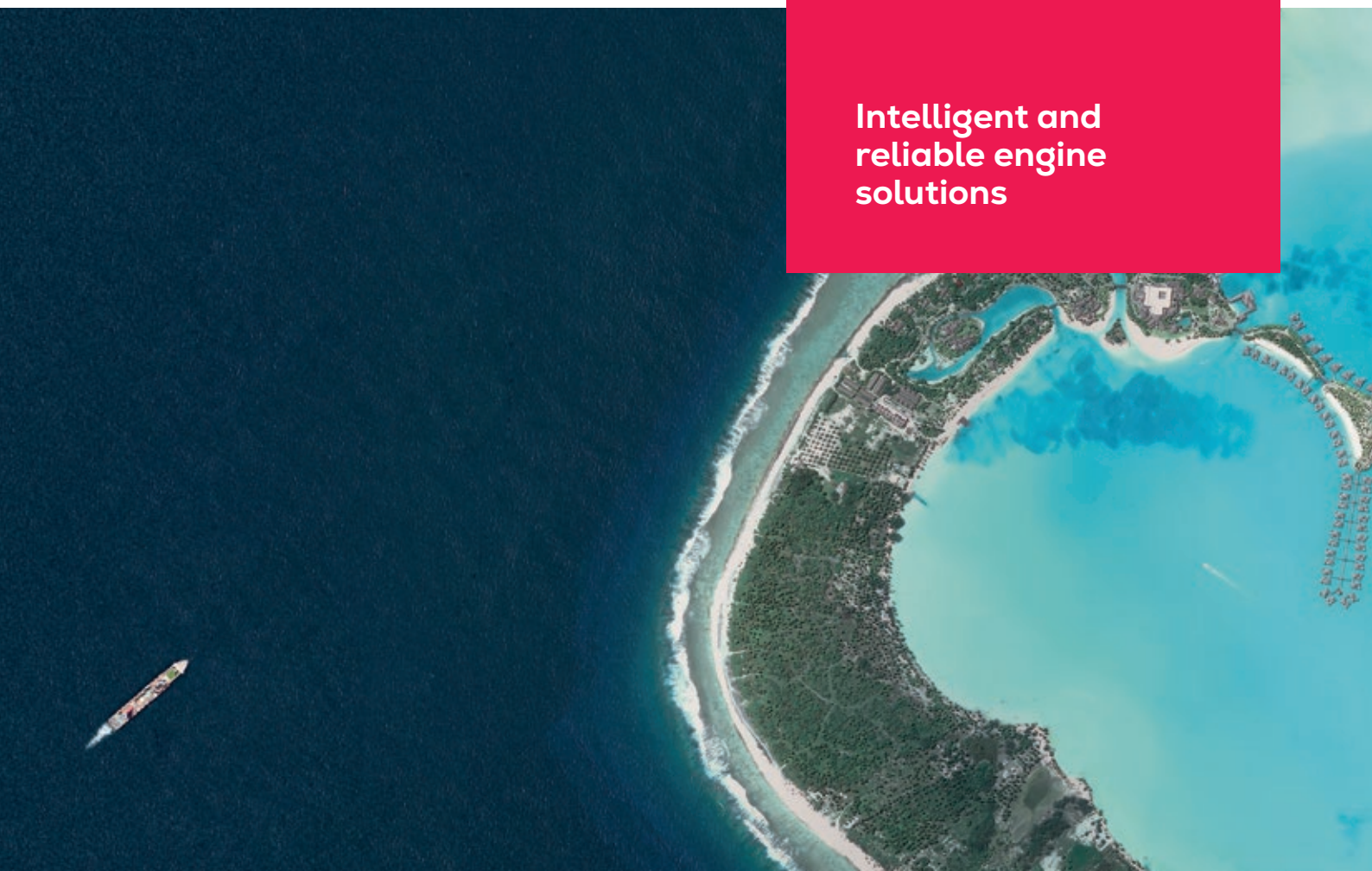
Everllence

Four-stroke marine systems

Cruise and ferry

Intelligent and reliable engine solutions



Moving big things to zero

Everllence is the world's leading provider of large-bore engines, turbomachinery, and integrated power systems. 250 years of experience in advanced engineering has prepared us well for our biggest challenge yet: to provide the technical solutions that will drive the global economy into a new carbon-neutral era.

The industries we serve are crucial for the world economy. Most of them are also hard to decarbonize. By providing sustainable solutions for marine transport, power generation, and industrial engineering we boost business and help to bring the world to net zero.

For the cruise and ferry sector we offer newbuild engines that run on green fuels and retrofits that enable alternative fuels. Besides powerful engines, our portfolio covers emission reduction, complete propulsion packages, electric propulsion, battery hybrid power solutions, dual fuel engines, and digitized services.

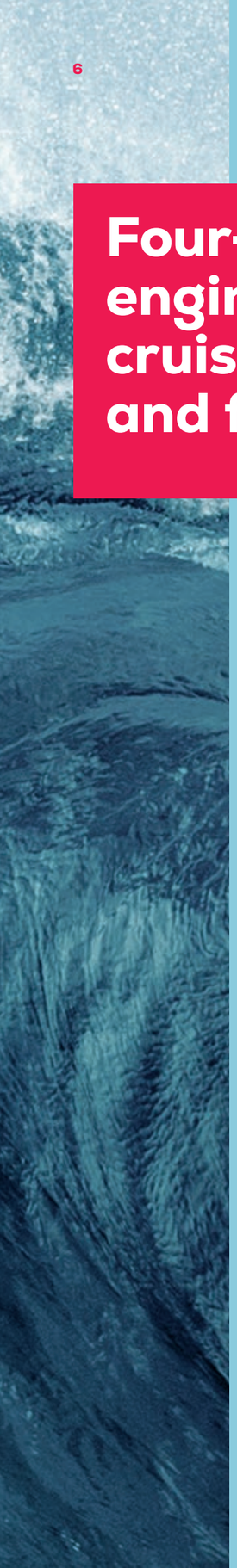
Certainty for your sector

Planning a safe course through the maritime transition
Global shipping is advancing towards a more sustainable future, pushed by stricter emissions regulations and pulled by end-customer demand. The destination is clear: cruise and ferry vessels must achieve the goal of net-zero greenhouse gas (GHG) emissions by 2050. But which is the best course? We have answers now that can carry you into the long-term future.

Adaptable engines, green fuels, and retrofits
Our dual fuel engines already provide many paths for emissions compliance. We have engines running on SNG and biofuels, we have raised efficiency levels, and made significant advances in the prevention of methane slip. Further decarbonization depends on synthetically manufactured, low carbon fuels, that much is clear.

But which green fuel will be the right one? We are working on hydrogen, ammonia, and methanol variants. Green methanol is an ideal candidate that can take us towards net zero. Unfortunately, it is not widely available yet. That is why our strategy is to be ready for future fuels by designing engines that are easily adaptable.

The built-in flexibility of our engines allows you to convert to the appropriate fuel when the market is ready. Until then, you can operate highly efficient and emission compliant engines. We believe that retrofitting brings significant results fast. Together with our PrimeServ experts, we can get your engines ready for alternative fuels and extend the service life of your assets.



Four-stroke engines for cruise ships and ferries

Cruise ships	**08 – 11**
L32/44CR	3,600 – 6,000 kW
L51/60DF	6,300 – 10,350 kW
L48/60CR	7,200 – 10,800 kW
V32/44CR	7,200 – 12,000 kW
L49/60DF	7,800 – 13,000 kW
V49/60DF	15,600 – 18,200 kW
V51/60DF	12,600 – 16,800 kW
V48/60CR	14,400 – 19,200 kW

Fast ferries	**12 – 15**
175D	1,740 – 4,400 kW
V28/33D STC	5,460 – 9,100 kW

RoRo passenger vessels	**16 – 19**
L23/30DF GenSet	625 – 1,320 kW
L28/32DF GenSet	1,050 – 1,890 kW
L21/31 Mk2 GenSet	1,000 – 1,980 kW
L27/38	2,040 – 3,285 kW
L35/44DF	3,060 – 5,300 kW
L35/44DF CD GenSet	3,360 – 5,040 kW
L32/44CR	3,600 – 6,000 kW
L51/60DF	6,300 – 10,350 kW
L48/60CR	7,200 – 10,800 kW
V32/44CR	7,200 – 12,000 kW
L49/60DF	7,800 – 13,000 kW
V49/60DF	15,600 – 18,200 kW
V51/60DF	12,600 – 16,800 kW
V48/60CR	14,400 – 19,200 kW

RoRo cargo ferries	**20-23**
L23/30DF GenSet	625 – 1,320 kW
L28/32DF GenSet	1,050 – 1,890 kW
L21/31 Mk2 GenSet	1,000 – 1,980 kW
L27/38	2,040 – 3,285 kW
L35/44DF	3,060 – 5,300 kW
L35/44DF CD GenSet	3,360 – 5,040 kW
L32/44CR	3,600 – 6,000 kW
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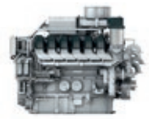
L48/60CR	7,200 – 10,800 kW
V32/44CR	7,200 – 12,000 kW
L49/60DF	7,800 – 13,000 kW
V49/60DF	15,600 – 18,200 kW
V51/60DF	12,600 – 16,800 kW
V48/60CR	14,400 – 19,200 kW



175D
Propulsion

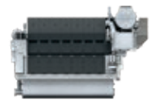
1,740 – 4,400 kW

21/31 Mk2
GenSet

1,000 – 1,980 kW

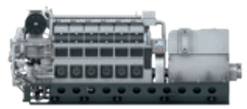
23/30DF
GenSet

625 – 1,320 kW



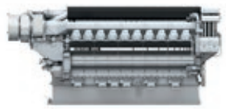
27/38
Propulsion

2,040 – 3,285 kW



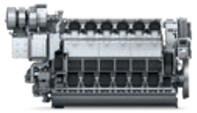
28/32DF
GenSet

1,050 – 1,890 kW



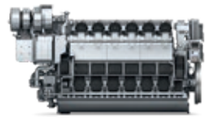
28/33D STC
Propulsion

5,460 – 9,100 kW



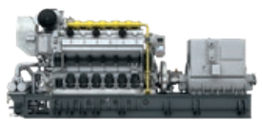
32/44CR
Propulsion

3,600 – 6,000 kW
7,200 – 12,000 kW



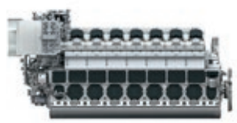
35/44DF
Propulsion

3,060 – 5,300 kW



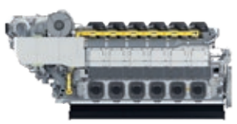
35/44DF CD
GenSet

3,360 – 5,040 kW



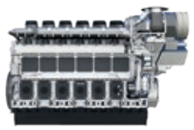
48/60CR
Propulsion

7,200 – 10,800 kW
14,400 – 19,200 kW



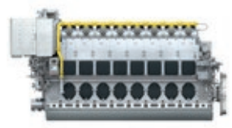
49/60
Propulsion

7,800 – 13,000 kW
15,600 – 18,200 kW



49/60DF
Propulsion

7,800 – 13,000 kW
15,600 – 18,200 kW



51/60DF
Propulsion

6,300 – 16,800 kW
6,900 – 16,100 kW

Powering people's leisure

Cruise ships

Once the preserve of the wealthy, cruises are now affordable to many and this segment is experiencing significant growth. Cruise lines are building spectacularly complex ships that operate all day, practically every day of the year.

Engineering for environmentally friendly holidays

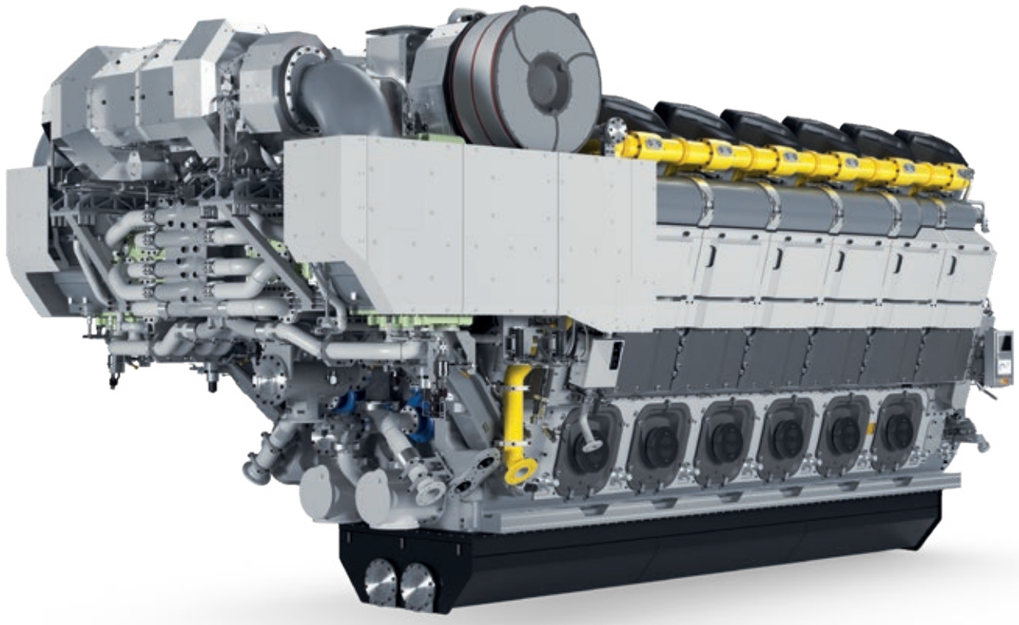
The growing awareness of the cruise industry's environmental impact together with ever more stringent emission regulations, especially in coastal areas, is an important factor in the design of new cruise ships. The ships must also be economical to operate, so as to keep holiday prices attractive.

Today's cruise ships must accommodate high demands for non-stop reliable, comfortable and silent power generation onboard. We offer highly efficient and reliable common rail (CR) propulsion engines, which – thanks to their fully electronic injection system – allow the highest possible degree of freedom of optimization in fuel consumption, reducing NO_x and smoke emissions while ensuring the utmost passenger comfort.

49/60DF

An engine for change

The 49/60DF resets the efficiency benchmark and ensures the lowest fuel costs for cruise vessels and ferries thanks to its fuel flexibility, enabling it to run on LNG or diesel. Looking to the future, its efficiency and very low methane slip provide a solid basis to achieve upcoming GHG emission targets with minimum impact on operating costs.



Benefits

New benchmark in efficiency
171.0 g/kWh liquid fuel consumption at 85 % MCR*
6,990 kJ/kWh gas consumption at 85 % MCR*
* Higher values apply for 8L

Low GHG emissions
Thanks to benchmark efficiency, low methane emissions and ability to run on future green fuels

Ready for further digitalization
With next-generation engine automation

Compact design
By increased power density

Alternative paths for emission compliance

The 49/60DF has been designed from the beginning of its conception as a platform offering an easy path to conversion for operation on fuels other than LNG or MGO, like e.g., green methanol. Today it is already capable of running on a wide range of biogenic fuels as an additional alternative.

SaCoS 5000 and ACC 2.0
The 49/60DF features the new SaCoS 5000 engine automation system, and the new Advanced Combustion Control ACC 2.0. Both features future-proof your vessel for the digital age. While ACC 2.0 is essential for improved efficiency and robust in-field performance, the new SaCoS offers enhanced remote support features and options to attain the highest levels of cybersecurity.

Further power solutions
32/44CR
51/60DF
48/60CR

Combining comfort and speed

Fast ferries

When quick shore-to-shore connections become too long for bridges or inconvenient to be reached by driving around the coast, that's where fast ferries come in. Their task: to transport passengers and vehicles quickly, safely, reliably, and on time. to transport passengers and vehicles quickly, safely, reliably, and on time.

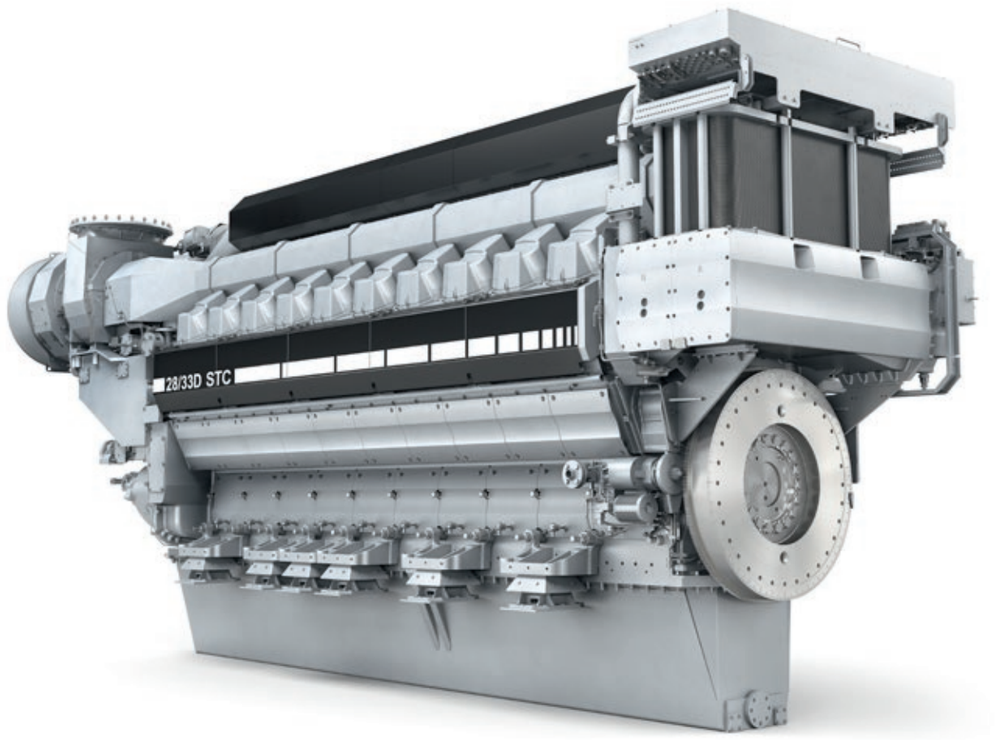
Improving performance

Fast-ferry operators provide rapid shore-to-shore connections with high power, low-weight ship designs that ensure their economic viability compared to other means of transportation. At the same time, they have to ensure passenger comfort with low noise and vibration levels as well as compliance with stringent emission limits in their typical areas of operation.

Our answer is a set of engines that deliver the necessary power quietly with minimum impact on payload and operating costs.

28/33D STC

High-speed economy



High speed, fast acceleration, and continuously high power – the 28/33D STC really moves. The compact yet powerful engine has a high power-to-weight ratio and is fully compliant with current environmental standards, producing NO_X emissions that adhere to IMO Tier II and EPA Tier II regulations.

Benefits

Economic operation
Lowest TCO (total cost of ownership) on the market

Low maintenance costs
Due to long TBO (time between overhauls) intervals and on-board maintenance

Best power-to-weight ratio in its class
5.7 kg/kW, unequaled by any other medium-speed engine

Easy on maintenance and costs
Maintenance costs are kept low thanks to high engine availability. And with main overhauls only necessary every 32,000 hours, servicing downtime is kept to a minimum. As a result, you can count on low overall operating costs and best-in-class SFOC.

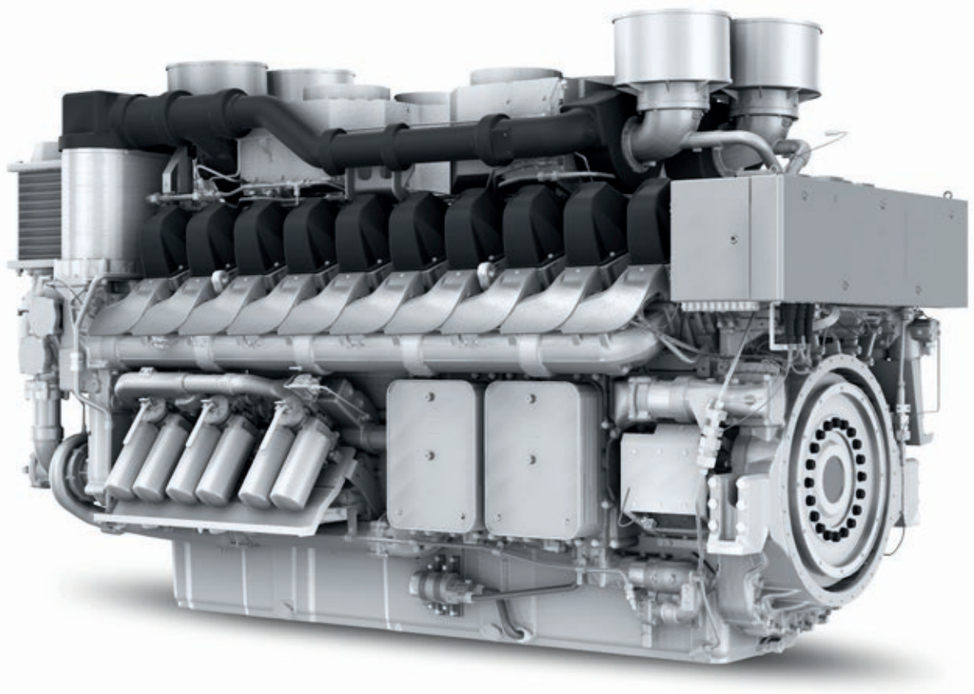
Sequential turbocharging (STC)
Two identical yet independent turbochargers provide high torque at low rpm. Fuel injection quantity, rate, and timing are precisely managed by microprocessors. For perfect torque and acceleration control.

SaCoS*one* (safety and control system on engine)
Combines all functions of modern engine management into one complete system. Fully integrated it forms one unit with the drive assembly.

Further power solutions
175D

175D

Dynamic and cost-effective



Designed for extreme robustness, first-rate reliability, and maximum efficiency, the 175D offers not only high speed but also a rapid return on investment. This powerful and compact engine provides outstanding SFOC and long TBO.

Benefits

Environmentally friendly
Full IMO Tier III compliance in combination with SCR

Advanced and robust
Cutting-edge technology based on many years of experience

Economical in many ways
Low OPEX and life-cycle costs

Compact performer
With its quick load response, the 175D allows safe maneuvering in the harshest environments, even in Arctic temperatures. It is ideal for economical operation in platform supply vessels. Easy accessibility enables a long service life, while the small size of the engine allows more space for cargo.

Clear-cut design
A functional design with the minimum weight and dimensions. Easy to commission, easy to operate, and easy to service.

Modular concept
For easy adaptation to different applications, the 175D can be configured with auxiliary equipment and modular components, such as a seawater cooler. It has four auxiliary power take-offs (PTOs).

Further power solutions
21/31
21/31 GenSet
27/38 GenSet
175D GenSet
27/38

The advance of clean technologies

RoRo passenger vessels

Modern ferries place high demands for reliability and comfort on their main engines. Growing public awareness with respect to ship emissions and, in particular, the expected increase of future NO_x emission control areas in important regions of ferry operation have made environmental compliance another key factor for modern RoRo passenger vessel designs.

Improving economic performance

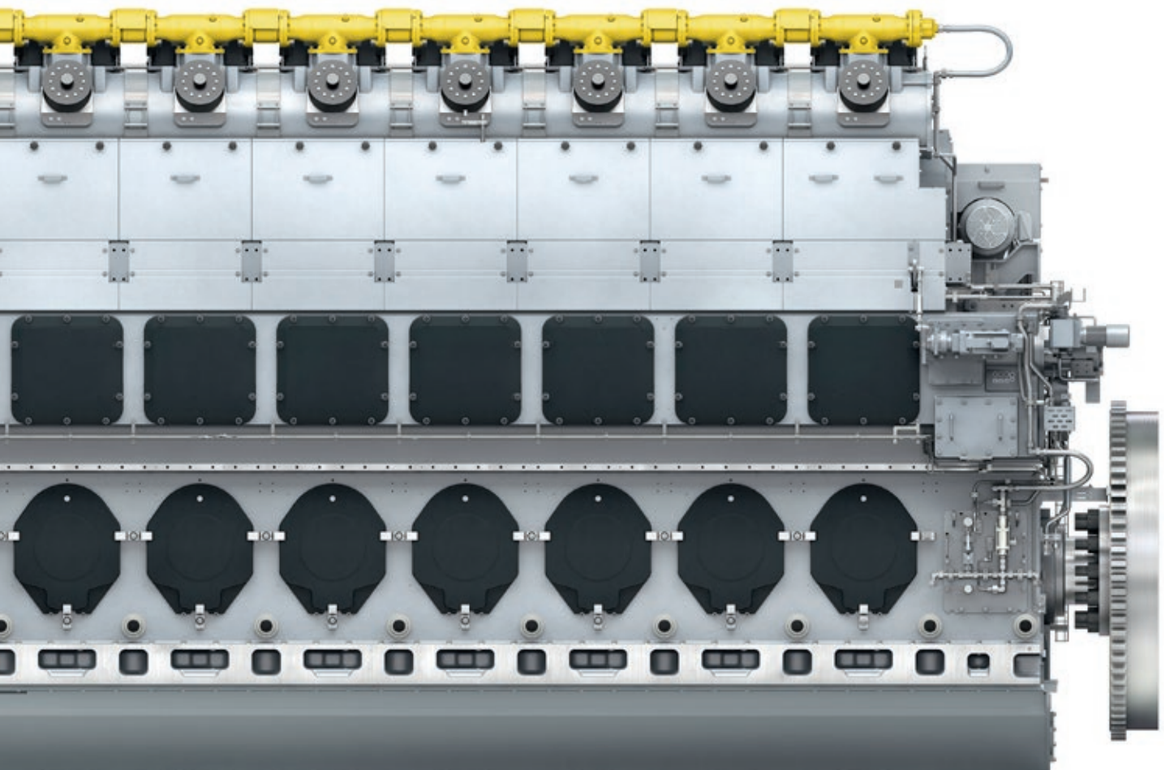
As well as dealing with environmental concerns, ferry operators have to keep operating costs at a low level to ensure their viability in a very competitive business environment.

We offer a wide choice of efficient diesel engines (running on heavy fuel or distillate) that make an economic difference and comply with IMO Tier III NO_x limits through the addition of our SCR system for cleaning exhaust gas. Our closed-loop system control, supplemented by an intelligent regeneration algorithm for the SCR, enables the engine and the catalyst to operate with minimum urea consumption and the best possible fuel efficiency. Of course, we also offer dual fuel engines that are IMO Tier III-compliant when running on gas.

51/60DF

Proven dual-fuel performer

This well proven, robust dual fuel engine can switch conveniently from gas mode to liquid fuel mode and vice versa without interruption. In a propulsion system with multiple dual fuel engines, the 51/60DF ensures high reliability and speed flexibility at any time and load. This engine offers low CAPEX in combination with best-in-class load pickup for dynamic applications. It also provides 100 % MCR even at low gas fuel qualities, down to methane number 70.



Benefits

High power output
Up to 1,150 kW per cylinder

Excellent engine performance
Best-in-class dynamic behavior and attractive fuel consumption levels

Operating stability and flexibility
Seamless switch from HFO to gas mode and vice versa, temporary gas operation even above 100 % MCR and gas start capability

Full environmental compliance
IMO Tier III in gas mode without SCR and liquid mode with SCR

Lower maintenance costs

Robust design based on conventional and cost efficient components like e.g., its injection system, single stage turbocharger concept, and other, enable low maintenance costs.

Safety beyond the standards
The 51/60DF comes fully equipped with a safety and control system developed for full compliance with classification society standards. SaCoS*one* allows for safe engine operation in liquid fuel or gas mode, offering optimum fuel consumption and very low emissions. In addition to all safety-relevant engine features, we offer an integrated safety solution for the whole engine room, tailor-made for each specific application.

Further power solutions
23/30DF GenSet
28/32DF GenSet
21/31 GenSet
27/38
35/44DF
35/44DF GenSet
32/44CR
48/60CR
49/60DF

Sustainable transport solutions

RoRo cargo ferries

RoRo cargo ferries play an essential role in connecting the roads and railways of regions separated by sea. Loading and unloading take little time, because the cargo is simply driven on and off board. This enables the just-in-time delivery of products such as food.

Ensuring commercial reliability

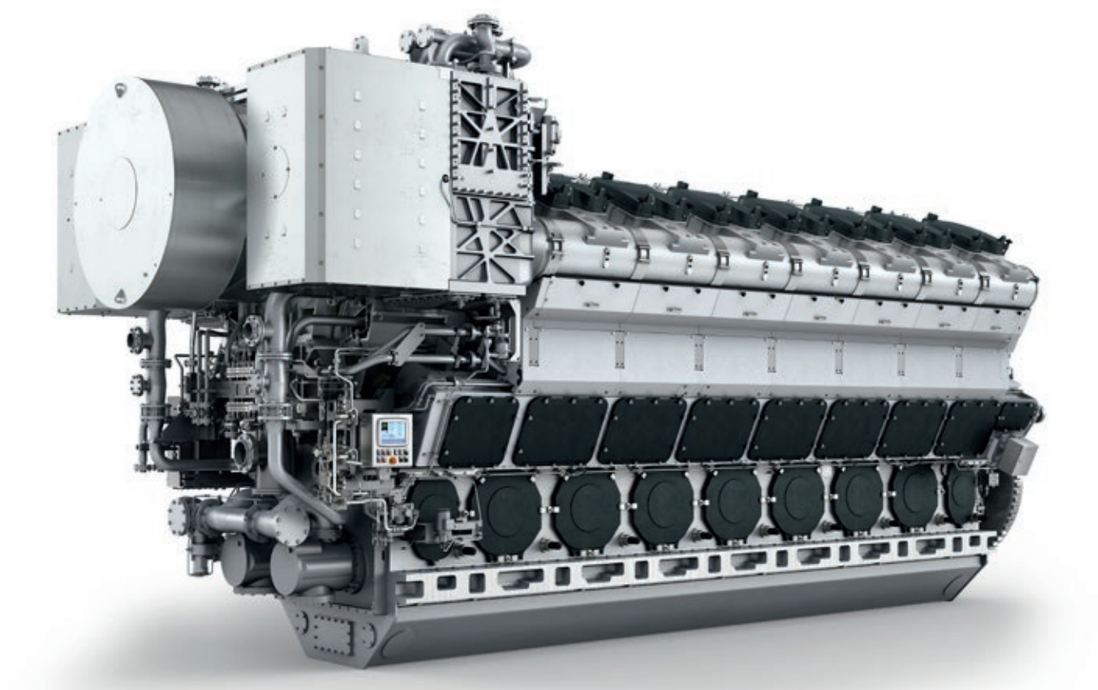
Driven by global growth, the mobility of wheeled cargo – both domestically and internationally – has increased rapidly in recent decades. Sustaining this increase depends on reliability and punctuality.

Reliability allows the operator to guarantee departure and arrival times. Without reliability, there can be no planning of local transport logistics or global supply chains.

We offer a wide range of highly reliable and efficient engines for powering ferries. Whether large ferries sailing in international waters or smaller ones operating on local routes, they all benefit from our advanced engine portfolio, whether for operation using conventional marine fuels or LNG.

48/60CR

Power for reliable logistics



The 48/60CR combines high power output with low fuel consumption. It delivers top performance, operational flexibility and ultimate reliability.

Benefits

Fuel savings
Thanks to common rail technology and our innovative Everllence ECOMAP optional feature

Low maintenance costs
Maintenance-friendly design with long service intervals

High reliability and availability
Due to established, robust design

Dual fuel optione

Our dual fuel engine derivatives and conversion solutions are safe and powerful. We also offer complete solutions for gas-burning propulsion plants with dual fuel engines, onboard LNG storage and fuel gas supply systems (thanks to the recent acquisition of Cryo AB).

Common rail safety concept
All high pressure pipes are screened or have a double wall design. Flow-limiting valves at each cylinder prevent uncontrolled injection. Redundant high pressure pumps and sensors safeguard the operating ability. In single-engine plants, the electronic control units are redundant as well.

SaCoS$_{one}$ engine management system
Ease of operation, outstanding reliability, and fast commissioning are the key features of the SaCoS$_{one}$. The system is highly standardized and its modules can be replaced quickly.

Further power solutions
23/30DF GenSet
28/32DF GenSet
21/31 GenSet
27/38
35/44DF GenSet
35/44DF
32/44CR
51/60DF
49/60DF

Improving your environmental performance

90 %

Percent of NO_X reduction

Equipped for strict emission regulations

We are firmly committed to reducing emissions with minimum impact on your operating costs. This includes an active partnership with environmental institutions and development banks. For our customers, it means engines and system packages that are extremely well matched with integrated, intelligent and dynamic controls.

Benefits

Everllence unites under one roof the core technologies and competencies which decisively influence the performance of our products: injection systems, turbocharger, controls for both, engine and after-treatment systems. This enables us to design and implement highly efficient emission-reduction packages for both new constructions and retrofits.

Selective catalytic reduction (SCR) is the most field-tested and reliable system for achieving NO_X reduction rates of up to 90%. Due to a chain of chemical reactions taking place between catalyst and exhaust gas, harmful NO_X substances are transformed into ecologically benign constituents.

Our service portfolio

We offer a full spectrum of services designed to keep your fleet and plants efficient, compliant, and competitive.

- **Genuine OEM spare parts:** Protect your assets with patented, high-quality components manufactured to OEM standards.
- **Long-term service agreements**: Predictable maintenance planning & cost savings tailored to your operational needs.
- **Retrofits & upgrades:** Future-proof your engines and systems for efficiency, emissions compliance, and competitive performance.
- **Technical service & field support:** 24/7 availability to ensure reliability and rapid response worldwide.
- **On-site recovery solutions:** Fast-track repairs to get your equipment back in service with minimal disruption.
- **Remote monitoring & optimization:** Digital solutions to maximize efficiency, safety, and availability of your Everllence machinery.
- **One-stop services with PrimeServ Omnicare:** Consolidate services for your engines, turbines & compressors across major marine and power brands.
- **Everllence PrimeServ Academy:** Get the best qualifications to operate and maintain your Everllence installations.

From dock to deep sea and on any site – your trusted service partner

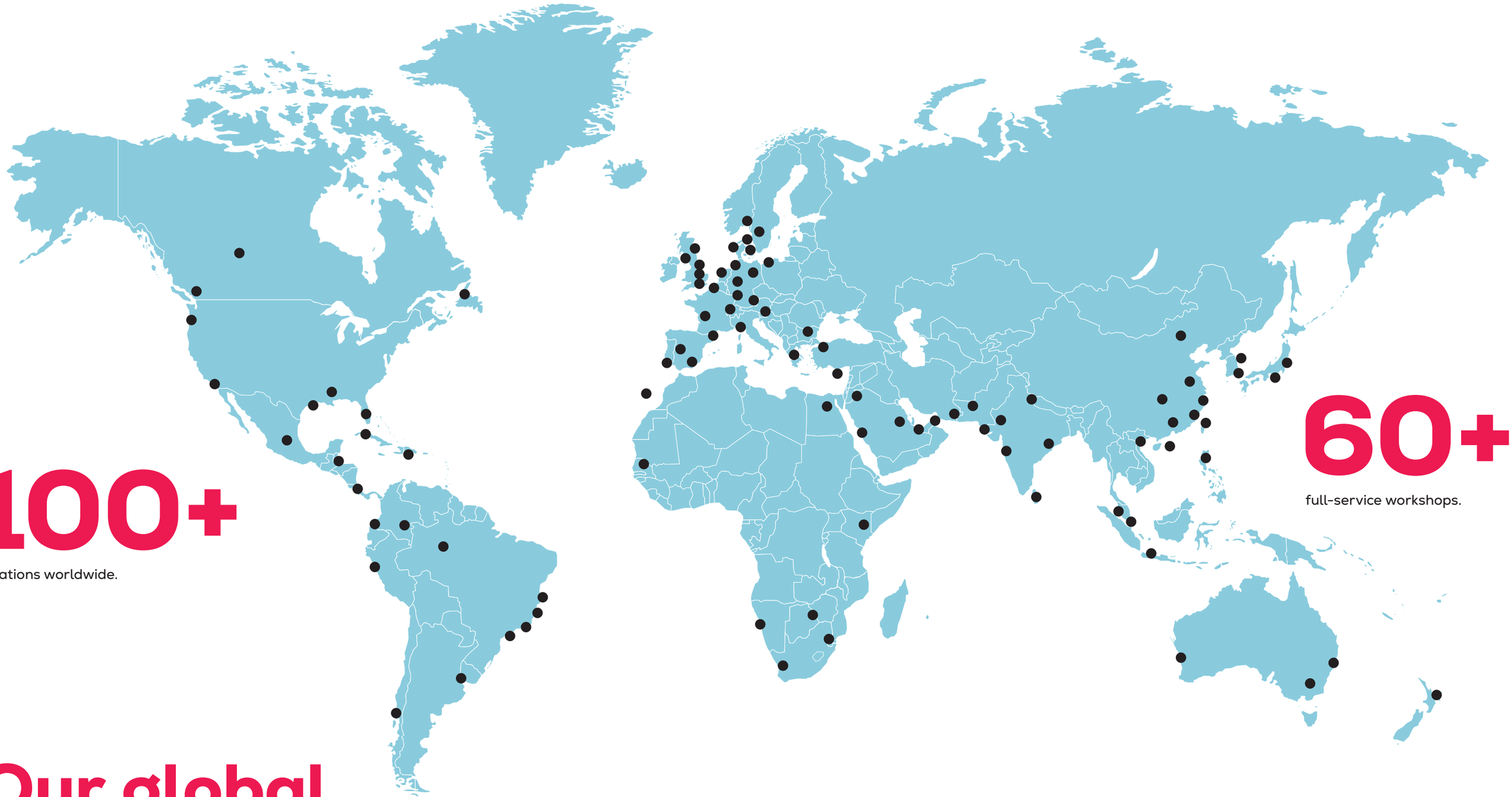
Our global service network ensures fast response, expert support and maximum efficiency for your engines and systems – helping you stay ahead with reliability you can trust.

We offer comprehensive service solutions:

Sales & spare parts: Genuine OEM parts, expert consulting, and CRM-based support to optimize availability and performance.

Technical service & maintenance: Precision repairs, reconditioning and lifecycle optimization for long-term efficiency.

On-site recovery & field service: Emergency response and proactive service, wherever you need us.



100+

locations worldwide.

60+

full-service workshops.

Our global service at a glance

Did you remember to order spare parts? No problem – we did. We also checked lube oil, engine condition, scheduled maintenance and installed updates. As your service partners, we keep your business running smoothly, securing efficiency and safety 24/7, around the world, on-site and online. We're here for what matters most: your peace of mind.

Service is digital – service is smarter
Service has evolved, and so have we. Everllence PrimeServ doesn't just help you maintain your assets, we help you future-proof them. As you navigate the shift towards carbon-neutral operations, our digital service solutions ensure that your technology delivers on its promise.

Powered by expert insight, our real-time support and analytics based on remote monitoring keep your equipment performing at peak efficiency – year after year, without interruption. Because service isn't just about fixing problems – it's about preventing them.

Our location types:
- Sales offices – Spare parts sale & consultation.
- Workshops – Maintenance & repair.
- Flagship service centers – Full spectrum of all services, sales & reconditioning.

Find out more
www.everllence.com/services/service-locations

Everllence

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MAN Energy Solutions SE has been renamed to Everllence SE and its products are being rebranded from “MAN” and/or “MAN Energy Solutions” to “Everllence”. As this is an ongoing process, any reference to “MAN” and/or “MAN Energy Solutions” is actually a reference to “Everllence”.

EVR000060EN-250600, GKM-AUG