

MAN Energy Solutions

Future in the making



Corporate Responsibility Report 2020

Building a
sustainable
future

	2020	2019	2018
Order intake (€ million)	2 933	3 804	3 487
Revenue (€ million)	3 267	3 462	3 128
Employees (number as of Dec. 31)	14 782	15 198	14 727
CO ₂ emissions (in t)	69 917	82 552	108 560
Total amount of waste (in t)	23 857	37 128	45 203
Energy use from renewable energy sources (in MWh)	37 491	21 013	8 839

MAN Energy Solutions SE in Summary

MAN Energy Solutions SE is a mechanical and plant engineering company and is one of the world's leading suppliers of large engines and turbomachinery, including related services. The products are used in ships, power plants and various industrial applications such as the chemical or petrochemical industry. The company is headquartered in Augsburg, Germany, and has approximately 14 000 employees at more than 140 locations around the globe. It is currently undergoing a strategic transformation process towards product solutions that aims to decarbonise industry and society with digital support. In concrete terms, this means, among other things, the expansion of the portfolio to include, for example, hybrid ship propulsion systems, energy storage technologies or components and plants that can be used to produce gas, hydrogen or synthetic fuels from electricity generated from renewable sources (Power-to-X).

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Editorial

Dear readers,

two topics in particular were predominant in 2020 at MAN Energy Solutions. Firstly, the Covid-19 pandemic and secondly, the "Performance 2023" program, which we have developed in order to secure the Company's long-term future viability. The key objective of this program is to achieve savings of €450 million by the end of 2023, and we heading successfully towards this goal.

Both topics - Covid-19 and "Performance 2023" - have a direct impact on our corporate strategy, which aims to make a significant contribution to decarbonising industry and society with the help of advancing digitalisation and thus, to fulfilling the Paris climate agreement. The consequences of the pandemic have severely influenced personal contacts with customers, employees or other stakeholders, resulting in virtual formats of mutual exchange becoming more of a focus. Consequently, the Covid virus has given an additional boost to the acceptance of data-based solutions and digitisation as such.

"Performance 2023" is helping us to move forward the transformation of MAN Energy Solutions into a solution provider for climate-friendly marine propulsion systems, power plants, and energy storage systems, and to secure it from a business perspective. Two orders we recently received prove that we are successful: We are supplying the first cross-sector ETES heat pump system, an electrothermal energy storage solution, for the decarbonisation of the Danish port city of Esbjerg. Moreover, for the first time, we have been commissioned by a customer near the English city of Manchester with a LAES system that uses cryogenic liquid air for long-term energy storage.

We are convinced that hydrogen will also play a major role in the decarbonisation of many industries, either as a direct energy carrier or as an intermediate product of synthetic fuels. With our electrolysis subsidiary H-TEC SYSTEMS and our solution expertise in power-to-X plants, we are already in a position to serve this emerging market. As a member of the German Government's National Hydrogen Council, I promote framework conditions and investment incentives that favour a rapid ramp-up of this market of the future. Hydrogen can also become an important factor in shipping, for example as a precursor for synthetic natural gas. Other alternative fuels, such as



ammonia, will also help to accelerate the maritime energy transition we are promoting. Together with the Fraunhofer Institute for Systems and Innovation Research (ISI), we have shown how this can be accomplished and which scenarios are conceivable in the maritime sector by 2050 in the #AHOY future study.

The fact that we are addressing the reduction of MAN Energy Solutions' carbon footprint not only by changing our product range, but also by making production more resource-efficient, is not only evident from the figures below, but is also a matter-of-course for us. We consider compliance with human rights throughout the supply chain to be just as self-evident. Consequently, we incorporated this standard of conduct into our compliance and risk management system even before our government recently ratified the Supply Chain Act. With regard to our employees, diversity and equal opportunities as well as holistic health management, including the Covid-19 vaccination program, are further points we optimised in the reporting year.

We regard our strategy of sustainable progress and prosperity as an obligation to publish a separate Corporate Responsibility Report for MAN Energy Solutions. The fact that the 2020 Report is less detailed than in the previous year and that it is only available as a downloadable file instead of a printed version is due to the "Performance 2023" program mentioned above and the associated savings. I am confident that it will still provide you with all the relevant information and key figures.

Cordially yours

A handwritten signature in blue ink, appearing to read "U. Lauber".

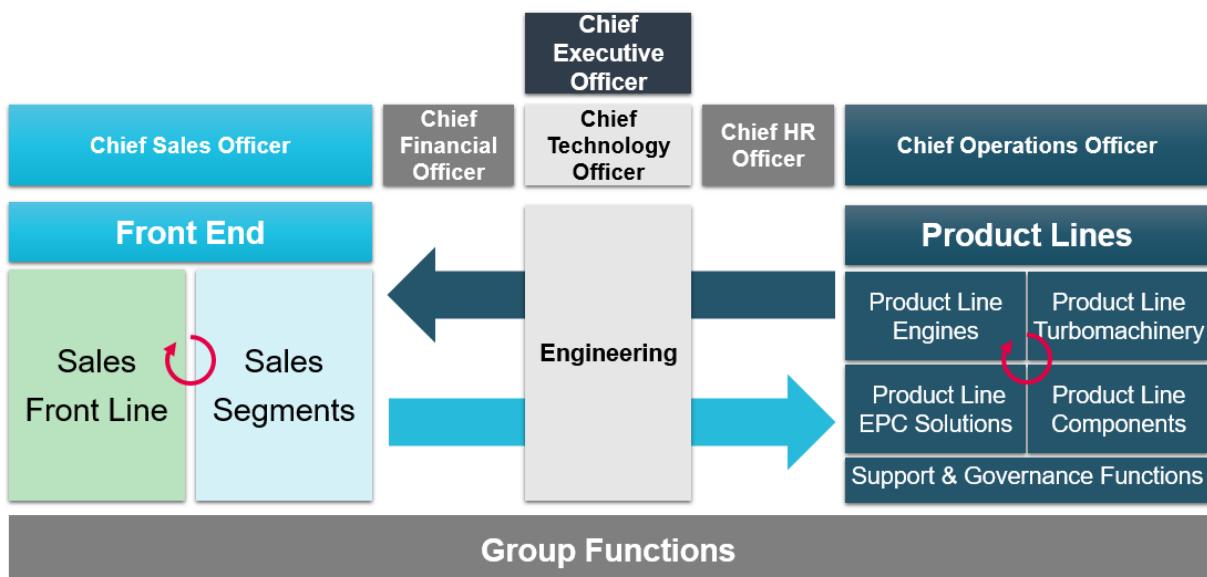
Dr. Uwe Lauber
Chief Executive Officer
MAN Energy Solutions SE

With a New Organisation into a Sustainable Future

With a new name and a new strategy, MAN Energy Solutions initiated its transformation into a solution provider in 2018. The company has now also aligned its organisational structure with this goal.

The new organisational structure, introduced at the beginning of 2021, is designed to help reduce the complexity of the old one, intensify cooperation between Marine, Power and Industrial (formerly Turbomachinery), and improve customer focus.

The structure of the new organisation is modular and flexible. It consists of the Front End, Product Lines, Engineering and Group Functions.



The **Front End** comprises New Sales and Aftersales. Together, they serve as the interface between MAN ES and its customers. They are the voice to customers and communicate their needs to our business units, which develop the strategy regarding product, solution and service.

The **Product Line Organisation** brings together the Engines, Turbomachinery, EPC Solutions and Components units with joint support & governance functions. The aim of this reorganisation is to improve cost efficiency in the value chains. This is necessary

to ensure the costs, quality, capacity, and delivery times needed to successfully compete in the market.

The **Engineering Organisation** remains, creating the competitive technologies needed in order to achieve technical excellence and increase profit potential.

The **Group functions** do not only support the entire business in a lean and effective way, but also the managers in complying with the relevant laws and regulations.

The established core interfaces and processes between the product lines, engineering and sales units will remain as a foundation in the new organisation, which will be fully implemented and firmly established by 2022.

The new organisation supports open dialog with internal and external stakeholders, contributing to transparent and structured processes throughout the company.



This will be clearly visible in the sustainability performance: Risks with regard to strategic undesirable developments will be identified in the context of product development and support as well as in relations with stakeholders. At the same time, potential and opportunities are utilised with a focus on sustainable implementation of our management policy and holistic economic and ecological corporate processes.

Our Responsibility

Sustainable development and production are efforts that meet the needs of the present without compromising the ability of future generations to meet their own needs.

With reference to DIN ISO 26000: Guidance on social responsibility, we as a company take responsibility for the impact of our decisions and activities on society and the environment. We strive to contribute to sustainable development following the United Nations Sustainable Development Goals (SDGs) through transparent and ethical behaviour along our entire value chain.

We consider the expectations of our stakeholders and comply with legal regulations. Our activities are also in line with international standards and (corporate) ethical principles, whereby we are guided by one of the world's most important and largest CR initiatives, the UN Global Compact. Its ten universally recognised principles on human rights, labour standards, environmental protection and anti-corruption guide our actions. We see corporate responsibility as a top management task. It is an integral part of MAN Energy Solutions' corporate strategy and is firmly integrated throughout the organisation and lived out in its relationships.



As part of the CR strategy, we have installed key performance indicators (KPIs) for selected areas of our entrepreneurial actions that enable us to quantify the progress of our sustainable development and continuously improve. The KPIs are published at regular intervals in a CR Report.

Focus on Sustainability

Sustainable entrepreneurial action, beyond what is required by law, is becoming increasingly important for MAN Energy Solutions. Along the entire value chain, starting with the strategic orientation of our business, through research and development, production, and logistics, to the use of our product solutions, our business activities have a varying impact on people and nature.



That is why we have set ourselves a clear goal: by 2030, sustainable technologies should account for the majority of our business. We are convinced that the decarbonisation of the maritime and energy industries can only succeed if we work together. Against this background, we are

currently in the process of identifying which sustainability aspects are particularly relevant from the perspective of our various stakeholders. In 2020, we began preparations for a materiality analysis, which will be completed in the second half of 2021.

As part of this project, we will conduct surveys with internal and external stakeholders in which participants can assess the sustainability issues they consider most relevant. The materiality analysis helps us to reflect and align our corporate responsibility strategy in order to strengthen value creation for the benefit of society and the environment.

The results will be published on the MAN Energy Solutions homepage and in the company's CR Report 2021.

Key Figures at a Glance

Economic Development

	2020	2019	2018
Order intake (in Mio. €)	2 933	3 804	3.487
Revenue (in Mio. €)	3 267	3 462	3.128
Investments (in Mio. €)	101	118	99
% of annual sales	3,1%	3,4%	3,2%
Research and Development (in Mio. €)	192	206	206
% of annual sales	5.9%	5.9%	6.6%

Employees

Employee Structure¹

	2020	2019	2018
Permanent staff	13 978	14 441	14 029
of which female	2 112	2 158	2 070
of which male	11 866	12 283	11 959
of which part-time staff	505	508	465
of which female	346	330	307
of which male	159	178	158
of which temporary staff	458	533	506
of which female	76	86	83
of which male	382	447	423
Apprentices	583	569	542
of which female	107	94	94
of which male	472	475	448
of which in Germany	372	355	346
Staff in partial retirement passive phase	221	188	156
Staff	14 782	15 198	14 727
Temporary workers	149	491	494

¹ Number at the end of each year

Employees of MAN Energy Solutions

	2020	2019	2018
Value-adding workforce	14 127	14 932	14 523
Germany	7 064	7 526	7 328
Foreign	7 063	7 406	7 195
Foreign share in %	50%	49,6	49,5

Age Structure

	2020	2019	2018
Permanent staff	13 978	14 441	14 029
<= 30	1 483	2 032	1 633
31–40	4 156	4 505	4 347
41–50	3 806	3 743	3 687
51–60	3 586	3 247	3 231
> 60	947	914	1 131

Women in Management Positions in %

	2020	2019	2018
Proportion of women as permanent staff	14.8	14.9	14.8
Proportion of women at the management level	11	10.6	10.8
Proportion of women in upper-level management	4.7	4.6	4.2
Proportion of women in top-level management	0	0	0



Vocational Training/Qualification

The Covid-19 pandemic has also posed great challenges for vocational training. However, thanks to the excellent cooperation of all those involved – from the trainees to the crisis team and the health service – this challenge was mastered in the last few months. In this context, special thanks go to all the apprentices who have adhered to the extensive protective measures with great discipline. Despite Covid-19, we were able to achieve our common goal: the successful training of young talents and skilled technicians.

	2020	2019	2018
Number of apprentices MAN ES Germany	372	346	345
MAN ES Training Center Augsburg			
Number of apprentices new hires	57	65	55
Number of apprentice applications	734	931	721
Ratio of women in %	11	11	12
Adoption rate in %	100	98	100



Qualification Measures

The year 2020 was initially marked by the uncertainty caused by the Covid-19 crisis in the qualification area of MAN ES. In the first half of the year, face-to-face training was cancelled completely or postponed indefinitely. Fortunately, we were able to offer many training topics as online formats in the second half of the year, either as live events via MS Teams or web-based trainings within the framework of our eAcademy. Our experience in preparing the new digital formats has also opened up innovative ways of qualifying our staff worldwide for the time after the Covid-19 pandemic.

	2020	2019	2018
Measures implemented	2 586	3 854	2 858
Participants	52 155	31 745	20 449
Qualification hours	159 764	298 492	229 095
E-learning/people	34 030	9 304	1 688
E-learning/hours	24 198	17 083	3 606
Average qualification hours per employee	1.55	2.83	2.30

Occupational Safety and Environmental Protection

The following key figures for 2020 apply exclusively to our 13 production sites: Augsburg, Oberhausen, Hamburg, Berlin, Deggendorf (Germany), Copenhagen, Frederikshavn (Denmark), Zurich (Switzerland), Saint-Nazaire (France), Velká Bíteš (Czech Republic), Aurangabad, Bangalore (India) and Changzhou (China)..

As of financial year 2020, the Holeby site (Denmark) no longer counts as one of our production sites by definition. However, the values for 2019 and 2018 still include the data for this site (retroactive changes were not made here).



Work Accidents

The Recordable Injury Frequency (RIF) declined slightly in 2020. Days lost due to accidents increased for the second year in a row in 2020. This is due to a few incidents with partly many lost working days. Through consistent analysis, corrective and preventive measures were derived and implemented at the sites concerned. Great importance was attached to the personal aspect of mindfulness. In order to improve this sustainably, employees are sensitised through focused actions and campaigns.

	2020	2019	2018
Work accident resulting in a leave of >=1 day	136	147	138
Days lost due to accident	2 822	1 877	1 525
Fatal work accident	0	0	0
Accident frequency index – RIF (Recordable Injury Frequency) ¹	11.9	12.4	11.3

¹ Number of recordable work accidents requiring medical care x 1 million / hours worked



Energy Consumption in MWh

The share of renewable sources in electrical energy consumption was increased by 21% from 19% (2019) to 41% (2020).

	2020	2019	2018
Total energy consumption	337 155.01	357 458.49	360 530.85
Electrical energy consumption	92 557.36	107 142.92	109 090.88
Elec. energy use from renew. energy sources – own production	0.00	0.00	0.00
Elec. energy use from renew. energy sources – external production	37 490.73	20 600.88	8 429.44
Elec. energy use from conv. energy sources – external production	55 066.63	86 542.04	100 661.44
Heat energy consumption	48 073.95	48 757.42	45 559.48
Heat consumption from renew. energy sources – own production	0.00	0.00	0.00
District heating consumption from renew. energy sources – external production	0.00	412.48	410.00
District heating consumption from conventional. energy sources – external production	48 073.95	48 344.94	45 149.48
Fuel usage of the sites	193 137.71	198 355.97	203 568.53
Fuel oil	641.32	890.07	583.31
Natural gas	138 924.42	131 925.80	108 641.18
Diesel	53 208.67	65 123.30	93 635.84
Gasoline	363.30	416.80	708.20
Fuel gases for manufacturing processes	3 385.98	3 202.18	2 311.96
Acetylene (ethyne, C ₂ H ₂)	1 147.92	1 180.60	868.98
Propane	2 182.47	1 960.73	1 402.06
Hydrogen	55.58	60.86	40.92



CO₂-Emissions in t

Among other things, the higher share of renewable sources in electrical energy consumption enabled us to reduce CO₂ emissions by more than 12 000 tonnes in 2020 compared to the previous year.

	2020	2019	2018
Total emitted carbon dioxide (CO ₂)	69 917.02	82 551.66	108 560.25
Directly emitted carbon dioxide (CO ₂)	42 216.37	44 347.58	47 406.86
Indirectly emitted carbon dioxide (CO ₂)	27 700.66	38 204.08	61 153.39



Recycling and Waste in t

The amount of waste has been effectively reduced: At the Augsburg site, defective logistics load carriers are reconditioned by a service provider and can be reused in the logistics chain.

	2020	2019	2018
Total amount of waste	23 856.65	37 128.19	45 202.55
Total amount of waste for recycling	12 141.99	22 214.15	28 381.55
Hazardous waste for recycling	2 298.96	2 707.03	3 069.47
Hazardous construction waste for recycling	82.94	136.22	388.86
Other hazardous waste for recycling	2 216.02	2 570.81	2 680.61
Non-hazardous waste for recycling	9 843.02	19 507.12	25 312.09
Non-hazardous construction waste for recycling	733.46	7 601.33	14 323.89
Other non-hazardous waste for recycling	9 109.56	11 905.79	10 988.20
Total quantity of waste for disposal	1 648.77	4 517.92	6 401.84
Hazardous waste for disposal	960.19	899.24	894.98
Hazardous construction waste for disposal	1.84	11.28	0.00
Other hazardous waste for disposal	958.35	887.96	894.98
Non-hazardous waste for Disposal	688.58	3 618.68	5 506.86
Non-hazardous construction waste for disposal	188.50	3 005.75	4 746.64
Other non-hazardous waste for disposal	500.08	612.93	760.22
Metallic waste	10 065.89	10 396.12	10 419.15

Water and Wastewater in m³

	2020	2019	2018
Total freshwater quantity	3 517 388.95	3 567 371.05	3 655 663.60
Fresh water quantity from external supply incl. drinking water	147 438.95	143 678.05	139 894.60
Fresh water quantity from own production (well water)	3 369 950.00	3 423 693.00	3 515 769.00
Surface water from lakes, rivers, seas	6 547 262.00	8 178 021.00	7 932 108.00
Wastewater quantity	400 353.14	463 926.53	388 775.29



Air Pollutant Emissions in t

The positive trend of a comprehensive reduction in air pollutant emissions was also successfully continued in 2020.

	2020	2019	2018
Sulphur dioxide (SO ₂)	0.14	0.25	0.31
Nitrogen oxides (NO _x)	15.35	92.99	127.95
Total dust	0.11	0.30	0.36
Emissions of volatile organic compounds (VOC)	39.24	44.31	47.90

Certificates for Production Sites

	2020	2019	2018
Site with ISO 14001	13	14	14
Site with ISO 9001	13	14	14
Site with OHSAS 18001	0	13	14
Site with ISO 45001	13	1	0

Final Note

The data listed in the chapter "Key Figures at a Glance" were subject to an independent business audit for the year 2019 as part of last year's sustainability reporting process to obtain limited assurance. The key figures now published for the financial year 2020 are subject to the same selection and application of appropriate sustainability reporting methods.

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