complete ship systems or more limited solutions, you will always have the advantage of our special competence and technology.

World leading products and services

RB 211	Bird Johnson	Tenfjord
Frydenbö	Brown Brothers	UMAS
Kamewa	UT-Design	Allen
Spey	Ulstein Aquamaster	Trent
Bergen	Rauma Brattvaag	Allison
WR 21	Kamewa Ulstein	Mermaid™
NVC-Design	High lift rudders	Hinze





Rolls-Royce

Exploration and production offshore

Marine engineering and innovative products
based on decades of experience from the
world's toughest waters

System solutions

Ship design

Propulsion and motion control

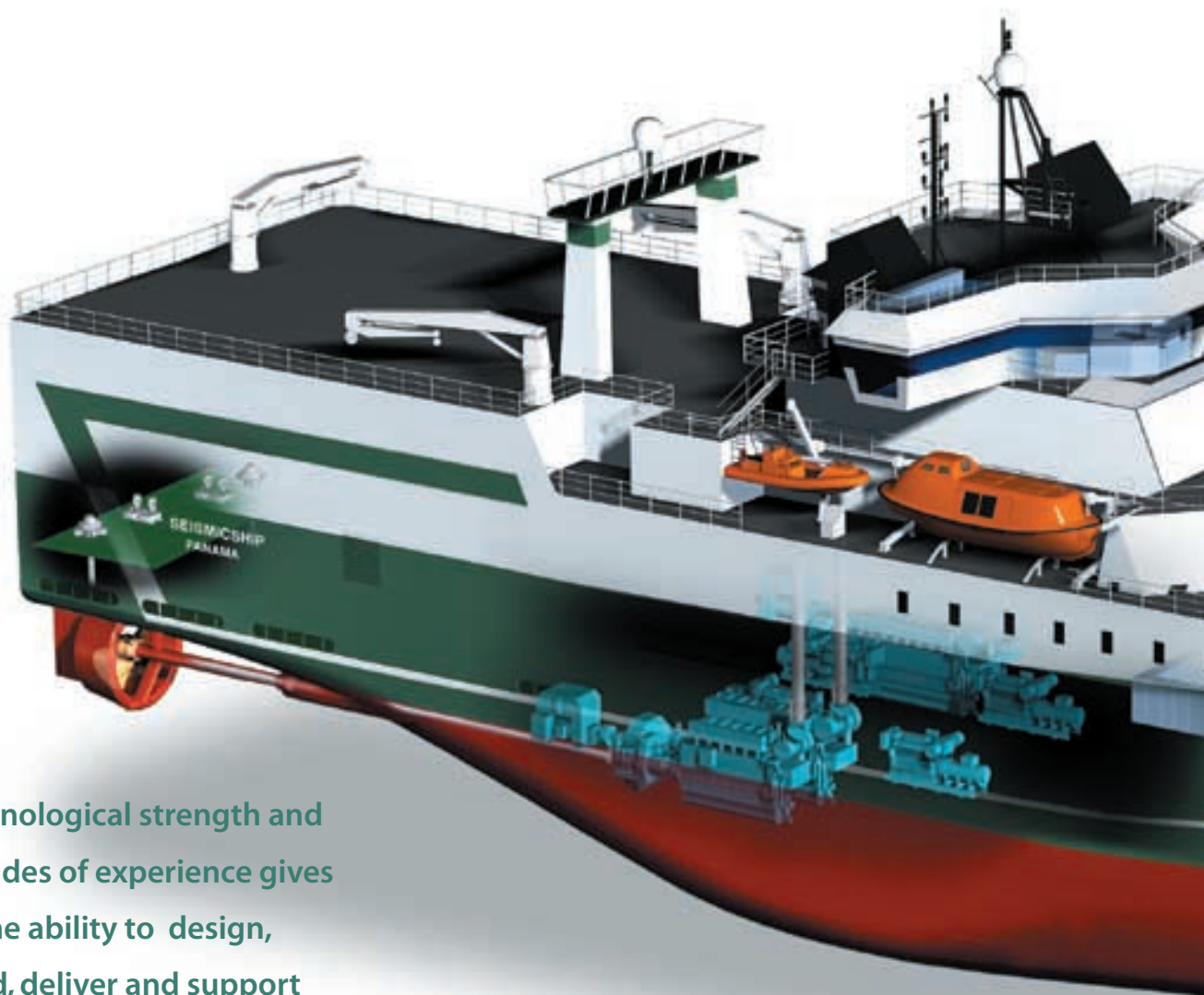
Manoeuvring systems

Deck machinery

Generating engines

Global support





Technological strength and decades of experience gives us the ability to design, build, deliver and support fully-integrated ship systems.



DESIGN AND SHIP SYSTEMS

- UT-Design
- Tailored equipment
- Consultancy
- Finance



AUTOMATION SYSTEMS

- Monitoring and control
- Bridge controls
- Switchboards
- Consoles



BULK HANDLING SYSTEMS

- Pneumatic tanks
- Compressors
- Valves
- Control systems



PROPULSION SYSTEMS

- C.P. Propellers
- F.P. Propellers
- Padded propellers
- Reduction gears
- Diesel engines



MANOEUVRING SYSTEMS

- Steering gear
- Rudders
- Thrusters

System



A smart choice when the job calls for a complete system

Rolls-Royce meets the growing requirements for fully-integrated ship systems with innovative and competitive solutions that deliver low life-cycle cost for our customers.

We provide a wide range of ship systems, ranging from small automation systems to complete ships, customised to your requirements.

Both design and equipment packages are developed and manufactured in close co-operation with you, the customer, to secure the optimum solution for your operations. This gives you complete co-ordination between the products involved, in terms of delivery and guaranteed quality.

In addition, we offer the know-how of our experienced consultants from the development of ship design to the vessel's equipment, global support, maintenance and finance.

Whether you choose a fully-integrated ship system or a single product, we know that you need cost-efficient solutions with high operating profitability.



solutions



THRUSTER SYSTEMS

- Azimuth thrusters
- Tunnel thrusters



DECK MACHINERY

- Mooring systems
- Riser pull-in systems
- Turret bearing systems



We are committed to the future

Every day, we challenge the perception of what is the optimum ship design and technical solution for our customers' offshore operations. We keep pushing the bounds of technology beyond today's limits. We do this for one reason only – your vessel's future profitability.



UT-Design



Nothing is as important as our customer's experience and requirements to achieve the best solutions possible.

Close customer co-operation has laid the foundation for our success in designing highly specialised vessels and equipment for exploration and production offshore.

We offer complete project implementation. We can therefore follow the customer through the entire process, from the idea phase until the application is ready.

In addition, we tailor vital equipment to your specified application.

The UT-Designs for exploration and production offshore cover seismic survey-, intervention service- and drilling vessels. Vessels with the benefits of cutting-edge technology, safe and flexible solutions – purpose fitted for their operations.

Typical applications



Ship name: Bigorange XVIII
Owner: Wilh. Offshore Services
Type: UT 725
Yard: Ulstein Verft AS



Ship name: Crystal Sea
Owner: Brovig Offshore AS
Type: UT 729
Yard: Langstein Slip & Båtbyggeri AS



Ship name: Western Atlas
Owner: Western Atlas
Type: UT 753
Yard: Ulstein Verft AS

OE&P vessels demand reliable and accurate propulsion. Seismic operations demand low noise. Dynamic positioning and movement of large offshore applications demand expertly designed propellers and thrusters. We keep you on station, but we also let you strike out any direction with a product range that is the broadest in the business.



Ship name: Deepwater Pathfinder
Owner: Conoco/R&B Falcon
Type: Drillship
Yard: Samsung



Rolls-Royce

The world's widest range of thrusters



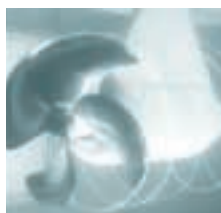
**AZIMUTH THRUSTERS
(UUC)**



**AZIMUTH THRUSTERS
(TCNP)**



TUNNEL THRUSTERS



**PODDED THRUSTERS
(MERMAID™)**



**SWING-UP/COMBI THRUSTERS
(TCNS/TCNC)**

Azimuth thrusters

(500 kW – 10 MW)

Ulstein Aquamaster azimuth thrusters are available:

- with ducted or open propellers
- with fixed or C.P. propellers
- with solutions for diesel engines or electric motors for the following applications:
- hull-mounted (fixed)
- hull-mounted (retractable)
- containerised (retrievable)
- underwater demountable
- swing-up
- swing-up/combined azimuth and tunnel thrusters
- other special applications

Tunnel thrusters

Kamewa Ulstein tunnel thrusters (150 – 3,700 kW)

Podded thrusters

Mermaid™ by Kamewa/Alstom (5MW – 25 MW)



**CONTAINERISED AZIMUTH
THRUSTERS (TCNQ)**



**RETRACTABLE
THRUSTERS (UL)**



**RETRACTABLE
THRUSTERS (TCNRQ)**

Typical applications



Ship name: Ramform Explorer
Owner: PGS
Type: Seismic
Yard: Langsten Slip & Båtbyggeri



Ship name: DLB Polaris
Owner: Stolt Offshore
Type: Lay barge
Yard: Conversion



Ship name: (CSO DPV)
Owner: Coflexip Stena Offshore
Type: Pipelayer (Gusto 10.000)
Yard: Hyundai Mipo Dockyard



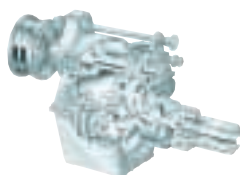
Rolls-Royce

Complete propulsion systems



BRIDGE CONTROLS

- Remote controls for propeller and thruster systems.



REDUCTION GEARBOXES

- Ulstein reduction gearboxes.



MONITORING & AUTOMATION

- UMAS multifunctional automation systems.
- Switchboards and control consoles.



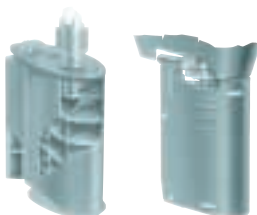
STEERING GEAR

- Tenfjord steering gear.
- Frydenbø steering gear.



PROPELLER SYSTEMS

- Kamewa Ulstein C.P. propeller systems (500kW – 50MW).
- Kamewa F.P. propeller systems (4m – 8m diameter).
- Kamewa adjustable bolted propeller systems (4m – 8m diameter).



RUDDERS

- High lift rudders.
- Hinze flap rudders.

Steering gear and rudders

Rolls-Royce rotary vane steering gear and rudders have won an enviable reputation for excellent manoeuvring characteristics and rugged construction. The products represent turn-key solutions for retrofits as well as for new buildings.

Typical applications



Ship name: Elisabeth Knutsen
Owner: Knutsen OAS Shipping
Type: Shuttle Tanker
Yard: AESA Sestao



Ship name: Deepwater Horizon
Owner: R&B Falcon
Type: Drilling Rig
Yard: Hyundai



Ship name: Geco Topaz
Owner: Schlumberger Geco-Prakla
Type: Seismic
Yard: Aker Brattvaag



Developed to keep you on station, and for optimal propulsion and manoeuvring

Dynamic positioning and low noise propulsion are essential for the performance of precision offshore tasks. Rolls-Royce is the largest supplier of propulsion and manoeuvring systems offshore. Rolls-Royce propulsion systems are used in offshore applications all over the globe, delivering reliable power wherever required. The systems are well known for their optimum design, flexibility and functionality.

Propulsion and manoeuvring

Typical applications



Ship name: Navis Explorer 1
Owner: Navis ASA
Type: Drillship
Yard: Samsung



Ship name: West Venture
Owner: Smedvig
Type: Drilling Rig
Yard: Hitachi Zosen



Ship name: Terra Nova
Owner: Petro Canada
Type: FPSO
Yard: Daewoo



Ship name: Berge Hugin
Owner: Bergesen/Navion
Type: FPSO
Yard: Samsung

Do you have the right deck machinery to handle your future business?



ANCHOR MOORING WINCHES
Rauma Brattvaag anchor mooring winches.



TURRET TURNINGS
Rauma Brattvaag turret bearings and turret turnings.



PULL-IN WINCHES
Rauma Brattvaag pull-in winches.



CHAIN JACKS
Rauma Brattvaag linear chain jacks.

We do. We have the expert insight and the technology to provide you with mooring- and turret winches, as well as bulk handling systems, which will make all the difference to your offshore operations.

Rolls-Royce supplies mooring, riser pull-in and turret-bearing systems for floating units in the offshore oil & gas industry. We have achieved a reputation for excellence in the supply of high-quality and reliable machinery for safe operation in all climate zones.

Being a total supplier with "in-house" design and production of all major items, we give you a single point of contact, enabling us to develop the best solutions possible for every task.

We have always regarded close customer co-operation and fast and efficient service as an integral part of our product, as our highest priority at the top of our list of priorities.

Winches

Typical applications



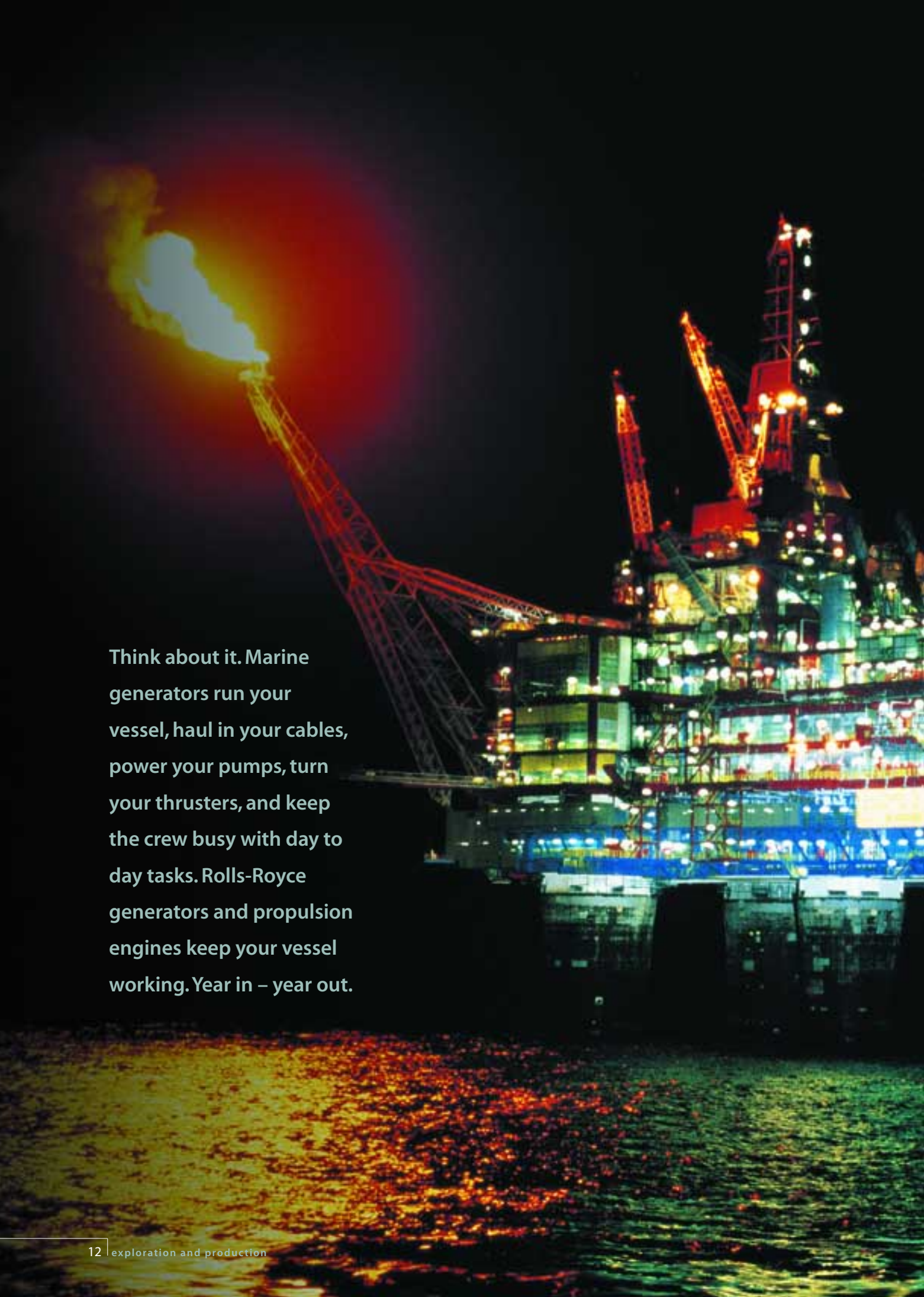
Ship name: Njord A
Owner: Norsk Hydro
Type: Aker P-45
Yard: Aker Stord



Ship name: Ramform Banff
Owner: PGS-Golar-Nor
Type: FPSO
Yard: Hyundai Heavy Industries, Korea



Ship name: Petrojarl Foinaven
Owner: PGS-Golar-Nor
Type: FPSO
Yard: Astano, Spain

A large offshore oil rig is illuminated at night, with a massive flare emitting a bright orange and yellow flame. The rig's complex structure, including cranes and platforms, is lit up with various lights, and the scene is reflected in the dark water below.

Think about it. Marine generators run your vessel, haul in your cables, power your pumps, turn your thrusters, and keep the crew busy with day to day tasks. Rolls-Royce generators and propulsion engines keep your vessel working. Year in – year out.



To keep your application working you need generators this good

Rolls-Royce provides complete solutions for marine propulsion, auxiliary power and offshore power plants. Our customers' endorsements of our engines include superior performance, high reliability and cost efficiency.

The Rolls-Royce engines have become internationally renowned by seismic survey and research vessel owners and operators for their silent and low vibration characteristics. Our diesel and gas generators, supplying energy to offshore installations, combine the most stringent environmental requirements with high performance, resulting in cost-effective and reliable production of electricity and heat.

Generators and engines

Typical applications



Ship name: Polar Pioneer
Owner: Transocean
Type: Semi Sub Drilling Rig
Yard: Hitachi Zosen KK, Japan



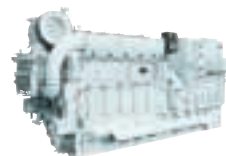
Ship name: NANHAI TIAO ZHAN
Owner: Amoco Orient Petroleum COONE
Type: Sedco 700
Yard: Hawker Siddeley, Halifax



Ship name: Crystal Sea
Owner: Brovig Offshore AS
Type: UT 729
Yard: Langstein Slip & Båtbyggeri AS



Ship name: Kometik
Owner: J.V. - Mobil, Chevron and Murphy
Type: Shuttle Tanker
Yard: Samsung Heavy Industry



GENERATING ENGINES

Bergen generating engines with outputs from 600 – 5300 kW.



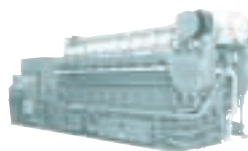
B-ENGINES

Bergen B-engines with outputs from 2545 – 5300 kW.



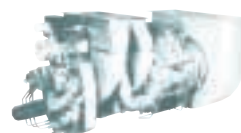
K-ENGINES

Bergen K-engines with outputs from 600 – 4010 kW.



LEANBURN GAS ENGINES

Bergen Lean-burn Gas engines with outputs from 2220 – 3330 kW.



TURBINES

Turbines with power range up to 50 MW.



Global Service and Support

The Rolls-Royce Service and Support concept has been developed to secure complete life-cycle support for your ship and its equipment. Our goal is to make your investment profitable for as long as possible, and protect your values through our dedicated and global service network.

We enable you to choose the kind of service level you need in the most cost-efficient way. Choose between day-to-day servicing, service agreements or a comprehensive service solution.

THE PARTNER SOLUTION

A comprehensive service agreement

Lifelong support means less down-time, low life-cycle costs and proven high second-hand value. The Partner Solution provides you with these important advantages. This service solution allows you to optimise your daily routines, and ensures that our servicing puts your investment in the best hands. This also allows you to structure your own after-sales service to increase reliability and economy for your applications' operating conditions.

SERVICE AGREEMENTS

We save you time and money

Time is crucial, so swift and correct response to enquiries or problems is of mutual benefit. Our aim is to increase your profitability by implementing long-term and cost-effective service agreements. These include delivering original replacement units, regular on-site inspections and personnel training.

BASIC SUPPORT

We get you back in business

Our Service and Support is based on reliability, determination and the expertise to carry out services and deliveries at short notice. The Basic Support Agreement gives you access to our skilled field workers and genuine spare parts supplies wherever and whenever you need them. The agreement also includes access to our in-house repair and maintenance centres all over the world.

WORLD-WIDE AVAILABILITY

We are always present

A Rolls-Royce service centre is never far away, no matter where you are. With a comprehensive network of service centres around the world, we are a global company and yet still local. We offer 24-hour availability world-wide, backed by a first class logistics system, which secures you rapid response to inquiries within shortest possible time.



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