The MAN B&W Brand

Low Speed Engines

Engineering the Future – since 1758.

MAN Diesel & Turbo

Atrium of MAN Diesel & Turbo's Copenhagen headquarters

MAN B&W
The legendary brand

With industrial roots that reach all the way back to the 18th century, MAN Diesel & Turbo is the world's leading provider of large-bore diesel engines and turbomachinery for marine and stationary applications. Our Low Speed engine division is headquartered in Copenhagen, Denmark, where we design two-stroke engines and propulsion packages under the MAN B&W brand name that commands a major part of the marine market.

Our Copenhagen set-up consists of several elements. Our main activities cover administration, sales, research & development and technical communications, among other things. We also have a test centre with an adaptable engine where we can test new engine types and parts. Next door to this, we have a facility that manufactures key spare parts, as well as a PrimeServ Academy where we train customers and our own staff in the optimal use of our technology. Finally, DieselHouse is our museum and home to working engines and innumerable memorabilia and interactive displays from our colourful past, as well as technology proposals for the future.



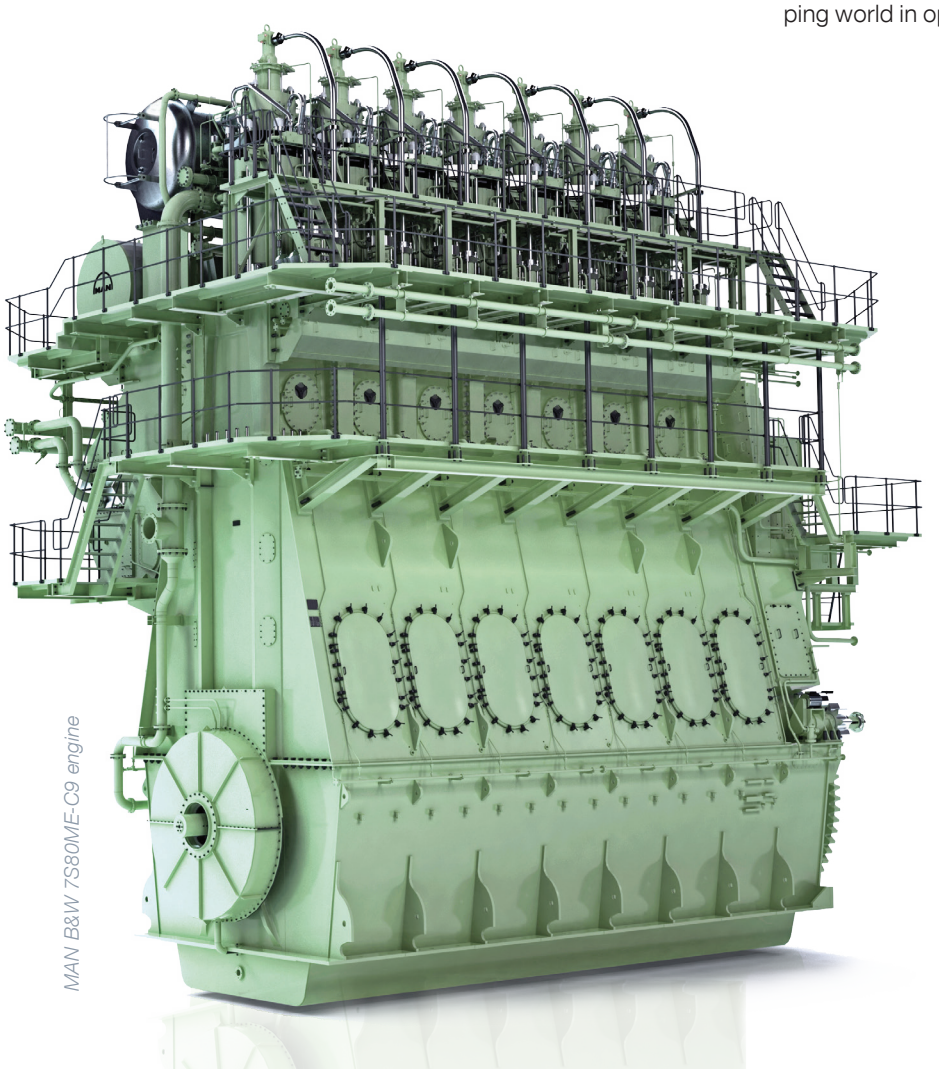
A Powerful Portfolio

Just what you were looking for

Our engines are manufactured by a family of licensees, primarily based in Asia, and serve a multitude of marine applications and segments. Low-speed engines are the reliable and preferred choice as prime mover for ocean-going merchant vessels. Our state-of-the-art engine designs are optimised for IMO Tier II compliance, while our electronically controlled ME versions offer such benefits as optimised fuel and lube-oil consumption, and improved low-load operation, and build on the many decades of success enjoyed by their mechanically controlled predecessors.

We recently opened a new chapter in the diesel story with the introduction of the ME-GI gas injection engine. The ME-GI represents a highly efficient, flexible, propulsion-plant solution that offers shipowners and operators the option of using either fuel oil or gas, depending on relative price and availability.

Similarly, our new ME-LGI liquid gas injection engine is designed to handle low-flash-point, low-sulphur fuels like LPG and methanol. Consequently, its green credentials are striking with emissions of sulphur being almost completely eliminated. MAN developed the ME-LGI engine in response to interest from the shipping world in operating on alternatives to heavy fuel oil.



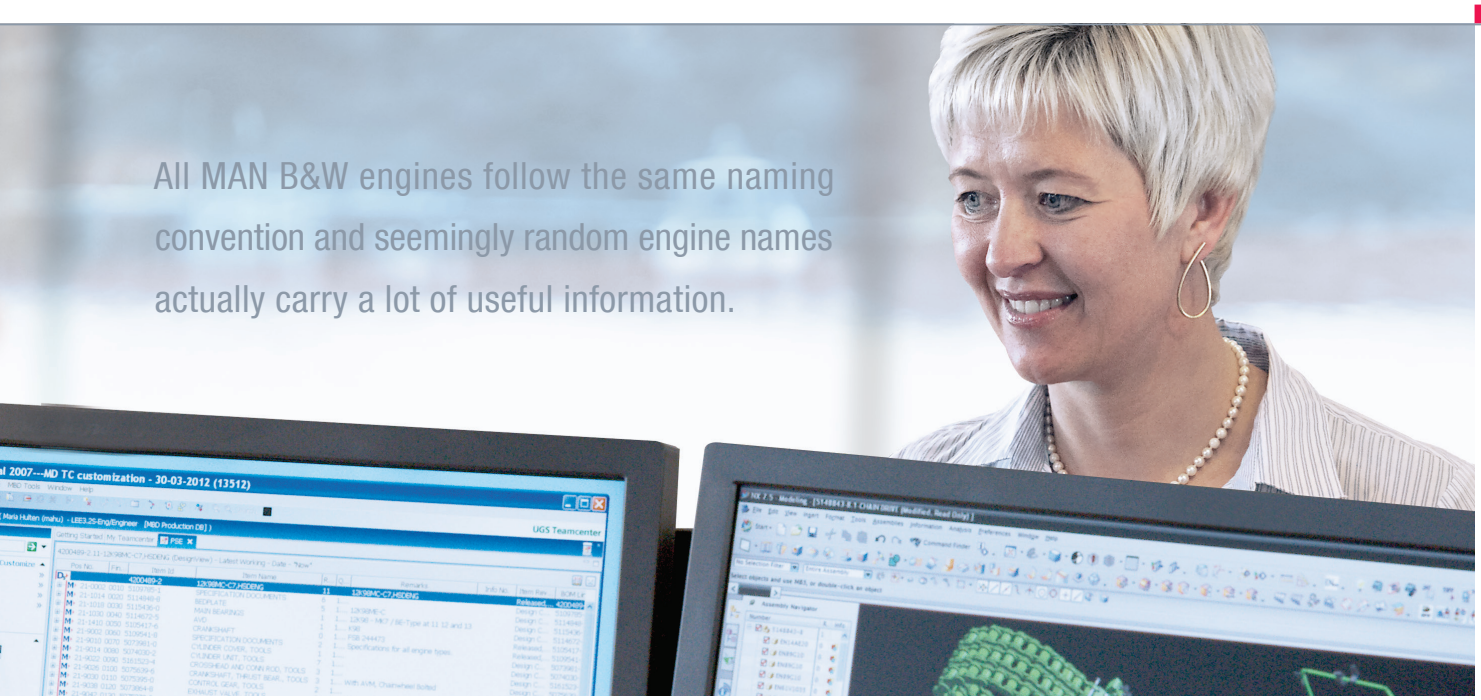
MAN B&W 7S80ME-C9 engine

We are the world's leading provider of large-bore diesel engines. Our engines have unit power outputs ranging up to 87 MW, the most powerful of which rank among the largest such units ever built.


MAN B&W
Low-Speed Engine

Our Engine Designations

It's as easy as ABC



All MAN B&W engines follow the same naming convention and seemingly random engine names actually carry a lot of useful information.

M represents generation
Basic design features:
MC (mechanically driven fuel injection, exhaust valves, starting air valves)
ME (electronic control of same functions)

Length of stroke:
K short
L long
S super-long
G "Green" ultra-long

Additional design features:
B (electronic/mechanical hybrid)
C (compact)
GI (dual-fuel gas injection)
LGI (dual-fuel liquid gas injection)

Bore (cm)

Number of cylinders

Mark (release) no.

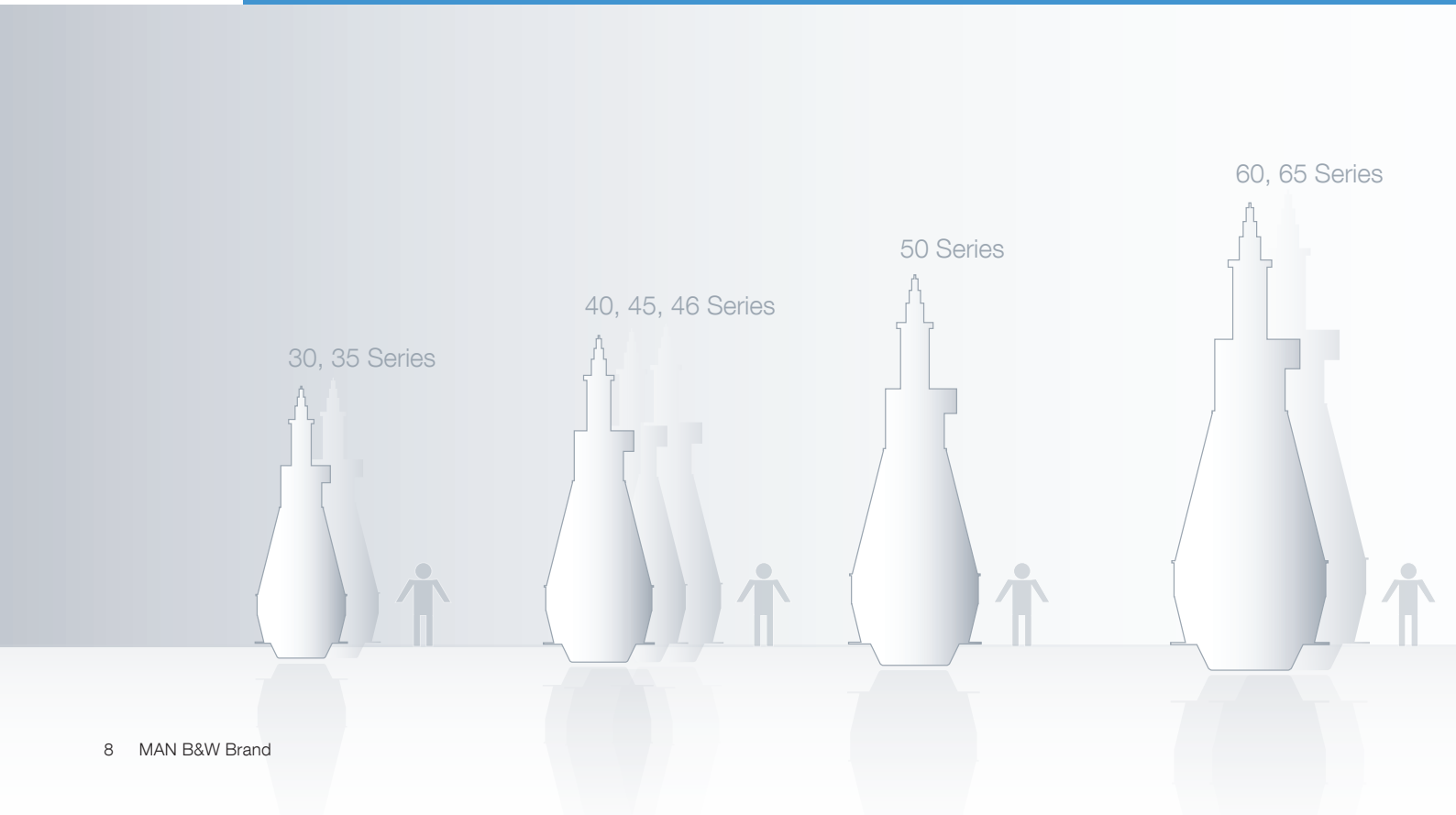
Version

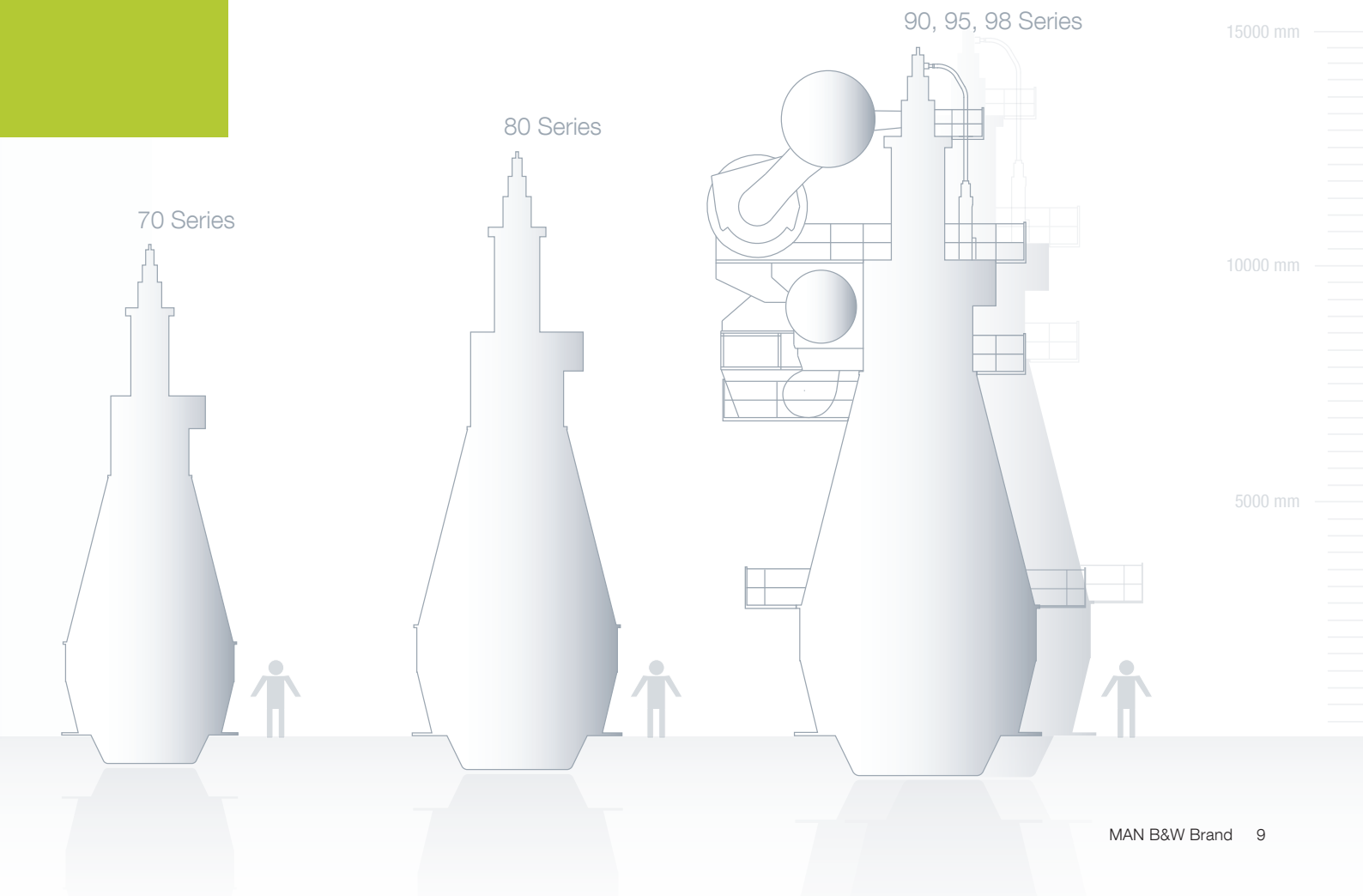
12S90ME-C9.X

The engine programme. A number of times each year, we update our low-speed engine portfolio and publicise the information in our pocket-sized Marine Engine programme and dedicated app.

MAN B&W two-stroke engines from the 30 to 95-cm bore sizes have a total power range from 1,560 kW to 82,440 kW, with units that vary in height from 5,912 to 16,156 mm. This covers the ME (40 to 95 bore), ME-GI (40 to 95 bore), ME-B (30 to 50 bore) and MC (35 to 70 bore) series.

Download the full programme to your smartphone here.



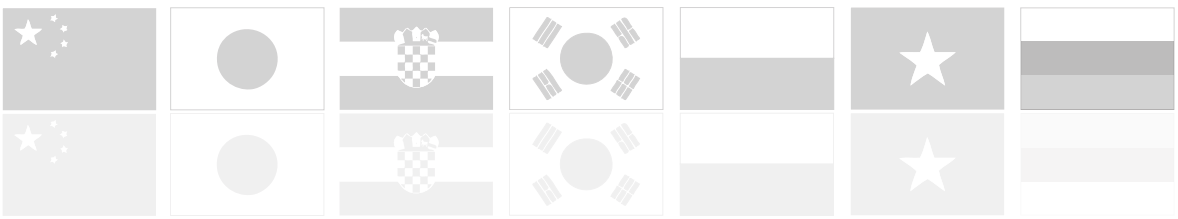

90, 95, 98 Series
80 Series
70 Series
15000 mm
10000 mm
5000 mm

Meet the Family

Engines should be built near the ships they are bound for

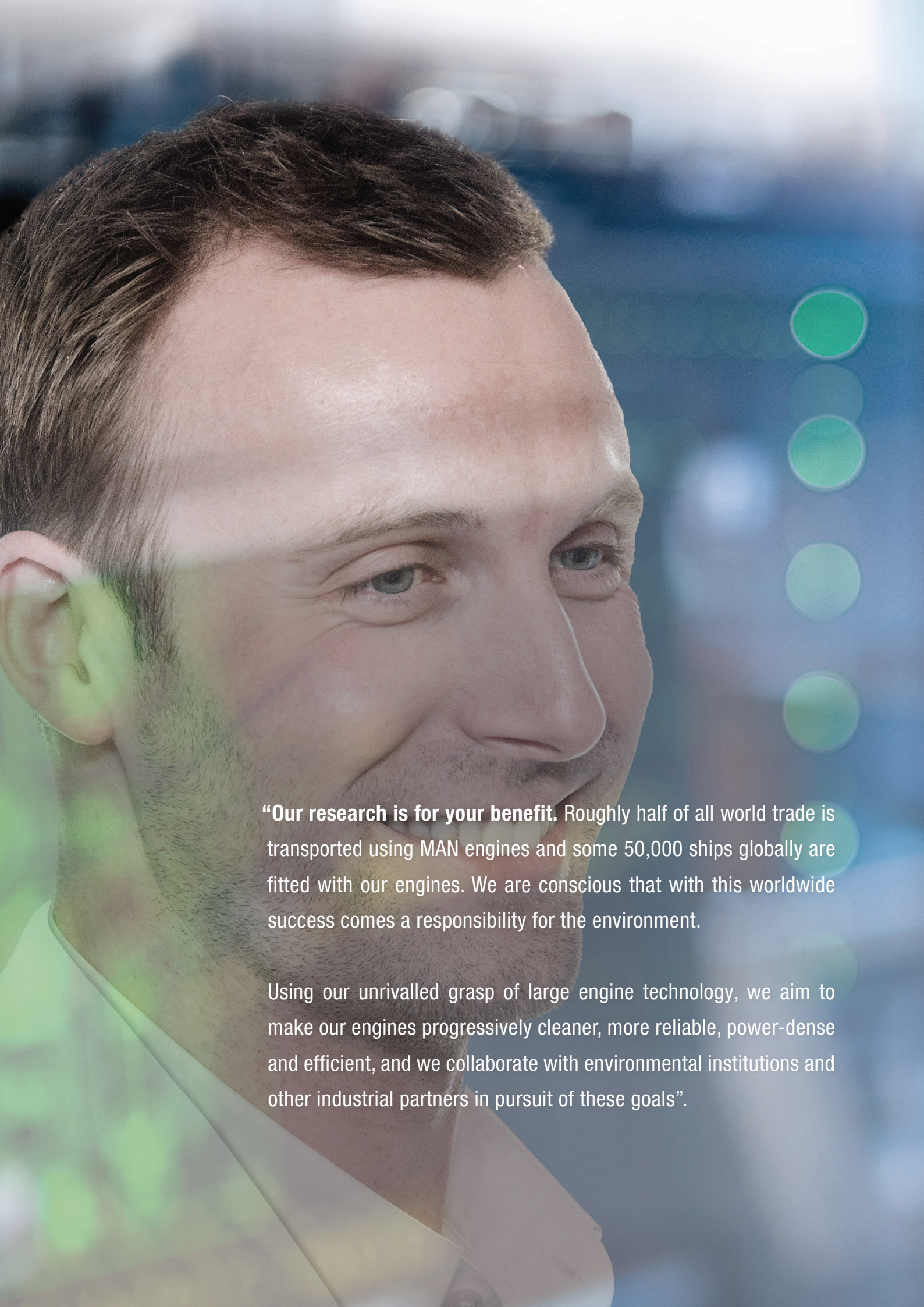
After a long history of manufacturing activities in Copenhagen, MAN Diesel & Turbo stopped building two-stroke engines on a large scale back in the '80s and concentrated its efforts on research and development. We devote our efforts to increasing our huge knowledge base and further developing the two-stroke engine principle. We cultivate a global network of licensees that build our MAN B&W-branded engines.

Previously, European manufacturers were well represented in our licensee family. In recent decades, the emergence of tiger economies has changed the map such that Asia is dominating the representation today. Mitsui of Japan has held a licence to build B&W engines since 1926 and is, thus, the oldest of our two-stroke licensees. However, Korea's and China's emergence as a global manufacturing power has meant that most of our now most active licensees are based there.



CMD, crankshaft for large MAN B&W engine

China: *HHM, DMD, YMD, CMD, STX, JAD, ZJCME, ZHD, RPM, YungPu and GMD.* **Korea:** *Hyundai, Doosan and STX.* **Japan:** *Mitsui (Makita and Diesel United), Hitachi (IMEX) and Kawasaki (Hanshin).* **Vietnam:** *Vinashin.* **Russia:** *Bryansk.* **Poland:** *Cegielski.* **Croatia:** *Brodosplit and Uljanik.*



“Our research is for your benefit. Roughly half of all world trade is transported using MAN engines and some 50,000 ships globally are fitted with our engines. We are conscious that with this worldwide success comes a responsibility for the environment.

Using our unrivalled grasp of large engine technology, we aim to make our engines progressively cleaner, more reliable, power-dense and efficient, and we collaborate with environmental institutions and other industrial partners in pursuit of these goals”.

Staying Ahead of the Posse

How we know how

Against an understandably ever stricter emissions legislation, it is our capacity for innovation that will determine our future. Our new ME-GI engine delivers significant reductions in CO_2, NO_x and SO_x emissions and has no methane slip, therefore making it the most environmentally friendly technology available.

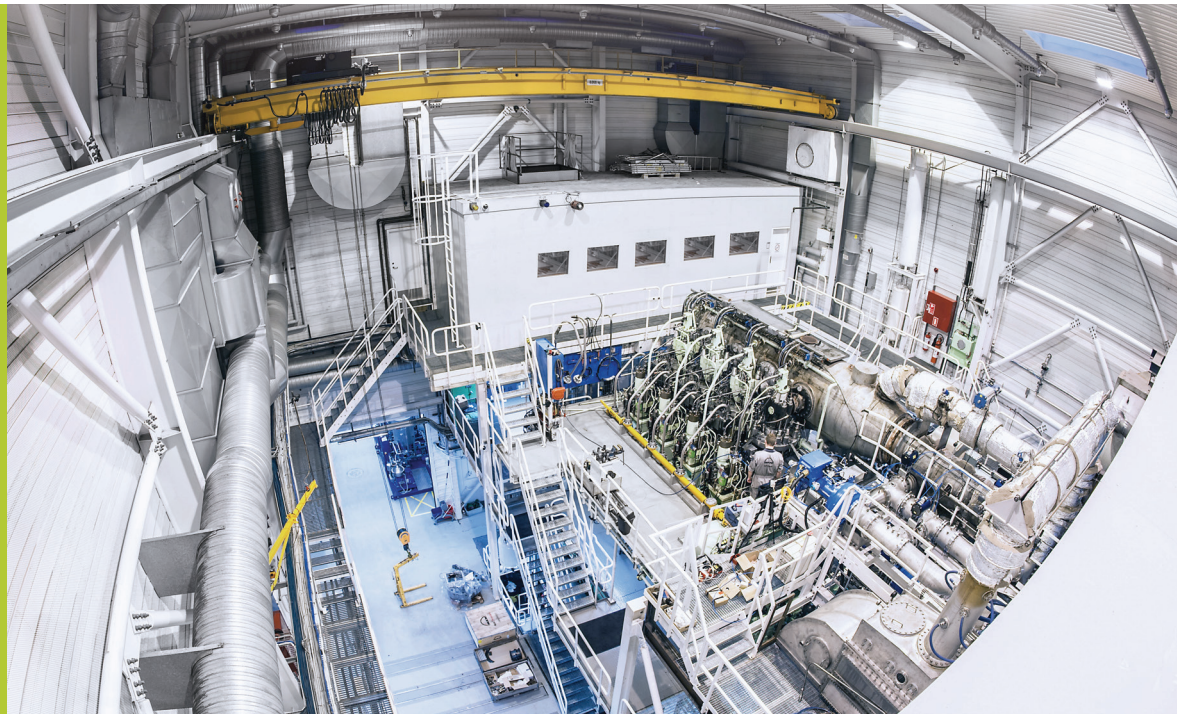
Similarly, our ME-LGI liquid gas injection engine variant handles low-flash-point, low-sulphur fuels like LPG and methanol and has impeccable green credentials.

Our G-engines are another innovation that takes advantage of the industry-wide strategy to employ lower speed and larger propellers, triggering higher efficiencies with potential fuel-consumption savings of some 4-7%, and a similar reduction in CO_2 emissions.

Tier III compatibility

MAN Diesel & Turbo's engines meet all existing and coming emission regulations. With the introduction of strict IMO Tier III NO_x regulations to ECAs (Emission Controlled Areas) just a question of time, we are already ready and have successfully developed exhaust gas recirculation (EGR) and selective catalytic reduction (SCR) systems. EGR enables our engines to meet Tier III without significantly compromising engine performance, while SCR eliminates over 95% of all NO_x produced during combustion. We are also currently working towards a Tier-III-compatible ME-LGI version.

You won't be surprised to know that our investment in research & development is above the industry average. That's how we stay ahead of the posse.



We've Only Just Begun

Past, present, future

Atrium of MAN Diesel & Turbo's Copenhagen headquarters

Undoubtedly, Rudolf Diesel would be impressed to see how we have run with his seminal idea. As the years have passed, we have continuously refined his concept to make our portfolio of engines ever more efficient and powerful. We have also developed emission control measures, such as EGR and SCR, which integrate with the engines to make them fully compliant with modern emission standards. But whatever about the past and how it influences what we do today, we look to the future too.

The ME series, be it for fuel or gas, is built using our knowledge of the past, but its multi-fuel nature is designed for the future. We believe that the introduction is as significant as when ships switched from coal to diesel power a century ago.

"Learn from yesterday, live for today, hope for tomorrow. The important thing is to not stop questioning."

Albert Einstein

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